Subject Re: Redacting Software

To Marlene Cavanaugh cavanaugh@plymouthpolice.com

Date Mon, 12 Sep 2016 16:00:29 -0400

Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est?

Thanks!

On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob,

I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.

Thanks

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

Subject Re: Redacting Software To Marlene Cavanaugh cavanaugh@plymouthpolice.com Date Mon, 12 Sep 2016 16:39:49 -0400 Hi Marlene, 2pm should work fine tmr. Do you want to set-up a conference? Thanks! Jacob On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote: I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00. I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28th or 30th). Let me know your thoughts. Thanks, Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213 cavanaugh@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 4:00 PM To: Marlene Cavanaugh Cc: harry.scott@hpe.com; Michael Botieri Subject: Re: Redacting Software Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est? Thanks! On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Jacob, I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell however - I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling. Thanks

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Chief Michael E. Botieri

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Plymouth Police Department

20 Long Pond Road

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508-830-4218 X 213

cavanaugh@plymouthpolice.com

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Sent: Monday, September 12, 2016 4:00 PM

To: Marlene Cavanaugh

Cc: harry.scott@hpe.com; Michael Botieri **Subject:** Re: Redacting Software

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From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Redacting Software
To Marlene Cavanaugh <cavanaugh@plymouthpolice.com>
Date Mon, 12 Sep 2016 17:46:54 -0400

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Plymouth, MA 02360 508-830-4218 X 226
chiefbotieri@plymouthpolice.com

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Redacting Software

To Marlene Cavanaugh <cavanaugh@plymouthpolice.com>
Date Tue, 13 Sep 2016 10:06:06 -0400

yes that works.

On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote:

How about we do the 30th at 2:00pm here at the station?

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 5:47 PM

To: Marlene Cavanaugh

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I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00.



From "Harry @ TUS" <harry@theunofficialsyndicate.com>
Subject Suspect Technologies meeting - Friday 9/30
To <chiephotieri@plymouthpolice.com>

Date Mon, 26 Sep 2016 09:27:41 -0500

Chief - Good morning!

In advance of your meeting with Jacob Sniff of Suspect Technologies Friday afternoon (2pm?), here is a list of the subjects Jacob is preparing to discuss:

- Overview of Suspect Technologies: Building public surveillance, analytics, and identification products
- · Areas of focus:
 - -Video Redaction
 - -Facial Recognition
 - -Image Search
 - -Facial Verification
 - -Jails/Prisons
 - -Emotion Recognition
 - -Stadiums/Retail

While Jacob will give you and your team an overview of what they are working on in each of these areas, he is really interested to hear your perspective and get your thoughts.

Also, below are a couple of videos he asked me to pass along regarding surveillance in jails/prisons/holding cells that you and the Sherriff might find interesting:

http://mothership.sg/2016/09/a-prison-without-guards-might-be-a-reality-in-singapore-in-the-near-future/

https://govinsider.asia/smart-gov/exclusive-singapore-wants-a-prison-without-guards/#

Again, many thanks and best regards,

Harry

--

Harry Scott (harry@TheUnofficialSyndicate.com)
www.TheUnofficialSyndicate.com
+1 617 934-6202 (Tel)
+1 781 934-8996 (Fax)

Subject Re: Redacting Software

To Marlene Cavanaugh < cavanaugh@plymouthpolice.com >

Date Tue, 27 Sep 2016 09:55:07 -0400

Marlene,

Couple quick questions:

- i.) I have a macbook. Was hoping to give a presentation by projector. Do you guys have a projector and hdmi cable?
- ii.) Can we connect easily to internet? I have a small youtube demo I wanted to show.

Thanks!

Best,

Jacob

On Tue, Sep 13, 2016 at 10:09 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote:

Great.

See you then.

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20 Long Pond Road

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Subject: Re: Redacting Software

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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Redacting Software To Marlene Cavanaugh < cavanaugh@plymouthpolice.com > Date Tue, 27 Sep 2016 10:25:22 -0400 great thank you! On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote: Good morning. Yes, to all. We can accommodate all of your needs. See you on Friday. Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213 cavanaugh@plymouthpolice.com

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Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, September 13, 2016 10:06 AM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

yes that works.

On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:

How about we do the 30th at 2:00pm here at the station?

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 5:47 PM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

You guys are like an hr or so away from me. Assuming you want to meet in Plymouth, how about meeting on 28th or 30th early afternoon?

Best Regards,

Jacob

On Mon, Sep 12, 2016 at 5:37 PM, Marlene Cavanaugh < cavanaugh @plymouthpolice.com > wrote:

Chief prefers a meeting in person.

See you tomorrow at 2:00?

On Sep 12, 2016, at 5:04 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen-share the technology.

On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:

Not sure of what the meeting entails. How much time do you need allotted?

On Sep 12, 2016, at 4:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Hi Marlene.

2pm should work fine tmr. Do you want to set-up a conference?

Thanks! Jacob
On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Hi.
I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00.
I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28 th or 30 th
Let me know your thoughts.
Thanks,
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 4:00 PM To: Marlene Cavanaugh Cc: harry.scott@hpe.com; Michael Botieri Subject: Re: Redacting Software
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508-830-4218 X 226

chiefbotieri@plymouthpolice.com	

Subject 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>, <ruggiero@plymouthpolice.com>

Date Mon, 3 Oct 2016 17:29:47 -0400

Chief Botieri and Ryan,

It was really nice meeting both of you last week.

I think we should meet again in a month or two, to discuss more of the following and possibly try some of your data on some of the below:

- -facial recognition on IPAD in field
- -facial verification/recognition in building
- -emotion recognition for possible lie detection (along with hand on face analysis)
- -image search --eg phone or not in video.

I also made a note to look into the hospital/retail redaction use case Chief. If you know of any place to start, please let me know.

Also Chief, you seemed pretty keen on the use of facial recognition in stadiums. If you know of any place to start, please let me know.

Thanks! Best Regards, Jacob

Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 4 Oct 2016 09:55:30 -0400

great thanks a lot! will be in touch.

On Mon, Oct 3, 2016 at 6:10 PM, Michael Botieri <<u>chiefbotieri@plymouthpolice.com</u>> wrote:

Jacob,

We thoroughly enjoyed meeting with you and I would definitely like to help when you are ready to roll out your software.

Mike

- > On Oct 3, 2016, at 5:30 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:
- > Chief Botieri and Ryan,
- Sinci Botteri and Ryan
- > It was really nice meeting both of you last week.
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- > Also Chief, you seemed pretty keen on the use of facial recognition in stadiums. If you know of any place to start, please let me know.
- > Thanks!
- > Best Regards,
- > Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: 9/30 Meeting Follow-Up To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Sun, 13 Nov 2016 23:05:44 -0500

Hi Chief Botieri,

Hope all is well.

We are finishing developing and bench-marking our facial recognition solution; we hope to launch it early to mid 2017. I was wondering the following regarding deployment:

- i.) Would the best possible platform be IPAD? Do you see any use on iPhone or BlackBerry?
- ii.) Do the officers have IPADS or would you have to buy them for this use case?
- iii.) Do you know if a lot of agencies would be interested in the solution?

Thanks! Jacob

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> Thanks!
> Best Regards,
```

Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 15 Nov 2016 14:16:48 -0500

Mike,

Yes we would. Let me reach out again about it. We first have to make it work on iphone/ipad, which will take sometime.

We are still at least 3 months off from having it work on such a device.

Best, Jacob

On Tue, Nov 15, 2016 at 11:38 AM, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

Jacob,

Sorry I wasn't able to return your email until now. I do have access to IPads as well as iPhones for the application. Would you like to schedule another meeting to talk about implementing a trial program?

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Sunday, November 13, 2016 11:06 PM

To: Michael Botieri

Cc: Ryan Ruggiero; Harry @ TUS **Subject:** Re: 9/30 Meeting Follow-Up

Hi Chief Botieri,

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Thanks!Best Regards,Jacob

Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Sat, 21 Jan 2017 16:11:29 -0500

Hi Mike,

Hope all is well. Wanted to reach out about something somewhat time sensitive (next couple weeks).

Suspect is applying to a grant from NIST:

https://civsourceonline.com/2016/12/28/firstnet-nist-launch-30m-public-safety-grant-program/

It requires a direct commitment letter from a public safety end user. I of course emailed my camera partner and we're getting a letter from them and one of their police department end users, but I was wondering if you guys maybe interested in being involved? The application would involve:

- i.) some ideas for taking our redaction technology to next level
- ii.) a facial recognition system for contact-less identification in law enforcement:
- -watch-list for 1000 people
- -recognition at server level-first with mobile, then moving to BWC in a couple years

As with my camera partner, I just wrote the letter and had them read it over and sign it. I aim to send this next week. So I was wondering if you guys would be ok signing something like that? The letter would just say you guys are potentially willing to test the above two programs and work with me as I work toward getting stuff deployable. Of course, we'd offer the technology to you guys eventually for free when it's ready:)

Please let me know your thoughts.

Best, Jacob

On Tue, Nov 15, 2016 at 2:37 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Great Thanks

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

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Cc: Ryan Ruggiero; Harry @ TUS Subject: Re: 9/30 Meeting Follow-Up

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Plymouth Police Department
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Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 24 Jan 2017 10:52:26 -0500

Hi Mike,

Hope all is well.

Thought I'd bump. Let me know your thoughts.

Best Regards,

Jacob

On Sat, Jan 21, 2017 at 4:11 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

Hi Mike,

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Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 25 Jan 2017 10:21:48 -0500

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Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 2 Feb 2017 07:59:06 -0500

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1 111	am	ши	w	SCHU	today	

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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 2 Feb 2017 15:31:50 -0500

Chief.

I've attached the final draft letter in .pdf and word format.

Can you give a read through and let me know if you'd be fine signing something like this? Of course, let me know of any changes (additions or subtractions). I just list the two main products we discussed.

If you're fine with it, I'll probably review one more time and maybe change the letterhead. Then it will be good to sign.

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Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 6 Feb 2017 15:39:29 -0500

thank you! hope all is well. I'll keep you posted.

On Mon, Feb 6, 2017 at 3:15 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob, See attached signed letter of support. Mike From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, February 02, 2017 3:32 PM To: Michael Botieri Subject: Re: 9/30 Meeting Follow-Up Chief, I've attached the final draft letter in .pdf and word format. Can you give a read through and let me know if you'd be fine signing something like this? Of course, let me know of any changes (additions or subtractions). I just list the two main products we discussed. If you're fine with it, I'll probably review one more time and maybe change the letterhead. Then it will be good to sign. Best Regards, Jacob On Thu, Feb 2, 2017 at 7:59 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: I'm aiming to send today:) On Thu, Feb 2, 2017 at 7:42 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Jacob, I haven't received the letter from you yet. Mike On Feb 1, 2017, at 3:27 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Mike, I'm aiming to send tmr.

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Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 28 Feb 2017 19:12:41 -0500

Mike, hope all is well. I was able to submit the application today. I'll keep you posted when I hear back.

On Mon, Feb 6, 2017 at 3:46 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

	d		

 $\textbf{From:} \ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of} \ Jacob \ Sniff}$

Sent: Monday, February 06, 2017 3:39 PM

To: Michael Botieri

Subject: Re: 9/30 Meeting Follow-Up

thank you! hope all is well. I'll keep you posted.

On Mon, Feb 6, 2017 at 3:15 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

See attached signed letter of support.

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, February 02, 2017 3:32 PM

To: Michael Botieri

Subject: Re: 9/30 Meeting Follow-Up

Chief,

I've attached the final draft letter in .pdf and word format.

Can you give a read through and let me know if you'd be fine signing something like this? Of course, let me know of any changes (additions or subtractions). I just list the two main products we discussed.

If you're fine with it, I'll probably review one more time and maybe change the letterhead. Then it will be good to sign.

Best Regards,

Jacob

On Thu, Feb 2, 2017 at 7:59 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

I'm aiming to send today:)

On Thu, Feb 2, 2017 at 7:42 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Jacob,

I haven't received the letter from you yet.

On Feb 1, 2017, at 3:27 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote: Mike, I'm aiming to send tmr. On Wed, Jan 25, 2017 at 10:21 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Great. I'll be in touch sometime early next week most likely. Best, Jacob On Wed, Jan 25, 2017 at 9:13 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Jacob, Definitely put the letter together and we should have no problem signing on. Hope all is well, Mike From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, January 24, 2017 10:52 AM To: Michael Botieri Cc: Ryan Ruggiero Subject: Re: 9/30 Meeting Follow-Up Hi Mike, Hope all is well. Thought I'd bump. Let me know your thoughts. Best Regards, Jacob On Sat, Jan 21, 2017 at 4:11 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Hi Mike, Hope all is well. Wanted to reach out about something somewhat time sensitive (next couple weeks). Suspect is applying to a grant from NIST: https://civsourceonline.com/2016/12/28/firstnet-nist-launch-30m-public-safety-grant-program/

It requires a direct commitment letter from a public safety end user. I of course emailed my camera partner and we're getting a letter from them and one of their police department end users, but I was wondering if you guys maybe interested in being involved? The application would involve:

1.) some ideas for taking our redaction technology to next level
ii.) a facial recognition system for contact-less identification in law enforcement:
-watch-list for 1000 people
-recognition at server level—first with mobile, then moving to BWC in a couple years
recognition at server lever. This with mobile, then moving to BWC in a couple years
As with my camera partner, I just wrote the letter and had them read it over and sign it. I aim to send this next week. So I was wondering if you guys would be ok signing something like that? The letter would just say you guys are potentially willing to test the above two programs and work with me as I work toward getting stuff deployable. Of course, we'd offer the technology to you guys eventually for free when it's ready:)
Please let me know your thoughts.
Best,
Jacob
On Tue, Nov 15, 2016 at 2:37 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Great Thanks
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, November 15, 2016 2:17 PM
To: Michael Botieri Cc: Ryan Ruggiero; Harry @ TUS Subject: Re: 9/30 Meeting Follow-Up
Mike,
Yes we would. Let me reach out again about it. We first have to make it work on iphone/ipad, which will take sometime.
We are still at least 3 months off from having it work on such a device.
Best,
Jacob
On Tue, Nov 15, 2016 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:
Jacob,
······ /

Sorry I wasn't able to return your email until now. I do have access to IPads as well as iPhones for the application. Would you like to schedule another meeting to talk about implementing a trial program?

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

 $\textbf{From: } \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \\ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ \underline{jsniff12@gmail.com}] \ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ \underline{jsniff12@gmail.com}] \ \underline{jsniff12@gm$

Sent: Sunday, November 13, 2016 11:06 PM

To: Michael Botieri

Cc: Ryan Ruggiero; Harry @ TUS **Subject:** Re: 9/30 Meeting Follow-Up

Hi Chief Botieri,

Hope all is well.

We are finishing developing and bench-marking our facial recognition solution; we hope to launch it early to mid 2017. I was wondering the following regarding deployment:

- i.) Would the best possible platform be IPAD? Do you see any use on iPhone or BlackBerry?
- ii.) Do the officers have IPADS or would you have to buy them for this use case?
- iii.) Do you know if a lot of agencies would be interested in the solution?

Thanks!

Jacob

On Tue, Oct 4, 2016 at 9:55 AM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

great thanks a lot! will be in touch.

On Mon, Oct 3, 2016 at 6:10 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

We thoroughly enjoyed meeting with you and I would definitely like to help when you are ready to roll out your software.

Mike

```
> On Oct 3, 2016, at 5:30 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
```

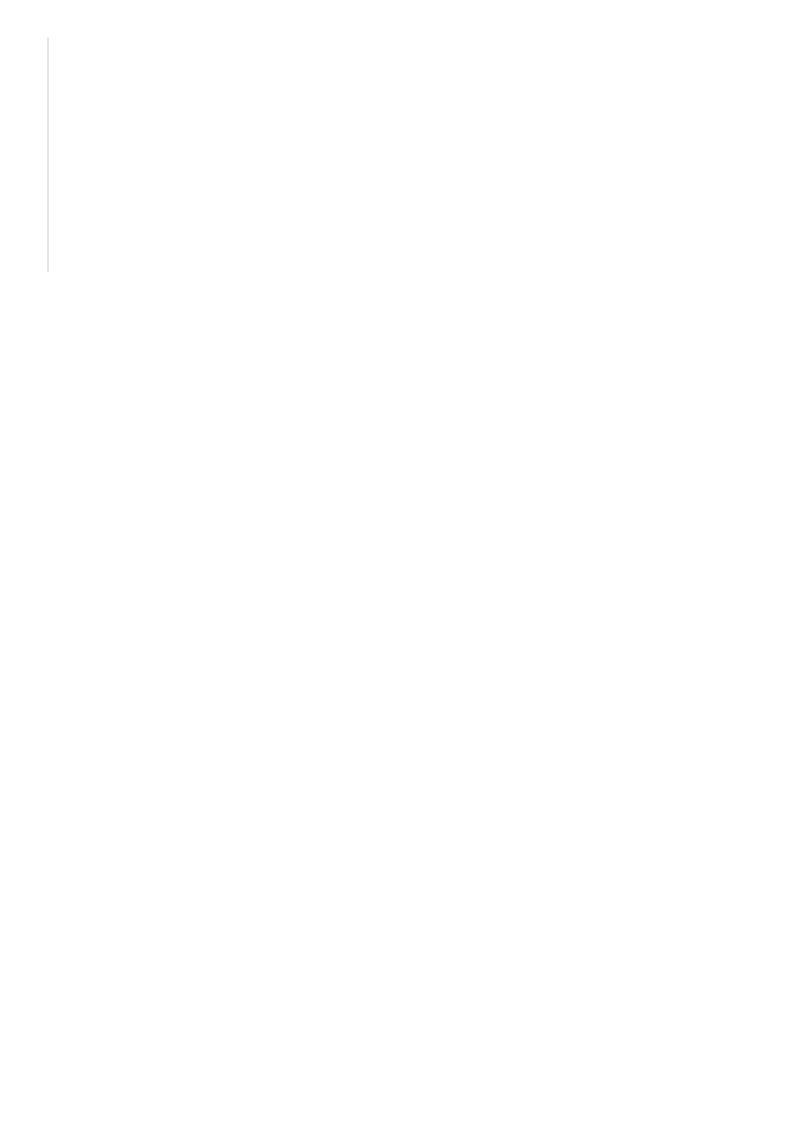
> Chief Botieri and Ryan,

>

> It was really nice meeting both of you last week.

> I think we should meet again in a month or two, to discuss more of the following and possibly try some of your data on some of the below:

- > -facial recognition on IPAD in field
- > -facial verification/recognition in building
- > -emotion recognition for possible lie detection (along with hand on face analysis)
- > -image search --eg phone or not in video.
- > I also made a note to look into the hospital/retail redaction use case Chief. If you know of any place to start, please let me know.
- > Also Chief, you seemed pretty keen on the use of facial recognition in stadiums. If you know of any place to start, please let me know.
- > Thanks!
- > Best Regards,
- > Jacob



To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Fri, 6 Oct 2017 11:10:54 -0400 Mike. Hope all is well. Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP! https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/ http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html https://twitter.com/TexasMetroNews/status/914223368001474568 Jacob On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote: You will Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, September 30, 2016 8:25 AM To: Marlene Cavanaugh Cc: Michael Botieri Subject: Re: Redacting Software see you later at 2pm est today. On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thank you!

On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:

Good morning.

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

es, to all. We can accommodate all of your needs.
See you on Friday.
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
eavanaugh@plymouthpolice.com
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Fo: Marlene Cavanaugh Subject: Re: Redacting Software
Marlene,
Couple quick questions:
.) I have a macbook. Was hoping to give a presentation by projector. Do you guys have a projector and hdmi cable?
i.) Can we connect easily to internet? I have a small youtube demo I wanted to show.
Thanks!
Best, Jacob
On Tue, Sep 13, 2016 at 10:09 AM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Great.
See you then.
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Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, September 13, 2016 10:06 AM
Fo: Marlene Cavanaugh Subject: Re: Redacting Software
ves that works.

How about we do the 30th at 2:00pm here at the station?

On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote:

Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 5:47 PM To: Marlene Cavanaugh Subject: Re: Redacting Software
You guys are like an hr or so away from me. Assuming you want to meet in Plymouth, how about meeting on 28th or 30th early afternoon?
Best Regards, Jacob
On Mon, Sep 12, 2016 at 5:37 PM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:
Chief prefers a meeting in person.
See you tomorrow at 2:00?
On Sep 12, 2016, at 5:04 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen share the technology.
On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Not sure of what the meeting entails. How much time do you need allotted?
On Sep 12, 2016, at 4:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Hi Marlene,
2pm should work fine tmr. Do you want to set-up a conference?
Thanks! Jacob
On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote: Hi.
I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00.
I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28 th or 30 th).
Let me know your thoughts.
Thanks,

Marlene Cavanaugh

Marlene

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 4:00 PM

To: Marlene Cavanaugh

Cc: harry.scott@hpe.com; Michael Botieri Subject: Re: Redacting Software

Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est?

Thanks!

On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Jacob,

I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.

Thanks

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

Subject Re: Redacting Software

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 6 Oct 2017 12:24:03 -0400

likewise!

On Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

I look forward to seeing you Jacob. From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, October 06, 2017 11:11 AM To: Michael Botieri Subject: Re: Redacting Software Mike, Hope all is well. Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP! https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/2017/00http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html https://twitter.com/TexasMetroNews/status/914223368001474568 Jacob On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: You will Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com

Sent: Friday, September 30, 2016 8:25 AM To: Marlene Cavanaugh Cc: Michael Botieri

Subject: Re: Redacting Software

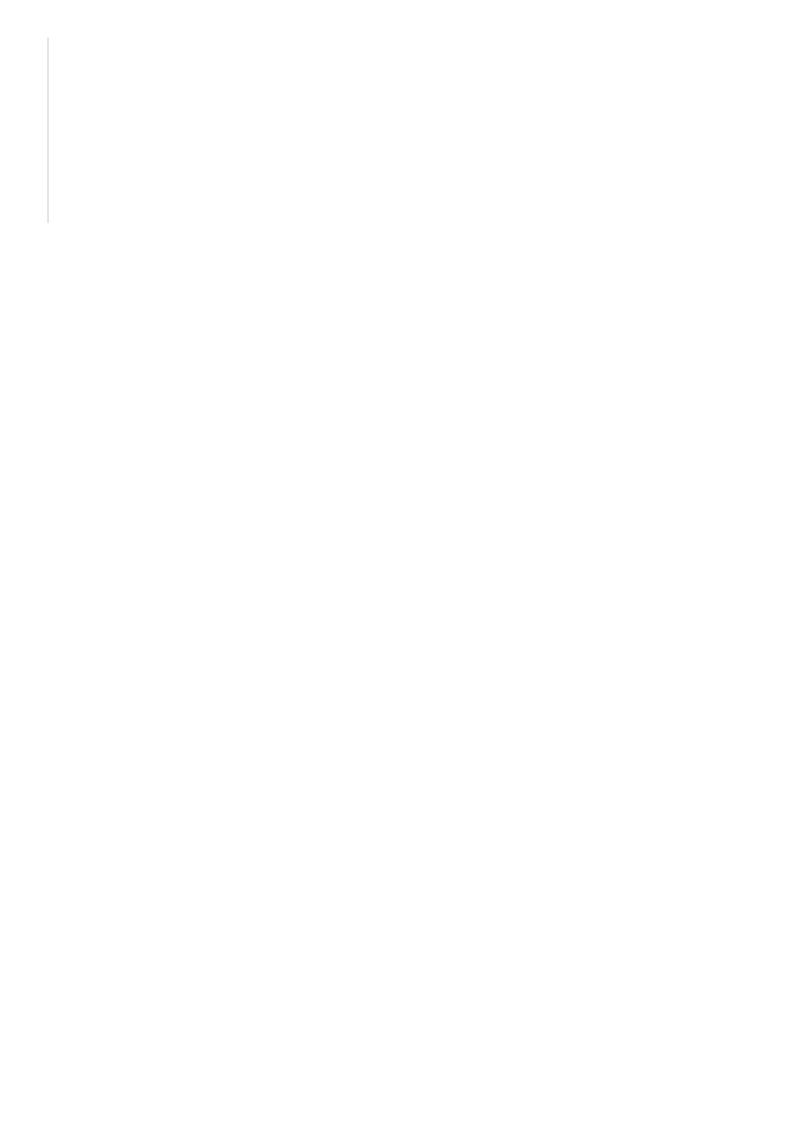
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see you later at 2pm est today.
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One hour a share the to	at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen echnology.
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Thanks
Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com



From < kmmdux77@gmail.com>

Subject Invitation: Meet w/ Chief Botieri @ Mon Oct 23, 2017 10:30am - 11am (EDT) (Michael Botieri)

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Jacob Sniff <jsniff@alumni.princeton.edu>

Date Mon, 23 Oct 2017 12:38:36 +0000

Meet w/ Chief Botieri more details »

When Mon Oct 23, 2017 10:30am - 11am Eastern

Where Booth 1515 Safariland (map)

Calendar Michael Botieri

kmmdux77@gmail.com -Who

· Michael Botieri

Jacob Sniff

Going? Yes - Maybe - No more options »

Invitation from Google Calendar

You are receiving this courtesy email at the account chiefbotieri@plymouthpolice.com because you are an attendee of this event.

To stop receiving future updates for this event, decline this event. Alternatively you can sign up for a Google account at https://www.google.com/calendar/ and control your notification settings for your

Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More.

Subject Re: Redacting Software

508-830-4218 X 226

 $\underline{chief botieri@plymouthpolice.com}$

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 25 Oct 2017 10:12:20 -0400

Chi	ef, it was nice meeting you. Does sometime on M or Fri. next week work to meet briefly? If not, how about following week M-W, or F
Bes Jaco	
	Fri, Oct 6, 2017 at 12:24 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: kewise!</jsniff@alumni.princeton.edu>
О	n Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
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	Mike,
	Hope all is well.
	Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!
	https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern
	https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/
	http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html
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cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

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Subject: Re: Redacting Software

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Marlene Cavanaugh

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Plymouth, MA 02360

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Subject Re: Redacting Software

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Date Wed, 25 Oct 2017 10:24:11 -0400

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Plymouth Police Department

Marlene Cavanaugh

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508-830-4218 X 213

cavanaugh@plymouthpolice.com

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Cc: harry.scott@hpe.com; Michael Botieri **Subject:** Re: Redacting Software

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Chief Michael E. Botieri

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20 Long Pond Road

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508-830-4218 X 226

chiefbotieri@plymouthpolice.com

Subject Re: Redacting Software

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Nancy Dillon <dillon@plymouthpolice.com>

Date Mon, 30 Oct 2017 07:24:14 -0400

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Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!
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Subject Re: Redacting Software

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 30 Oct 2017 10:03:21 -0400

Chief.

Sounds good.

Btw, have you seen this guy?

https://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html

http://www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station

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To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 30 Oct 2017 11:56:43 -0400

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I said "Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.

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Sent: Monday, September 12, 2016 4:00 PM **To:** Marlene Cavanaugh

Cc: harry.scott@hpe.com; Michael Botieri Subject: Re: Redacting Software

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Jacob,

I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.

Thanks

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 2 Nov 2017 12:25:10 -0400

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Subject Re: Redacting Software

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Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213 cavanaugh@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 5:47 PM To: Marlene Cavanaugh
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Thanks! Jacob

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Hi.

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I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28th or 30th).

Let me know your thoughts.

Thanks,

Marlene

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 4:00 PM

To: Marlene Cavanaugh

Cc: harry.scott@hpe.com; Michael Botieri **Subject:** Re: Redacting Software

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Thanks!

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Jacob,

I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.

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1	h	ar	ıks

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 8 Nov 2017 10:55:53 -0500

Thurs at 2 works well. Can we plan for that

Jacob

On Wed, Nov 8, 2017 at 10:27 AM, Nancy Dillon dillon@plymouthpolice.com wrote:

Hello, Mr. Sniff,

I checked with Chief Botieri, and he is available Wednesday or Thursday, November 15 or 16 at 2:00 PM. Unfortunately his schedule is quite full, and he does not have any morning availability.

Please let me know if you are available on either date at 2:00 PM.

Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, November 08, 2017 8:50 AM

To: Michael Botieri Cc: Nancy Dillon

Subject: Re: Redacting Software

Chief, let's just aim for next week if it works for you? fri is difficult now.

I'm open almost everything morning right now next week.

On Mon, Nov 6, 2017 at 10:07 AM, Jacob Sniff \leq isniff@alumni.princeton.edu> wrote:

Chief, Wed or Fri morning would work this week.

If not, sometime next week?

Best,

Jacob

On Mon, Nov 6, 2017 at 9:17 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob – sorry, I have been very busy. Send me a couple dates and times and I will make sure that the Dt. Lt. can show you what we have for video.

Thanks
Michael E. Botieri
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Cc: Nancy Dillon Subject: Re: Redacting Software
Chief,
Sounds good.
Btw, have you seen this guy?
https://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
https://www.nocconnecticut.com/news/toca// Tythoutil=Lonec-Seek-Koobely-Suspect-45-40/1105.html
http://www.vs.fab.com/stam/26711665/solice compl.for overset in attenuated reliberation of a relevant to occupation
http://www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
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Jacob

On Mon, Oct 30, 2017 at 8:11 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

I'll check the schedule to meet later this week.

Thanks

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Chief should we just reschedule? You around later today? It's a longer commute for me, so just want to be sure. I actually don't have power at my house.

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Jacob,

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Mike

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To: Michael Botieri

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Sent: Friday, October 06, 2017 11:11 AM

To: Michael Botieri

Subject: Re: Redacting Software

Mike,

Hope all is well.

Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!

https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern

https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/2017/00

http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html

https://twitter.com/TexasMetroNews/status/914223368001474568

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On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

You will

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

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Sent: Friday, September 30, 2016 8:25 AM

To: Marlene Cavanaugh

Cc: Michael Botieri

Subject: Re: Redacting Software

see you later at 2pm est today.

On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
great thank you!
On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:
Good morning.
Yes, to all. We can accommodate all of your needs.
See you on Friday.
Marlene
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Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
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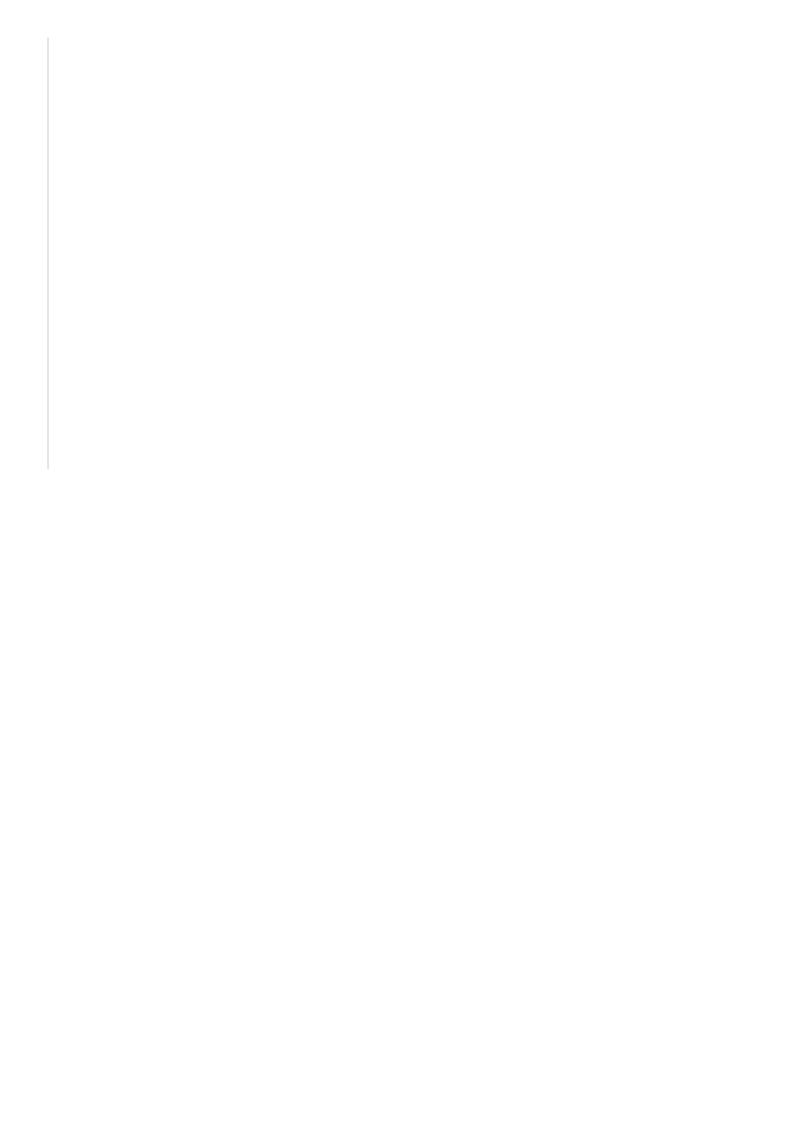
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] **On Behalf Of** Jacob Sniff **Sent:** Tuesday, September 13, 2016 10:06 AM

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How about we do the 30 th at 2:00pm here at the station?
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Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
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chiefbotieri@plymouthpolice.com

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From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 8 Nov 2017 11:16:20 -0500

ok!

On Wed, Nov 8, 2017 at 11:05 AM, Nancy Dillon dillon@plymouthpolice.com w	On '	Wed, Nov 8	, 2017 at 11:05 AM	, Nancy Dillon	<dillon@plymouth< th=""><th>police.com > wrot</th></dillon@plymouth<>	police.com > wrot
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Hi,

Yes. Thursday, November 16 at 2:00 PM here. See you then. Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

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ittp	s://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
ittp	//www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
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Mike,
Hope all is well.
Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!

https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern

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http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html https://twitter.com/TexasMetroNews/status/914223368001474568 Jacob On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, September 30, 2016 8:25 AM To: Marlene Cavanaugh Cc: Michael Botieri Subject: Re: Redacting Software see you later at 2pm est today. On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thank you! On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh <a vanaugh@plymouthpolice.com> wrote: Good morning. Yes, to all. We can accommodate all of your needs. See you on Friday. Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213

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I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28 th or 30 th).
Let me know your thoughts.
Thanks,
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 4:00 PM
To: Marlene Cavanaugh
Cc: harry.scott@hpe.com; Michael Botieri
Subject: Re: Redacting Software

Thanks!
On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:
Jacob,
I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.
Thanks
Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road

Plymouth, MA 02360 508-830-4218 X 226

chiefbotieri@plymouthpolice.com

Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est?

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 15 Nov 2017 12:55:49 -0500

See you guys tmr!

On Wed, Nov 8, 2017 at 11:16 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: | ok!

On Wed, Nov 8, 2017 at 11:05 AM, Nancy Dillon dillon@plymouthpolice.com> wrote:

Hi,

Yes. Thursday, November 16 at 2:00 PM here. See you then. Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, November 08, 2017 10:56 AM

To: Nancy Dillon

Cc: Michael Botieri

Subject: Re: Redacting Software

Thurs at 2 works well. Can we plan for that?

Jacob

On Wed, Nov 8, 2017 at 10:27 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote:

Hello, Mr. Sniff,

I checked with Chief Botieri, and he is available Wednesday or Thursday, November 15 or 16 at 2:00 PM. Unfortunately his schedule is quite full, and he does not have any morning availability.

Please let me know if you are available on either date at 2:00 PM.

Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 08, 2017 8:50 AM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software Chief, let's just aim for next week if it works for you? fri is difficult now. I'm open almost everything morning right now next week. On Mon, Nov 6, 2017 at 10:07 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Chief, Wed or Fri morning would work this week. If not, sometime next week? Best. Jacob On Mon, Nov 6, 2017 at 9:17 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Jacob – sorry, I have been very busy. Send me a couple dates and times and I will make sure that the Dt. Lt. can show you what we have for video. **Thanks** Michael E. Botieri Chief of Police From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, November 02, 2017 12:25 PM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software Chief, maybe next mon or tues early again to meet? On Mon, Oct 30, 2017 at 11:56 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: I know. But I know you said you have similar ones from CVS. I said "Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.

On Mon, Oct 30, 2017 at 11:55 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Those are both Plymouth Conn.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, October 30, 2017 10:03 AM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software
Chief,
Sounds good.
Btw, have you seen this guy?
https://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
http://www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.
Jacob
On Mon, Oct 30, 2017 at 8:11 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Jacob, Will should the calculate most laterable week.
I'll check the schedule to meet later this week. Thanks
On Oct 30, 2017, at 7:25 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:
Chief should we just reschedule? You around later today? It's a longer commute for me, so just want to be sure. I actually don't have power at my house.
On Mon, Oct 30, 2017 at 7:00 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief, we still good to meet this morning at 8:30? Wasn't sure if you were tied up with storm or not. I'm planning to leave in 15 minutes or so. Let me know if you get this.
On Wed, Oct 25, 2017 at 11:52 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Yes that works. I want to see a few thingshope that's ok. Your CVS footage, the buildings we discussed, etc. Only need to see a few examples of each.
On Wed, Oct 25, 2017 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Jacob – can we change the time to 8:30am?

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, October 25, 2017 10:24 AM
To: Michael Botieri Subject: Re: Redacting Software
Yes that works. Mon 10/30 at 9 it is!
On Wed, Oct 25, 2017 at 10:22 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Jacob,
I can meet Monday morning – does 9am work for you?
Mike
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, October 25, 2017 10:12 AM
To: Michael Botieri Subject: Re: Redacting Software
Chief, it was nice meeting you. Does sometime on M or Fri. next week work to meet briefly? If not, how about following week M-W, or F?
Best, Jacob
On Fri, Oct 6, 2017 at 12:24 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: likewise!
On Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
I look forward to seeing you Jacob.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, October 06, 2017 11:11 AM To: Michael Botieri Subject: Re: Redacting Software
Mike,
Hope all is well.
Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!

 $\underline{https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern}$

https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/

http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html https://twitter.com/TexasMetroNews/status/914223368001474568 Jacob On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, September 30, 2016 8:25 AM To: Marlene Cavanaugh Cc: Michael Botieri Subject: Re: Redacting Software see you later at 2pm est today. On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thank you! On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh <a vanaugh@plymouthpolice.com> wrote: Good morning. Yes, to all. We can accommodate all of your needs. See you on Friday. Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, September 27, 2016 9:55 AM

Plymouth, MA 02360 508-830-4218 X 213

cavanaugh@plymouthpolice.com

To: Marlene Cavanaugh

Subject: Re: Redacting Software

Marlene,

Couple quick questions:

- i.) I have a macbook. Was hoping to give a presentation by projector. Do you guys have a projector and hdmi cable?
- ii.) Can we connect easily to internet? I have a small youtube demo I wanted to show.

Thanks!

Best, Jacob

On Tue, Sep 13, 2016 at 10:09 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com> wrote:

Great.

See you then.

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, September 13, 2016 10:06 AM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

yes that works.

On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:

How about we do the 30th at 2:00pm here at the station?

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 5:47 PM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

You guys are like an hr or so away from me. Assuming you want to meet in Plymouth, how about meeting on 28th or 30th early afternoon?

Jacob
On Mon, Sep 12, 2016 at 5:37 PM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:
Chief prefers a meeting in person.
See you tomorrow at 2:00?
On Sep 12, 2016, at 5:04 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar so I can screen-share the technology.
On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Not sure of what the meeting entails. How much time do you need allotted?
On Sep 12, 2016, at 4:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
Hi Marlene,
2pm should work fine tmr. Do you want to set-up a conference?
Thanks! Jacob
On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Hi.
I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00.
I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28 th or 30 th).
Let me know your thoughts.
Thanks,
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Best Regards,

Sent: Monday, September 12, 2016 4:00 PM
To: Marlene Cavanaugh
Cc: harry.scott@hpe.com; Michael Botieri
Subject: Re: Redacting Software

Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est?
Thanks!
On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Jacob,
I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding

r received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.

Thanks

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

 $\underline{chief botieri@plymouthpolice.com}$

	From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: 9/30 Meeting Follow-Up To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com></ruggiero@plymouthpolice.com></chiefbotieri@plymouthpolice.com></jsniff@alumni.princeton.edu>
	Date Fri, 17 Nov 2017 16:14:45 -0500
Неу,	
Eithe	er of you guys sending me the files? Was hoping to look at this weekend.
Good	d weekend!
Best, Jacol	
On T	Tue, Nov 15, 2016 at 2:37 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Gre	eat Thanks
Ch	nief Michael E. Botieri
Ply	ymouth Police Department
20	Long Pond Road
Ply	ymouth, MA 02360
508	8-830-4218 X 226
chi	iefbotieri@plymouthpolice.com
	om: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff ent: Tuesday, November 15, 2016 2:17 PM
Cc	o: Michael Botieri o: Ryan Ruggiero; Harry @ TUS ubject: Re: 9/30 Meeting Follow-Up
Mi	ike,
Ye	es we would. Let me reach out again about it. We first have to make it work on iphone/ipad, which will take sometime.
W	e are still at least 3 months off from having it work on such a device.
Ве	est,
Jac	cob
On	n Tue, Nov 15, 2016 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
	cob,
	rry I wasn't able to return your email until now. I do have access to IPads as well as iPhones for the application. Would you like to schedule another meeting k about implementing a trial program?
Mi	ike
Ch	nief Michael E. Botieri
	ymouth Police Department
	Long Pond Road
Ply	ymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Sunday, November 13, 2016 11:06 PM To: Michael Botieri Cc: Ryan Ruggiero; Harry @ TUS Subject: Re: 9/30 Meeting Follow-Up Hi Chief Botieri, Hope all is well. We are finishing developing and bench-marking our facial recognition solution; we hope to launch it early to mid 2017. I was wondering the following regarding deployment: i.) Would the best possible platform be IPAD? Do you see any use on iPhone or BlackBerry? ii.) Do the officers have IPADS or would you have to buy them for this use case? iii.) Do you know if a lot of agencies would be interested in the solution? Thanks! Jacob On Tue, Oct 4, 2016 at 9:55 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thanks a lot! will be in touch. On Mon, Oct 3, 2016 at 6:10 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: We thoroughly enjoyed meeting with you and I would definitely like to help when you are ready to roll out your software. Mike > On Oct 3, 2016, at 5:30 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote: > Chief Botieri and Ryan, > It was really nice meeting both of you last week. > I think we should meet again in a month or two, to discuss more of the following and possibly try some of your data on some of the below: > -facial recognition on IPAD in field > -facial verification/recognition in building > -emotion recognition for possible lie detection (along with hand on face analysis) > -image search --eg phone or not in video. > I also made a note to look into the hospital/retail redaction use case Chief. If you know of any place to start, please let me know. > Also Chief, you seemed pretty keen on the use of facial recognition in stadiums. If you know of any place to start, please let me know. > Thanks! > Best Regards, > Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: 9/30 Meeting Follow-Up

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 17 Nov 2017 16:30:41 -0500

ok thank	you!	!	
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Mike,

On Fri, Nov 17, 2017 at 4:27 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob – Here you go. Good luck, Michael E. Botieri Chief of Police From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, November 17, 2017 4:15 PM
To: Michael Botieri; Ryan Ruggiero Subject: Re: 9/30 Meeting Follow-Up Hey, Either of you guys sending me the files? Was hoping to look at this weekend. Good weekend! Best, Jacob On Tue, Nov 15, 2016 at 2:37 PM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote: **Great Thanks** Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, November 15, 2016 2:17 PM To: Michael Botieri Cc: Ryan Ruggiero; Harry @ TUS Subject: Re: 9/30 Meeting Follow-Up

Yes we would. Let me reach out again about it. We first have to make it work on iphone/ipad, which will take sometime.
We are still at least 3 months off from having it work on such a device.
Best,
Jacob
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Jacob,
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Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
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The Chief Bodeli,
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On Mon, Oct 3, 2016 at 6:10 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Jacob, We thoroughly enjoyed meeting with you and I would definitely like to help when you are ready to roll out your software.
Mike

> On Oct 3, 2016, at 5:30 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

>
> Chief Botieri and Ryan,
>
> It was really nice meeting both of you last week.
>
> I think we should meet again in a month or two, to discuss more of the following and possibly try some of your data on some of the below:
>
> -facial recognition on IPAD in field
> -facial verification/recognition in building
> -emotion recognition for possible lie detection (along with hand on face analysis)
> -image searcheg phone or not in video.
>
> I also made a note to look into the hospital/retail redaction use case Chief. If you know of any place to start, please let me know.
>
> Also Chief, you seemed pretty keen on the use of facial recognition in stadiums. If you know of any place to start, please let me know.
>
> Thanks!
> Best Regards,
> Jacob

Date Sun, 19 Nov 2017 20:12:44 -0500
Chief,
I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the chain:
1. As the recent press and research articles below show, I do think that with a decent database to match from, at least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones).
2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelph Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No agencies around the area take advantage of it right now? Why are Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a decent database that we can go off from.
Things to look at:
i.) Recent Press Other Tools:
http://www.illinoishomepage.net/news/local-news/facial-recognition-solves-crime-cases/859552732
He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug shots. He says it's as easy pieP.I.E.
It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through technology.
ii.) Crime Analysis Unit

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Initial Search Follow Up Note

A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.
iii.) National Database + Facial Rec.
Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63
JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFace TM facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arres records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN.
JFRS enables Pennsylvania's criminal justice professionals to verify or discover identity matches through one-to-one or one-to-many searches in a database sized for 3.5 million criminal booking images. So far, the JFRS identity searches have aided investigators in solving numerous cases, including homicides, robberies, burglaries, fraud and identity theft.
JFRS also includes the PA Watchlist functionality that enables users in the field to add suspect images from bank cameras, ATMs, retail security camera and other sources to the watch list, enhancing the opportunity for additional identifications.
According to Harry Giordano, Special Projects manager for JNET, successes have occurred during the JNET System Training Sessions, which are currently taking place at Computer Training Labs across the commonwealth. "Officers coming to the JNET Training Sessions are asked to bring photos of unknown suspects from open cases and, using the system for the first time during training, are getting HITS and solving crimes," said Mr. Giordano. "Thanks to DataWorks Plus' intuitive Graphical User Interface and accuracy of the core facial recognition technology even first-time users are able to get positive results."
Over 39,000 municipal, county, state and federal justice professionals use JNET to access critical information and securely conduct investigations. JNET provides role-based access to over 35 distinct applications. In addition, JNET uses a service oriented architecture (SOA) model to broker the exchange of over 600 million messages annually between business partners. The JNET infrastructure connects all 67 Pennsylvania counties, 38 state agencies, and 37 federal law enforcement agencies.
JFRS provides a host of imaging tools that allow photographs to be cropped, rotated or manipulated to assist with comparison. Furthermore, JFRS employs two unique search algorithm technologies. Photographs submitted into JFRS by investigators are automatically analyzed by both search algorithms, ensuring that law enforcement benefits from multiple technologies. With JFRS deployed on JNET, the system can be made available to any law enforcement agency in Pennsylvania. Law enforcement professionals from more than 500 agencies have completed training and have access to JFRS.
iv.) Research Articles:

https://www.wired.com/2016/09/machine-learning-can-identify-pixelated-faces-researchers-show/
"The researchers said only 10 fully-visible examples of a person's face were needed to identify a blurred image with 91.5 per cent accuracy. With an average of just 1.25 tagged images, the system could still correctly identify an individual 56.8 per cent of the time, which is 73 times higher than chance would allow.
It fared worse in "across event" measurements - those in which the lighting, clothing and context had changed - but still performed at 17 times the rate of chance, identifying people in 31.9 per cent of obscured images.
The researchers also tested different obfuscation methods to see if there was variance in the identification performance. By attempting to recognise non-tagged Gaussian blurs, white boxes and black box images they found that the best method for staying anonymous is to post all your pictures to Facebook with a black box over your face and shoulders. The next safest would be blocking it out with a white box, then a Gaussian blur. "
Jacob

Chief,
The camera images you sent are definitely good enough to do alerting on.
Few initial things:
i.) Success Criteria:
I guess I'm wondering what you consider success to be? If we found 1 real suspect a year for example, with very low false positive, would that be enough to warrant the use of it? Given there's no alerts for people now, what are your thoughts? Just if we simulate a suspect coming in, we find him the majority of times?
ii.) Deployment Scenario:
So you would aim to do this on all or most of the buildings you showed me in person? We would be fine on the privacy concerns for this? You mentioned at IACP you think most chiefs in MA would be on board with this. That still your thinking? I do realize the technology could be perceived as controversial, though the stark reality is that it could save lives.
iii.) Database:
For the watchlist database, are you thinking some combination of the below? On order of 1000 suspects? 10k suspects?
-Gov't or FBI watchlist (eg part of TSDB watchlist)
-local state most wanted
-local county wanted
-some subset of local jail booking photos
-immediate local BOLO list
-sex offender list
iv.) Alert Statistics:

How many people per day do you think we will profile across all 21/22 buildings? On order of 10k entering per day or how many? Some statistics are below fr this, we can fine-tune for higher numbers---the true positive may go down, but FP will go down (to 1 a week or 1 a month for example). To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Initial Thoughts on Facial Alert in Real Time

Date Sun, 19 Nov 2017 21:32:57 -0500

match:
-10k ppl per day
-10 percent hit rate = 1k people per day (raw detection)
-1000*100 = 100,000 match attempts (watch-list size of 100)
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To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Initial Search Follow Up Note

Date Wed, 22 Nov 2017 12:51:09 -0500

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ii.) Crime Analysis Unit
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A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.
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From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Initial Thoughts on Facial Alert in Real Time
To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 29 Nov 2017 10:15:20 -0500

iv.) Alert Statistics:

Thief, I'm going to send more material and thoughts over next few weeks.
Any initial thoughts on what I've sent thus far?
On Sun, Nov 19, 2017 at 9:32 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
Chief,
The camera images you sent are definitely good enough to do alerting on.
Few initial things:
i.) Success Criteria:
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I guess I'm wondering what you consider success to be? If we found 1 real suspect a year for example, with very low false positive, would that be
enough to warrant the use of it? Given there's no alerts for people now, what are your thoughts? Just if we simulate a suspect coming in, we find him
the majority of times?
ii.) Deployment Scenario:
So you would aim to do this on all or most of the buildings you showed me in person? We would be fine on the privacy concerns for this? You mentioned at IACP you think most chiefs in MA would be on board with this. That still your thinking? I do realize the technology could be perceived
as controversial, though the stark reality is that it could save lives.
iii.) Database:
For the watchlist database, are you thinking some combination of the below? On order of 1000 suspects? 10k suspects?
-Gov't or FBI watchlist (eg part of TSDB watchlist)
-local state most wanted
-local county wanted
-some subset of local jail booking photos
-immediate local BOLO list
-sex offender list

How many people per day do you think we will profile across all 21/22 buildings? On order of 10k entering per day or how many? Some statistics are below fr this, we can fine-tune for higher numbersthe true positive may go down, but FP will go down (to 1 a week or 1 a month for example). To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:
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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Initial Search Follow Up Note To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <Ruggiero@plymouthpolice.com> Date Wed, 29 Nov 2017 12:44:01 -0500 Also related in news past couple days on search: i.) Seems Amazon is in game. I think our service could be better still and I'm sure similar price: http://www.nextgov.com/cio-briefing/2017/11/how-one-law-enforcement-agency-using-facial-recognition-identify-suspects/142816/ http://www.11alive.com/article/news/local/is-it-mariah-fbi-asking-for-help-identifying-woman-child-in-photos/85-495407961 I did also compile a large list of notes/thoughts on facial access management for evidence rooms over holidays. Can you guys view google docs ok if I share it with your email addresses? On Wed, Nov 22, 2017 at 1:56 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote: Thanks Jacob. Have a great Thanksgiving. On Nov 22, 2017, at 12:56 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Guys, I do plan to send a facial access management note in regards to evidence rooms over holidays; I've been thinking about it. Have a good holiday! Best, Jacob On Sun, Nov 19, 2017 at 8:12 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Chief. I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the chain: 1. As the recent press and research articles below show, I do think that with a decent database to match from, at least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones). 2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure. 3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?

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Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 30 Nov 2017 07:36:35 -0500

Can you guys view google docs ok if I share it with your email addresses?

On Wed, Nov 29, 2017 at 4:21 PM, Michael Botieri <chiefbotieri@plvmouthpolice.com> wrote:

i wed, Nov 29, 2017 at 4.21 I M, Michael Botteri Schierbouernaghymouthpoines com
'Il check it out Jacob
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 29, 2017 12:44 PM To: Michael Botieri; Ryan Ruggiero Subject: Re: Initial Search Follow Up Note
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From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Initial Thoughts on Facial Alert in Real Time
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Tue, 5 Dec 2017 18:43:57 -0500

-immediate local BOLO list

-sex offender list

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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Initial Thoughts on Facial Alert in Real Time To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Thu, 7 Dec 2017 12:49:48 -0500

Chief it seems right now I have pretty good flevibility next week on thurs or fri or the week after on the same days. Do any of those work for you in

morning or afternoon?	
	dest Regards, acob
(On Thu, Dec 7, 2017 at 9:26 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:</chiefbotieri@plymouthpolice.com>
	Jacob – send me a few dates and I will check the calendar.
	From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, December 05, 2017 6:44 PM To: Michael Botieri Cc: Ryan Ruggiero
	Subject: Re: Initial Thoughts on Facial Alert in Real Time
	Chief, can we maybe meet for a discussion sometime late next week or week after?
	Best,
	Jacob
	On Wed, Nov 29, 2017 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
	Chief, I'm going to send more material and thoughts over next few weeks.
	Any initial thoughts on what I've sent thus far?
	On Sun, Nov 19, 2017 at 9:32 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
	Chief,
	The camera images you sent are definitely good enough to do alerting on.
	Few initial things:
	i.) Success Criteria:
	I guess I'm wondering what you consider success to be? If we found 1 real suspect a year for example, with very low false positive, would that be enough to warrant the use of it? Given there's no alerts for people now, what are your thoughts? Just if we simulate a suspect coming in, we find him

ii.) Deployment Scenario:

the majority of times?

So you would aim to do this on all or most of the buildings you showed me in person? We would be fine on the privacy concerns for this? You mentioned at IACP you think most chiefs in MA would be on board with this. That still your thinking? I do realize the technology could be perceived as controversial, though the stark reality is that it could save lives.
iii.) Database:
For the watchlist database, are you thinking some combination of the below? On order of 1000 suspects? 10k suspects?
-Gov't or FBI watchlist (eg part of TSDB watchlist)
-local state most wanted
-local county wanted
-some subset of local jail booking photos
-immediate local BOLO list
-sex offender list
iv.) Alert Statistics:
How many people per day do you think we will profile across all 21/22 buildings? On order of 10k entering per day or how many? Some statistics are below fr this, we can fine-tune for higher numbersthe true positive may go down, but FP will go down (to 1 a week or 1 a month for example). To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:
-10k ppl per day
-10 percent hit rate = 1k people per day (raw detection)
-1000*100 = 100,000 match attempts (watch-list size of 100)
$-0.00001*100,000 = \sim 1$ false match per day (FAR of .001 percent)
v.) Alert Management:
I guess I'm wondering how you think about managing alerts? A subset of workers would get the alert and then they could visually confirm the match and then decide whether to take action or not on it? Is that correct? Or what are your thoughts?
vi.) Deployment Note:
As we discussed in person, it would make sense to add a slight zoom to the cameras, to focus more on when they enter the building initially. The distance we would like to be at for facial is within 10-15 yards (30-45 ft and less) for high accuracy. Do you think this is doable?

I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
vii.) Mask Detection:
Do you see any value in mask detection? I would think during the winter we may run into problems. But should be good other than that.
Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course. No rush on this.
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Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 12 Dec 2017 11:44:18 -0500

Chief, I just talked to one contact I made at IACP, who is a chief in Indiana. he said that for them, it would be a huge value to just have a log of the people coming and going from the evidence room. Right now, there's no real log (don't have someone's face logged upon entry and exit); it really just takes one bad apple to mess everything up and cause a bunch of cases to be dismissed when evidence is tampered with; they could be allowing others in upon entry as well. Apparently they're audited in someway by NCIS yearly and this would help that audit. Relatedly, it seems if people are in the agency and don't have some CJIS background check, it's of value to him to know that everyone who entered, has had this done. He also wants cameras inside the facility and outside to be running facial continually. Maybe change can come Mont! I've been thinking about giving it a push next year.

Here's a google docs with some evidence room notes:

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Sent: Wednesday, November 29, 2017 12:44 PM

To: Michael Botieri; Ryan Ruggiero **Subject:** Re: Initial Search Follow Up Note

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http://www.nextgov.com/cio-briefing/2017/11/how-one-law-enforcement-agency-using-facial-recognition-identify-suspects/142816/

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http://www.11alive.com/article/news/local/is-it-mariah-fbi-asking-for-help-identifying-woman-child-in-photos/85-495407961

I did also compile a large list of notes/thoughts on facial access management for evidence rooms over holidays. Can you guys view google docs ok if I share it with your email addresses?

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Have a good holiday!

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A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.
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Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63
JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFace TM facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arrest records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN.
JFRS enables Pennsylvania's criminal justice professionals to verify or discover identity matches through one-to-one or one-to-many searches in a database sized for 3.5 million criminal booking images. So far, the JFRS identity searches have aided investigators in solving numerous cases, including homicides, robberies, burglaries, fraud and identity theft.
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According to Harry Giordano, Special Projects manager for JNET, successes have occurred during the JNET System Training Sessions, which are currently taking place at Computer Training Labs across the commonwealth. "Officers coming to the JNET Training Sessions are asked to bring photos of unknown suspects from open cases and, using the system for the first time during training, are getting HITS and solving crimes," said Mr. Giordano. "Thanks to DataWorks Plus' intuitive Graphical User Interface and accuracy of the core facial recognition technology even first-time users are able to get positive results."
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Chief let's meet soon! Hope all is well.

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That sounds like it would be a great value for the evidence room.

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Jacob

Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 13 Dec 2017 21:55:36 -0500

Chief,

Couple other things we should look at:

1.) Seems California has a popular ARJIS/TACIDS platform:

https://www.eff.org/files/2013/11/07/2008-leim-nij-day-tacids_copy.pdf

http://www.govtech.com/security/Californias-ARJIS-to-Support-Crime-Fighting.html

https://www.businesswire.com/news/home/20130508005558/en/FaceFirst%E2%84%A2-Secures-New-Business-ARJIS-Automated-Regional

https://www.eff.org/files/2013/11/07/01 - tacids award letter 2.pdf

https://www.sandiego.gov/sites/default/files/legacy/comptroller/reports/pdf/arjis2002.pdf

https://www.eff.org/deeplinks/2013/11/san-diego-gets-your-face-new-mobile-identification-system

https://www.eff.org/files/2013/11/07/2008-leim-nij-day-tacids_copy.pdf

http://itlaw.wikia.com/wiki/Automated Regional Justice Information System

http://www.arjis.org/RegionalPolicies/Facial%20Recognition%20Privacy%20Impact%20Assessment%20Report.pdf

http://www.arjis.org/SitePages/ARJISAgencies.aspx

http://www.govwiki.info/pdfs/Special%20District/CA%20San%20Diego%20Association%20Of%20Governments%202016.pdf

"fUncooperative Persons Are Not Easily Identified fWanted And Persons Of Interest Evade Detection fOutstanding Warrants Remain Unexecuted"

""Tucson has been using COPLINK for five years, and it's proven to be an incredibly effective investigative tool in helping put murderers, repeat sex offenders and drug traffickers behind bars," said Detective Tim Petersen of the Tucson Police Department. "We've also been able to achieve a 7:1 labor savings, which helps Tucson keep more feet on the streets."

""Wanted persons may not have proper identification, making the job of our law enforcement agents much more difficult," says Joe Rosenkrantz, CEO of FaceFirst. "Our technology and integration with TACIDS helps agents quickly and accurately identify wanted persons when only limited information on suspects is available and often times identifiable."

"The secure ARJISnet intranet integrates more than 6,000 workstations throughout the 4,265 square miles of San Diego County. There are more than 11,000 authorized users generating more than 35,000 transactions daily.

https://www.sandiego.gov/sites/default/files/legacy/comptroller/reports/pdf/arjis2002.pdf

ii.) Wonder if we should make a face portal like this GraffitiTracker below, but with suspects in Mass:

http://www.arjis.org/SitePages/GraffitiTracker.aspx

2. Chinese next generation police station identification:

"check out un-manned police stations: http://www.planetbiometrics.com/article-details/i/6580/desc/china-plans-unmanned-police-stations-with-face-recognition/

"Cutting-edge facial-recognition technology developed by Tencent will identify citizens within the station.

The idea is that this will eliminate the need for users to sit at stations for long periods of time, sign up for accounts, or download apps — the AI will access all pertinent information as soon as it sees the person's face.

]	This can then make applications for government and document services faster and more streamlined, adds the article.""
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1. As the recent press and research articles below show, I do think that with a decent database to match from, at least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones).

On Wed, Nov 29, 2017 at 4:21 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No agencies around the area take advantage of it right now? Whare Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a decent database that we can go off from.
Things to look at:
i.) Recent Press Other Tools:
http://www.illinoishomepage.net/news/local-news/facial-recognition-solves-crime-cases/859552732
He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug shots. He says it's as easy pieP.I.E.
It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.
ii.) Crime Analysis Unit
https://www.usnews.com/news/best-states/florida/articles/2017-05-28/florida-case-is-poster-child-for-facial-recognition-tech
A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.
iii.) National Database + Facial Rec.
Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63

JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFaceTM facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arrest records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN.

JFRS enables Pennsylvania's criminal justice professionals to verify or discover identity matches through one-to-one or one-to-many searches in a database sized for 3.5 million criminal booking images. So far, the JFRS identity searches have aided investigators in solving numerous cases, including homicides, robberies, burglaries, fraud and identity theft.

JFRS also includes the PA Watchlist functionality that enables users in the field to add suspect images from bank cameras, ATMs, retail security cameras and other sources to the watch list, enhancing the opportunity for additional identifications.

According to Harry Giordano, Special Projects manager for JNET, successes have occurred during the JNET System Training Sessions, which are currently taking place at Computer Training Labs across the commonwealth. "Officers coming to the JNET Training Sessions are asked to bring photos of unknown suspects from open cases and, using the system for the first time during training, are getting HITS and solving crimes," said Mr. Giordano. "Thanks to DataWorks Plus' intuitive Graphical User Interface and accuracy of the core facial recognition technology even first-time users are able to get positive results."

Over 39,000 municipal, county, state and federal justice professionals use JNET to access critical information and securely conduct investigations. JNET provides role-based access to over 35 distinct applications. In addition, JNET uses a service oriented architecture (SOA) model to broker the exchange of over 600 million messages annually between business partners. The JNET infrastructure connects all 67 Pennsylvania counties, 38 state agencies, and 37 federal law enforcement agencies.

JFRS provides a host of imaging tools that allow photographs to be cropped, rotated or manipulated to assist with comparison. Furthermore, JFRS employs two unique search algorithm technologies. Photographs submitted into JFRS by investigators are automatically analyzed by both search algorithms, ensuring that law enforcement benefits from multiple technologies. With JFRS deployed on JNET, the system can be made available to any law enforcement agency in Pennsylvania. Law enforcement professionals from more than 500 agencies have completed training and have access to JFRS.

iv.) Research Articles:

http://www.wired.co.uk/article/facial-recognition-systems-can-identify-you-even-if-your-face-is-blurred

https://www.wired.com/2016/09/machine-learning-can-identify-pixelated-faces-researchers-show/

"The researchers said only 10 fully-visible examples of a person's face were needed to identify a blurred image with 91.5 per cent accuracy. With an average of just 1.25 tagged images, the system could still correctly identify an individual 56.8 per cent of the time, which is 73 times higher than chance would allow.

It fared worse in "across event" measurements - those in which the lighting, clothing and context had changed - but still performed at 17 times the rate of chance, identifying people in 31.9 per cent of obscured images.

The researchers also tested different obfuscation methods to see if there was variance in the identification performance. By attempting to recognise non-tagged Gaussian blurs, white boxes and black box images they found that the best method for staying anonymous is to post all your pictures to Facebook with a black box over your face and shoulders. The next safest would be blocking it out with a white box, then a Gaussian blur. "

Jacob

From Jacob Sniff <isniff@alumni.princeton.edu>
Subject Re: Initial Thoughts on Facial Alert in Real Time
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Fri, 15 Dec 2017 07:59:06 -0500

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 05, 2017 6:44 PM

To: Michael Botieri **Cc:** Ryan Ruggiero

Subject: Re: Initial Thoughts on Facial Alert in Real Time

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Date Mon, 18 Dec 2017 08:27:18 -0500

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Subject Re: Initial Thoughts on Facial Alert in Real Time

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 29 Dec 2017 14:51:07 -0500

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Chief Michael E. Botieri

Plymouth Police Department

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Mike, I'm gone next week. Let's do first or second week of Jan? What works?
On Mon, Dec 18, 2017 at 8:23 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Jacob – I'm only in the office 2 days this week. Maybe next week or after the holidays.
Thanks
Mike
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, December 15, 2017 7:59 AM
To: Michael Botieri Cc: Ryan Ruggiero Subject: Re: Initial Thoughts on Facial Alert in Real Time
Chief,
Do you guys have any availability next week?
I'll be gone 22-30th.
If not, aim for first or second week of Jan then?
I do really think we're onto something here. I think we can build some good stuff, if we get access to right databases and I understand your exact ideal workflow. I also think, with the right features, we can make a platform for multiple agencies to use, which should have network benefits in identifying suspects across jurisdictions.
Jacob
On Thu, Dec 7, 2017 at 12:49 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief, it seems right now I have pretty good flexibility next week on thurs or fri. or the week after on the same days. Do any of those work for you in morning or afternoon?
Best Regards,
Jacob
On Thu, Dec 7, 2017 at 9:26 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Jacob – send me a few dates and I will check the calendar.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, December 05, 2017 6:44 PM To: Michael Botieri Cc: Ryan Ruggiero Subject: Re: Initial Thoughts on Facial Alert in Real Time
Chief, can we maybe meet for a discussion sometime late next week or week after?
Best,
Jacob
On Wed, Nov 29, 2017 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief, I'm going to send more material and thoughts over next few weeks.
Any initial thoughts on what I've sent thus far?
On Sun, Nov 19, 2017 at 9:32 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
The camera images you sent are definitely good enough to do alerting on.
Few initial things:
i.) Success Criteria:
I guess I'm wondering what you consider success to be? If we found 1 real suspect a year for example, with very low false positive, would that be enough to warrant the use of it? Given there's no alerts for people now, what are your thoughts? Just if we simulate a suspect coming in, we find him the majority of times?
ii.) Deployment Scenario:
So you would aim to do this on all or most of the buildings you showed me in person? We would be fine on the privacy concerns for this? You mentioned at IACP you think most chiefs in MA would be on board with this. That still your thinking? I do realize the technology could be perceived as controversial, though the stark reality is that it could save lives.
iii.) Database:
For the watchlist database, are you thinking some combination of the below? On order of 1000 suspects? 10k suspects?
-Gov't or FBI watchlist (eg part of TSDB watchlist)
-local state most wanted

-local county wanted
-some subset of local jail booking photos
-immediate local BOLO list
-sex offender list
iv.) Alert Statistics:
How many people per day do you think we will profile across all 21/22 buildings? On order of 10k entering per day or how many? Some statistics are below fr this, we can fine-tune for higher numbersthe true positive may go down, but FP will go down (to 1 a week or 1 a month for example). To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:
-10k ppl per day
-10 percent hit rate = 1k people per day (raw detection)
-1000*100 = 100,000 match attempts (watch-list size of 100)
$-0.00001*100,000 = \sim 1$ false match per day (FAR of .001 percent)
v.) Alert Management:
I guess I'm wondering how you think about managing alerts? A subset of workers would get the alert and then they could visually confirm the match and then decide whether to take action or not on it? Is that correct? Or what are your thoughts?
vi.) Deployment Note:
As we discussed in person, it would make sense to add a slight zoom to the cameras, to focus more on when they enter the building initially. The distance we would like to be at for facial is within 10-15 yards (30-45 ft and less) for high accuracy. Do you think this is doable?
I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
vii.) Mask Detection:
Do you see any value in mask detection? I would think during the winter we may run into problems. But should be good other than that.
J. J. San
Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course. No rush on this

Best,

Jacob

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com> Date Fri, 5 Jan 2018 10:15:58 -0500</ruggiero@plymouthpolice.com></chiefbotieri@plymouthpolice.com>	
Chief,	
Before next week, few quick things:	
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim s of it if you have time before Thurs:	ome
1. Plymouth PD Considerations:	
https://docs.google.com/document/d/1-EuwJkrFA6c8sIlnDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp = sharing the control of the contro	
2. General Search/Identification Notes:	
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing$	
3. General Alert Notes:	
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp = sharing the control of the contro	
4. General Evidence Room Notes:	
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp = sharing the following and the control of the con	
5. General Real Time Identification Notes:	
$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing$	
ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a slight zoom:	
"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to images you sent.") the
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.	
Best, Jacob	

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Condensed Notes

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

Date Mon, 8 Jan 2018 08:28:05 -0500

Chief,

This is what alerting could like, on screen:

https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0

So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.

You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.

So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.

Jacob

On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief,

Before next week, few quick things:

i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:

1. Plymouth PD Considerations:

https://docs.google.com/document/d/1-EuwJkrFA6c8sIlnDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing

2. General Search/Identification Notes:

https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing

3. General Alert Notes:

https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing

4. General Evidence Room Notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing

5. General Real Time Identification Notes:

https://docs.google.com/document/d/1qTZAMbQI8S_-gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing

ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a slight zoom:

"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.

iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.

Best, Jacob From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 10 Jan 2018 08:15:37 -0500

Nancy, can you confirm my meeting with chief tmr at 2? We are on right?

On Wed, Nov 8, 2017 at 11:05 AM, Nancy Dillon dillon@plymouthpolice.com wrote:

Hi,

Yes. Thursday, November 16 at 2:00 PM here. See you then. Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

 $\textbf{From:} \ jsniff12@gmail.com \ [mailto:] sniff12@gmail.com] \ \textbf{On Behalf Of} \ Jacob \ Sniff}$

Sent: Wednesday, November 08, 2017 10:56 AM

To: Nancy Dillon

Cc: Michael Botieri

Subject: Re: Redacting Software

Thurs at 2 works well. Can we plan for that?

Jacob

On Wed, Nov 8, 2017 at 10:27 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote:

Hello, Mr. Sniff,

I checked with Chief Botieri, and he is available Wednesday or Thursday, November 15 or 16 at 2:00 PM. Unfortunately his schedule is quite full, and he does not have any morning availability.

Please let me know if you are available on either date at 2:00 PM.

Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 08, 2017 8:50 AM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software Chief, let's just aim for next week if it works for you? fri is difficult now. I'm open almost everything morning right now next week. On Mon, Nov 6, 2017 at 10:07 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Chief, Wed or Fri morning would work this week. If not, sometime next week? Best, Jacob On Mon, Nov 6, 2017 at 9:17 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Jacob – sorry, I have been very busy. Send me a couple dates and times and I will make sure that the Dt. Lt. can show you what we have for video. Thanks Michael E. Botieri Chief of Police From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, November 02, 2017 12:25 PM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software Chief, maybe next mon or tues early again to meet? On Mon, Oct 30, 2017 at 11:56 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: I know. But I know you said you have similar ones from CVS. I said "Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.

On Mon, Oct 30, 2017 at 11:55 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Those are both Plymouth Conn.

Sent: N	<u>jsniff12@gmail.com</u> [mailto: <u>jsniff12@gmail.com</u>] On Behalf Of Jacob Sniff Monday, October 30, 2017 10:03 AM chael Botieri
Cc: Nar	ncy Dillon :t: Re: Redacting Software
•	
Chief,	
Sounds	s good.
Btw, h	ave you seen this guy?
nttps://	www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
nttp://v	www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
Origina	ally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.
acob	
On Mo	on, Oct 30, 2017 at 8:11 AM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:
acob,	
	ck the schedule to meet later this week.
Γhanks	S .
	t 30, 2017, at 7:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
	Chief should we just reschedule? You around later today? It's a longer commute for me, so just want to be sure. I actually don't have power at my house.
(On Mon, Oct 30, 2017 at 7:00 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
	Chief, we still good to meet this morning at 8:30? Wasn't sure if you were tied up with storm or not. I'm planning to leave in 15 minutes o so. Let me know if you get this.
	so. Let lie know if you get this.
(On Wed, Oct 25, 2017 at 11:52 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
	Yes that works. I want to see a few thingshope that's ok. Your CVS footage, the buildings we discussed, etc. Only need to see a few
	examples of each.
	On Wed, Oct 25, 2017 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:
J	lacob – can we change the time to 8:30am?

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

To: Michael Botieri Subject: Re: Redacting Software
Yes that works. Mon 10/30 at 9 it is!
On Wed, Oct 25, 2017 at 10:22 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Jacob,
I can meet Monday morning – does 9am work for you?
Mike
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, October 25, 2017 10:12 AM
To: Michael Botieri Subject: Re: Redacting Software
Chief, it was nice meeting you. Does sometime on M or Fri. next week work to meet briefly? If not, how about following week M-W, or F?
Best, Jacob
On Fri, Oct 6, 2017 at 12:24 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
likewise!
On Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: I look forward to seeing you Jacob.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, October 06, 2017 11:11 AM To: Michael Botieri Subject: Re: Redacting Software
Mike,
Hope all is well.
Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!

https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern

Sent: Wednesday, October 25, 2017 10:24 AM

http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html https://twitter.com/TexasMetroNews/status/914223368001474568 Jacob On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote: Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, September 30, 2016 8:25 AM To: Marlene Cavanaugh Cc: Michael Botieri Subject: Re: Redacting Software see you later at 2pm est today. On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thank you! On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh < cavanaugh @plymouthpolice.com > wrote: Good morning. Yes, to all. We can accommodate all of your needs. See you on Friday. Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

cavanaugh@plymouthpolice.com

Sent: Tuesday, September 27, 2016 9:55 AM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

Marlene,

Couple quick questions:

- i.) I have a macbook. Was hoping to give a presentation by projector. Do you guys have a projector and hdmi cable?
- ii.) Can we connect easily to internet? I have a small youtube demo I wanted to show.

Thanks!

Best, Jacob

On Tue, Sep 13, 2016 at 10:09 AM, Marlene Cavanaugh <a vanaugh@plymouthpolice.com wrote:

Great.

See you then.

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, September 13, 2016 10:06 AM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

yes that works.

On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:

How about we do the 30th at 2:00pm here at the station?

Marlene Cavanaugh

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 213

cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 12, 2016 5:47 PM

To: Marlene Cavanaugh

Subject: Re: Redacting Software

You guys are like an hr or so away from me. Assuming you want to meet in Plymouth, how about meeting on 28th or 30th early afternoon?

Best Regards, Jacob
On Mon, Sep 12, 2016 at 5:37 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Chief prefers a meeting in person.
See you tomorrow at 2:00?
On Sep 12, 2016, at 5:04 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen-share the technology.
On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
Not sure of what the meeting entails. How much time do you need allotted?
On Sep 12, 2016, at 4:40 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
Hi Marlene,
2pm should work fine tmr. Do you want to set-up a conference?
Thanks! Jacob
On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote: Hi.
I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00.
I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28 th or 30 th).
Let me know your thoughts.
Thanks,
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 4:00 PM
To: Marlene Cavanaugh
Cc: harry.scott@hpe.com; Michael Botieri
Subject: Re: Redacting Software

Thanks!
On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:
Jacob,
I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell – however – I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling.
Thanks
Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road

Plymouth, MA 02360 508-830-4218 X 226

chiefbotieri@plymouthpolice.com

Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est?

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 10 Jan 2018 08:54:12 -0500

grt!

On Wed, Jan 10, 2018 at 8:45 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Good morning, Jacob, We are confirmed for tomorrow at 2:00 PM. See you then. Thanks.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, January 10, 2018 8:16 AM

To: Nancy Dillon

Subject: Re: Redacting Software

Nancy, can you confirm my meeting with chief tmr at 2? We are on right?

On Wed, Nov 8, 2017 at 11:05 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Hi,

Yes. Thursday, November 16 at 2:00 PM here. See you then. Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, November 08, 2017 10:56 AM

To: Nancy Dillon

Cc: Michael Botieri Subject: Re: Redacting Software
Thurs at 2 works well. Can we plan for that?
Jacob
On Wed, Nov 8, 2017 at 10:27 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:
Hello, Mr. Sniff,
I checked with Chief Botieri, and he is available Wednesday or Thursday, November 15 or 16 at 2:00 PM. Unfortunately his schedule is quite full, and he does not have any morning availability.
Please let me know if you are available on either date at 2:00 PM.
Thank you.
Nancy Dillon
Administrative Secretary
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 272
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 08, 2017 8:50 AM
To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software
Chief, let's just aim for next week if it works for you? fri is difficult now.
I'm open almost everything morning right now next week.
On Mon, Nov 6, 2017 at 10:07 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief, Wed or Fri morning would work this week.
If not, sometime next week?
Best,
Jacob
On Mon, Nov 6, 2017 at 9:17 AM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:

Jacob – sorry, I have been very busy. Send me a couple dates and times and I will make sure that the Dt. Lt. can show you what we have for video.

Thanks
Michael E. Botieri
Chief of Police
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, November 02, 2017 12:25 PM
To: Michael Botieri
Cc: Nancy Dillon Subject: Re: Redacting Software
Subject. Re. Redacting Software
Chief, maybe next mon or tues early again to meet?
On Mon, Oct 30, 2017 at 11:56 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
I know. But I know you said you have similar ones from CVS.
I said "Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.
On Mon, Oct 30, 2017 at 11:55 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
Those are both Plymouth Conn.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff
Sent: Monday, October 30, 2017 10:03 AM To: Michael Botieri
Cc: Nancy Dillon Subject: Re: Redacting Software
Chief,
Sounds good.
Btw, have you seen this guy?
https://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
https://www.nocconnecticut.com/news/toca// Tythoutil=Lonec-Seek-Koobely-Suspect-45-40/1105.html
http://www.ufsh.com/stom/26711665/nolice compl.for evenent in attenuated reliberation of a relevant the constant
http://www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.
Jacob

On Mon, Oct 30, 2017 at 8:11 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

I'll check the schedule to meet later this week.

Thanks

On Oct 30, 2017, at 7:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief should we just reschedule? You around later today? It's a longer commute for me, so just want to be sure. I actually don't have power at my house.

On Mon, Oct 30, 2017 at 7:00 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief, we still good to meet this morning at 8:30? Wasn't sure if you were tied up with storm or not. I'm planning to leave in 15 minutes or so. Let me know if you get this.

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Yes that works. I want to see a few things---hope that's ok. Your CVS footage, the buildings we discussed, etc. Only need to see a few examples of each.

On Wed, Oct 25, 2017 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob – can we change the time to 8:30am?

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, October 25, 2017 10:24 AM

To: Michael Botieri

Subject: Re: Redacting Software

Yes that works. Mon 10/30 at 9 it is!

On Wed, Oct 25, 2017 at 10:22 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

I can meet Monday morning – does 9am work for you?

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, October 25, 2017 10:12 AM

To: Michael Botieri

Subject: Re: Redacting Software

Chief, it was nice meeting you. Does sometime on M or Fri. next week work to meet briefly? If not, how about following week M-W, or

Best,

On Fri, Oct 6, 2017 at 12:24 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

likewise!

On Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

I look forward to seeing you Jacob.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, October 06, 2017 11:11 AM

To: Michael Botieri

Subject: Re: Redacting Software

Mike,

Hope all is well.

Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!

https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern

https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/2017/09/30/2017/00

http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html

https://twitter.com/TexasMetroNews/status/914223368001474568

Jacob

On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

You will

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, September 30, 2016 8:25 AM

To: Marlene Cavanaugh

Cc: Michael Botieri

Subject: Re: Redacting Software

see you later at 2pm est today.

On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
great thank you!
On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:
Good morning.
Yes, to all. We can accommodate all of your needs.
See you on Friday.
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, September 27, 2016 9:55 AM
To: Marlene Cavanaugh Subject: Re: Redacting Software
Marlene,
Couple quick questions:
i.) I have a macbook. Was hoping to give a presentation by projector. Do you guys have a projector and hdmi cable?
ii.) Can we connect easily to internet? I have a small youtube demo I wanted to show.
Thanks!
Best, Jacob
On Tue, Sep 13, 2016 at 10:09 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote:
Great.
See you then.
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] **On Behalf Of** Jacob Sniff **Sent:** Tuesday, September 13, 2016 10:06 AM

yes that works.
On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
How about we do the 30 th at 2:00pm here at the station?
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
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Chief prefers a meeting in person.
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One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen-share the technology.
On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:
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On Sep 12, 2016, at 4:40 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
Hi Marlene,
2pm should work fine tmr. Do you want to set-up a conference?
Thanks! Jacob
On Mon, Sep 12, 2016 at 4:29 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote:

To: Marlene Cavanaugh Subject: Re: Redacting Software

Hi.

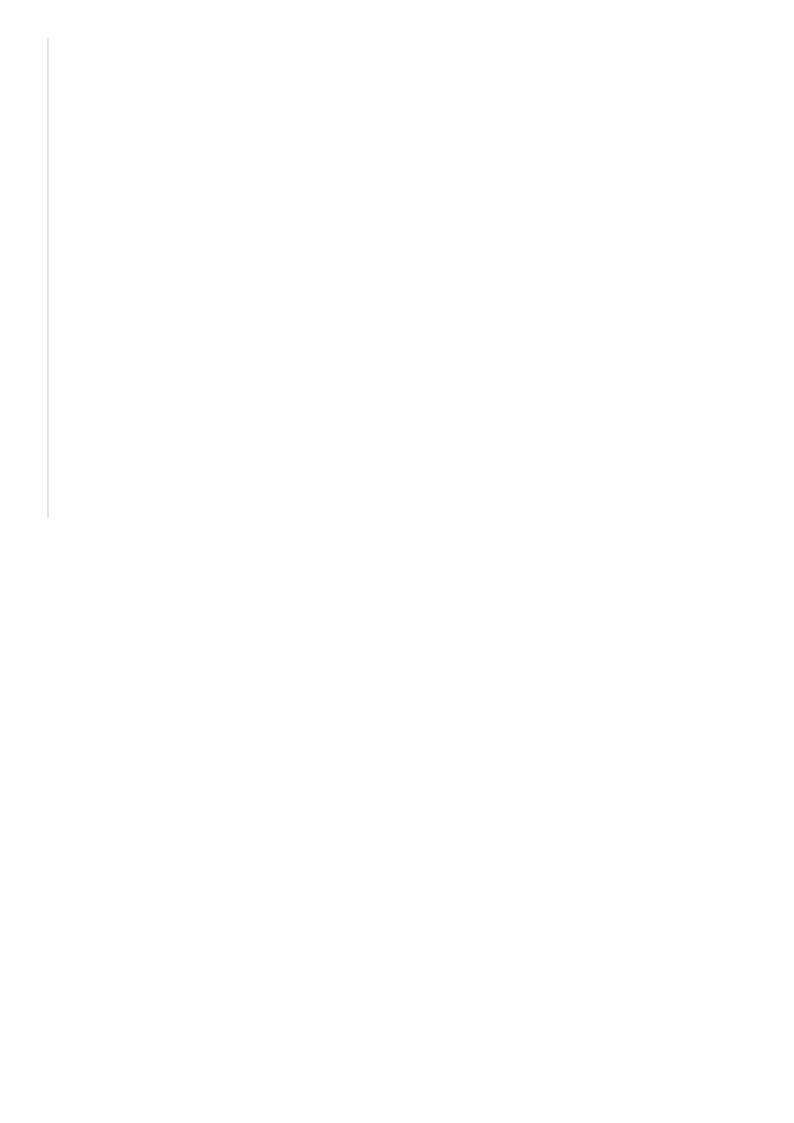
I was just checking with Chief Botieri. Looks like he has between 2-4:00 tomorrow, or next Thursday after 2:00. I know you mentioned Wed and/or Fri, but it looks like we would have to wait a couple of weeks if that is the case (the 28th or 30th). Let me know your thoughts. Thanks. Marlene Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213 cavanaugh@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 4:00 PM To: Marlene Cavanaugh Cc: harry.scott@hpe.com; Michael Botieri Subject: Re: Redacting Software Sorry Mike, my phone has had better days. Trying to get a new one this week. This email is super reliable though. Yes, Marlene, when works to chat? Maybe sometime Wed or Fri afternoon est? Thanks! On Mon, Sep 12, 2016 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Jacob, I received your information from my good friend Harry Scott. I would like to set up a time to meet regarding you new technology. I tried your cell - however - I was not able to leave a message. Please contact my Administrative Assistant (Marlene Cavanaugh), at (508) 830-4218 ext. 226 or feel free to contact me through this email and I will pass along to her for scheduling. Thanks Mike Chief Michael E. Botieri Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Redacting Software

To Nancy Dillon <dillon@plymouthpolice.com>

Date Wed, 10 Jan 2018 09:55:26 -0500

Nancy, can you guys access google does ok over there? I just wanted to check that there were no restrictions.

On Wed, Jan 10, 2018 at 8:54 AM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

On Wed, Jan 10, 2018 at 8:45 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Good morning, Jacob,

We are confirmed for tomorrow at 2:00 PM. See you then.

Thanks.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, January 10, 2018 8:16 AM

To: Nancy Dillon

Subject: Re: Redacting Software

Nancy, can you confirm my meeting with chief tmr at 2? We are on right?

On Wed, Nov 8, 2017 at 11:05 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Hi,

Yes. Thursday, November 16 at 2:00 PM here. See you then. Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

10: Nancy Dillon
Cc: Michael Botieri Subject: Re: Redacting Software
Thurs at 2 works well. Can we plan for that?
Jacob
On Wed, Nov 8, 2017 at 10:27 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote:
Hello, Mr. Sniff,
I checked with Chief Botieri, and he is available Wednesday or Thursday, November 15 or 16 at 2:00 PM. Unfortunately his schedule is quite full, and he do not have any morning availability.
Please let me know if you are available on either date at 2:00 PM.
Thank you.
Nancy Dillon
Administrative Secretary
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 272
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 08, 2017 8:50 AM
To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software
Chief, let's just aim for next week if it works for you? fri is difficult now.
I'm open almost everything morning right now next week.
On Mon, Nov 6, 2017 at 10:07 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
Chief, Wed or Fri morning would work this week.
If not, sometime next week?
Best,
Jacob

On Mon, Nov 6, 2017 at 9:17 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 08, 2017 10:56 AM

Thanks
Michael E. Botieri
Chief of Police
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, November 02, 2017 12:25 PM
To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software
Chief, maybe next mon or tues early again to meet?
On Mon, Oct 30, 2017 at 11:56 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
I know. But I know you said you have similar ones from CVS.
I said "Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.
··
On Mon, Oct 30, 2017 at 11:55 AM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:
Those are both Plymouth Conn.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, October 30, 2017 10:03 AM To: Michael Botieri Cc: Nancy Dillon Subject: Re: Redacting Software
Chief,
Sounds good.
Dury have you goes this guy?
Btw, have you seen this guy?
https://www.nbcconnecticut.com/news/local/Plymouth-Police-Seek-Robbery-Suspect-454001163.html
http://www.wfsb.com/story/36711665/police-search-for-suspect-in-attempted-robbery-of-a-plymouth-gas-station
Originally I thought it was Plymouth, Mass. but it's a nearby plymouth in CT. Look forward to discussing similar examples.

Jacob

Jacob – sorry, I have been very busy. Send me a couple dates and times and I will make sure that the Dt. Lt. can show you what we have for video.

On Mon, Oct 30, 2017 at 8:11 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob,

I'll check the schedule to meet later this week.

Thanks

On Oct 30, 2017, at 7:25 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief should we just reschedule? You around later today? It's a longer commute for me, so just want to be sure. I actually don't have power at my house.

On Mon, Oct 30, 2017 at 7:00 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, we still good to meet this morning at 8:30? Wasn't sure if you were tied up with storm or not. I'm planning to leave in 15 minutes or so. Let me know if you get this.

On Wed, Oct 25, 2017 at 11:52 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Yes that works. I want to see a few things---hope that's ok. Your CVS footage, the buildings we discussed, etc. Only need to see a few examples of each.

On Wed, Oct 25, 2017 at 11:38 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob – can we change the time to 8:30am?

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, October 25, 2017 10:24 AM

To: Michael Botieri

Subject: Re: Redacting Software

Yes that works. Mon 10/30 at 9 it is!

On Wed, Oct 25, 2017 at 10:22 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Jacob,

I can meet Monday morning – does 9am work for you?

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, October 25, 2017 10:12 AM

To: Michael Botieri

Subject: Re: Redacting Software

Chief, it was nice meeting you. Does sometime on M or Fri. next week work to meet briefly? If not, how about following week M-W, or

Best,
Jacob
On Eri Oat 6, 2017 at 12:24 DM. Joseb Spiff / igniff@alverni.princeton.edu> wrote.
On Fri, Oct 6, 2017 at 12:24 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
likewise!
On Fri, Oct 6, 2017 at 12:18 PM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:
I look forward to seeing you Jacob.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, October 06, 2017 11:11 AM To: Michael Botieri Subject: Re: Redacting Software
Miles
Mike,
Hope all is well.
Check out our person of interest deployment, Mavs locker room this past weekend. See you at IACP!
https://www.mavsmoneyball.com/2017/9/30/16390764/dallas-mavericks-new-locker-room-is-sleek-and-modern
https://www.usatoday.com/story/sports/ftw/2017/09/30/mark-cuban-introduces-mavs-new-facial-recognition-software/106172740/
14. //
http://www.star-telegram.com/sports/nba/dallas-mavericks/article176383961.html
https://twitter.com/TexasMetroNews/status/914223368001474568
Jacob
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On Fri, Sep 30, 2016 at 10:57 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
You will
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, September 30, 2016 8:25 AM
To: Marlene Cavanaugh
Cc: Michael Botieri
Subject: Re: Redacting Software

see you later at 2pm est today.
On Tue, Sep 27, 2016 at 10:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: great thank you!
On Tue, Sep 27, 2016 at 10:23 AM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote: Good morning.
Yes, to all. We can accommodate all of your needs.
See you on Friday.
Marlene
Marlene Cavanaugh
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 213
cavanaugh@plymouthpolice.com
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To: Marlene Cavanaugh Subject: Re: Redacting Software
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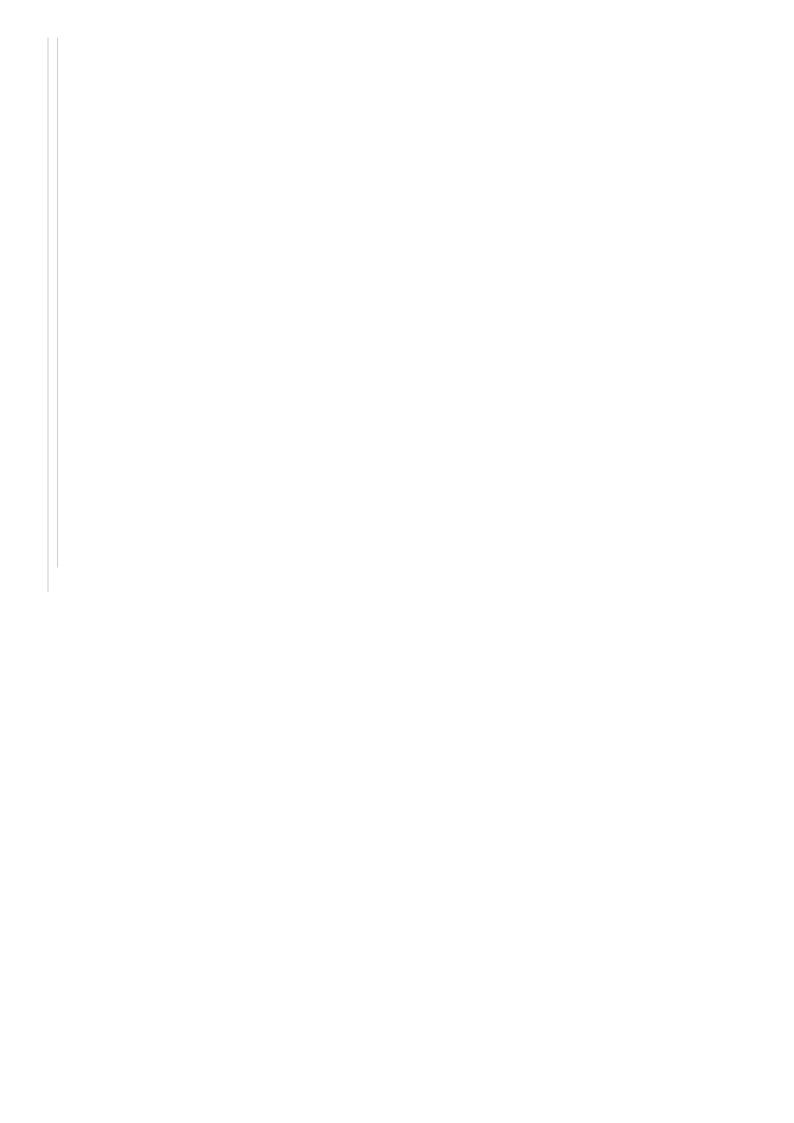
cavanaugh@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] **On Behalf Of** Jacob Sniff **Sent:** Tuesday, September 13, 2016 10:06 AM To: Marlene Cavanaugh Subject: Re: Redacting Software yes that works. On Tue, Sep 13, 2016 at 9:16 AM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote: How about we do the 30th at 2:00pm here at the station? Marlene Cavanaugh Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 213 cavanaugh@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, September 12, 2016 5:47 PM To: Marlene Cavanaugh Subject: Re: Redacting Software You guys are like an hr or so away from me. Assuming you want to meet in Plymouth, how about meeting on 28th or 30th early afternoon? Best Regards, Jacob On Mon, Sep 12, 2016 at 5:37 PM, Marlene Cavanaugh < cavanaugh@plymouthpolice.com > wrote: Chief prefers a meeting in person. See you tomorrow at 2:00? On Sep 12, 2016, at 5:04 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: One hour at most is sufficient. Does he want to meet in person or on phone? If on phone, I suggest using skype or similar, so I can screen-share the technology. On Mon, Sep 12, 2016 at 5:01 PM, Marlene Cavanaugh cavanaugh@plymouthpolice.com wrote: Not sure of what the meeting entails. How much time do you need allotted? On Sep 12, 2016, at 4:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Hi Marlene,

2pm should work fine tmr. Do you want to set-up a conference?

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Thanks
Mike
Chief Michael E. Botieri
Chief Michael E. Bolleri
Plymouth Police Department
·
Plymouth Police Department
Plymouth Police Department 20 Long Pond Road



From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING
To Nancy Dillon <dillon@plymouthpolice.com>
Date Thu, 11 Jan 2018 09:06:18 -0500

Yes that works.

Can you guys view google docs ok?

On Thu, Jan 11, 2018 at 9:05 AM, Nancy Dillon <dillon@plymouthpolice.com> wrote:

Good Morning, Jacob,

Unfortunately, we will need to cancel and reschedule today's 2:00 appointment. Chief Botieri will not be available. Can you do next Thursday, January 18, 2018 at 2:00 PM?

Thank you.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING
To Nancy Dillon <dillon@plymouthpolice.com>
Date Thu, 11 Jan 2018 09:09:22 -0500

Yes see you the 18th!

On Thu,	Jan 11	, 2018 at 9:08 AM,	Nancy Dillon	< <u>dillon@plymouthpolice.com</u> > wrote:

Yes, no restrictions. We will see you Thursday, January 11, 2018 @ 2:00 PM.
Thanks.
Nancy Dillon
Administrative Secretary
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 272
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 11, 2018 9:06 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING
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Nancy Dillon
Administrative Secretary
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 272

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING
To Nancy Dillon <dillon@plymouthpolice.com>
Date Wed, 17 Jan 2018 08:33:44 -0500

Nancy, you guys good for tmr? thx!

508-830-4218 X 272

n Thu, Jan 11, 2018 at 9:09 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Yes see you the 18th!</jsniff@alumni.princeton.edu>
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Administrative Secretary
Plymouth Police Department
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Thank you.
Nancy Dillon
Administrative Secretary
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360



From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: RESCHEDULE TODAY'S MEETING To Nancy Dillon dillon@plymouthpolice.com Date Wed, 17 Jan 2018 14:30:08 -0500

Plymouth Police Department

20 Long Pond Road Plymouth, MA 02360

Nancy? I'm good to meet tmr at 2?			
	Wed, Jan 17, 2018 at 8:33 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: uncy, you guys good for tmr? thx!</jsniff@alumni.princeton.edu>		
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	Yes, no restrictions. We will see you Thursday, January 11, 2018 @ 2:00 PM.		
	Thanks.		
	Nancy Dillon		
	Administrative Secretary		
	Plymouth Police Department		
	20 Long Pond Road		
	Plymouth, MA 02360		
	508-830-4218 X 272		
	From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 11, 2018 9:06 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING		
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	Nancy Dillon		
	Administrative Secretary		

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING
To Nancy Dillon <dillon@plymouthpolice.com>
Date Thu, 18 Jan 2018 09:17:44 -0500

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Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272



From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING
To Nancy Dillon <dillon@plymouthpolice.com>
Date Thu, 18 Jan 2018 09:33:57 -0500

On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com > wrote:
Good morning,
Yes. 2:00 today.
Thank you.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 18, 2018 9:18 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING
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Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360

508-830-4218 X 272

Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>, Antonio Gomes < ltgomes@plymouthpolice.com>

Date Thu, 18 Jan 2018 17:34:05 -0500

Tony/Ryan, nice meeting.

Forgot to mention I had dug this up:

http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart

Best, Jacob

On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff \le isniff@alumni.princeton.edu> wrote:

Thx!

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Yes. 2:00 today.

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Admi	nistrative Secretary
Plym	outh Police Department
20 Lc	ong Pond Road
Plym	outh, MA 02360
508-8	30-4218 X 272

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>, Antonio Gomes <ltgomes@plymouthpolice.com>

Date Fri, 19 Jan 2018 01:08:22 -0500

Chief/Ryan/Tony,

Thank you for your time.

We may have something rly scalable here! I guess what I'm thinking of launching now to start is the following:

Real-Time and Historical Video Review Platform for Law Enforcement

Real-Time Features:

- -Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
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Other Features:

- -Video Conversion Software to view any file type
- -Redaction

Next Steps:

- 1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.
- $2. \ You \ guys \ will \ get \ us \ access \ to \ state \ RMV \ photos \ and \ look \ into \ lobby \ camera \ access. \ We \ meet \ again \ w/in \ 2 \ weeks.$

Best, Jacob

On Mon, Jan 8, 2018 at 8:28 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief,

This is what alerting could like, on screen:

https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0

So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.

You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.

So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.

Jacob

On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief.

Before next week, few quick things:

i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:

1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-EuwJkrFA6c8sIlnDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing
2. General Search/Identification Notes:
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3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
5. General Real Time Identification Notes:
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ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a slight zoom:
"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best,
Jacob

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <Ruggiero@plymouthpolice.com>

Date Thu, 25 Jan 2018 22:15:26 -0500

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 19, 2018 1:08 AM

To: Michael Botieri; Ryan Ruggiero; Antonio Gomes

Subject: Re: Condensed Notes

Chief/Ryan/Tony,

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Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 26 Jan 2018 03:33:21 -0500

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

We should have the info soon. Say hello to Cuban for me

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Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 19, 2018 1:08 AM

To: Michael Botieri; Ryan Ruggiero; Antonio Gomes

Subject: Re: Condensed Notes

Chief/Ryan/Tony,

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iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best, Jacob

Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Tue, 30 Jan 2018 20:31:26 -0500

Ryan, did you guys look at all into the lobby camera access?

- 1	a	0	0	h

On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Tony/Ryan, nice meeting.

Forgot to mention I had dug this up:

http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart

Best, Jacob

On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Thx!

On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Good morning,

Yes. 2:00 today.

Thank you.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, January 18, 2018 9:18 AM

To: Nancy Dillon

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Yes see you the 18th!

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Thanks.

Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

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508-830-4218 X 272

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20 Long Pond Road Plymouth, MA 02360		
Plymouth, MA 02360		
		508-830-4218 X 272

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 30 Jan 2018 20:28:48 -0500

Mike, yes that doesn't surprise me. You said you still wanted your own though right?

The article I had sent is below:

https://www.bostonglobe.com/metro/2016/12/20/state-scans-mass-driver-license-photos-find-matches-with-suspects/xyVIxWkPL95hQbx4sUI2WM/story.html#comments

In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

In their requests, the agencies submitted a total of 331 images, which turned up 101 potential matches.

The Massachusetts Sheriffs' Association, an independent state agency, works with all 14 sheriff departments in Massachusetts and won a Department of Justice grant that has already provided 10 sheriffs departments with the technology to create facial recognition databases.

Sean G. Mullin, chief executive of BI2 Technologies, previously worked on a biometric identification system used for tracking missing children and senior citizens with Alzheimer's disease.

On Tue, Jan 30, 2018 at 11:41 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

 $\textbf{From:} \ \underline{jsniff12@gmail.com} \ [mailto:\underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of} \ Jacob \ Sniff}$

Sent: Friday, January 26, 2018 3:33 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

We should have the info soon. Say hello to Cuban for me

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i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:

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Jacob					

Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Mon, 5 Feb 2018 20:52:54 -0500

20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 272

Ryan?
On Tue, Jan 30, 2018 at 8:31 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote: Ryan, did you guys look at all into the lobby camera access?
Jacob
On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Tony/Ryan, nice meeting.</jsniff@alumni.princeton.edu>
Forgot to mention I had dug this up:
http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart
Best, Jacob
On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Thx!</jsniff@alumni.princeton.edu>
On Thursday, January 18, 2018, Nancy Dillon dillon@plymouthpolice.com > wrote:
Good morning,
Yes. 2:00 today.
Thank you.
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 18, 2018 9:18 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING
Nancy we good to meet today at 2? I could also come by earlier like 1 or 1:30, if others can make it.
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Yes see you the 18th!
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Thanks.
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Yes that works.

Can you guys view google docs ok?

On Thu, Jan 11, 2018 at 9:05 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote:
Good Morning, Jacob,

Unfortunately, we will need to cancel and reschedule today's 2:00 appointment. Chief Botieri will not be available. Can you do next Thursday, January 18, 2018 at 2:00 PM?

Thank you.

Nancy Dillon
Administrative Secretary

Plymouth Police Department

20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 272

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 12 Feb 2018 07:11:10 -0500

Chief, where you at with things?

On Tue, Jan 30, 2018 at 8:28 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: | Mike, yes that doesn't surprise me. You said you still wanted your own though right?

The article I had sent is below:

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In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

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Other Features:
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Next Steps:
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Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 16 Feb 2018 10:59:51 -0500

Chief, on the school shooting,

i.) Don't you see how facial alerts could be pretty valuable at main entrances?

ii.) On the search, the person was blending in below. Don't you see value in this? If you could live-stream back to the PD and someone could search for where the suspect went, it would be useful. Apparently the suspect was lost in the crowd---how scary!

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"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.

Israel said **despite blending in with students who** were trying to escape the Parkland school, Cruz was eventually taken into custody without incident off campus.

A new photo shows Cruz being handcuffed by police in Coral Springs.

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I'll check today.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

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Sent: Monday, February 12, 2018 7:11 AM

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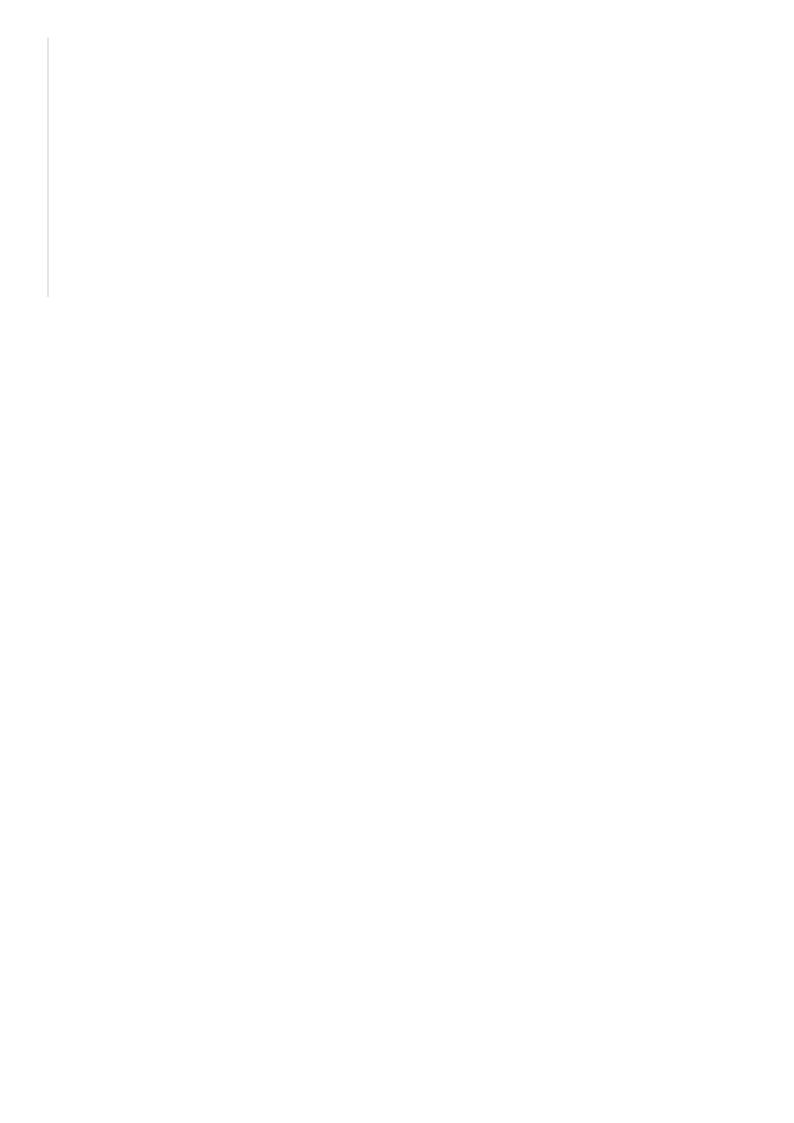
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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: RESCHEDULE TODAY'S MEETING To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Fri, 16 Feb 2018 11:43:28 -0500

Ryan you get any feedback on this? What VMS is there? Do you know? I think we'd just integrate with the VMS right? That is most important part.

On Tue, Feb 6, 2018 at 3:05 PM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Waiting to hear back on the best way to do this. From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, February 05, 2018 8:53 PM To: Ryan Ruggiero < Ruggiero@ plymouthpolice.com > Cc: Antonio Gomes < ltgomes@plymouthpolice.com> Subject: Re: RESCHEDULE TODAY'S MEETING Ryan? On Tue, Jan 30, 2018 at 8:31 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Ryan, did you guys look at all into the lobby camera access? Jacob On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Tony/Ryan, nice meeting. Forgot to mention I had dug this up: $\underline{http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart.pdf.}\\$ Best, Jacob On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Thx! On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com > wrote: Good morning, Yes. 2:00 today. Thank you.

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508-830-4218 X 272



Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 16 Feb 2018 15:54:11 -0500

Chief, sounds good.

So was there any conclusion on the below? You guys still want your own solution or what?

Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop.

On Fri, Feb 16, 2018 at 3:13 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Good point Jacob – still waiting for clearance from the RMV.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

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We may have something rly scalable here! I guess what I'm thinking of launching now to start is the following:

Real-Time and Historical Video Review Platform for Law Enforcement

Real-Time Features:
-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
-Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
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-Image Attribute Software (search people by age, gender, ethnicity, etc.)
Other Features:
-Video Conversion Software to view any file type
-Redaction
Next Steps:
1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.
2. You guys will get us access to state RMV photos and look into lobby camera access. We meet again w/in 2 weeks.
Best,
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On Mon, Jan 8, 2018 at 8:28 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
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3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp = sharing the sharing of the sharing the sharing of the sharing the sharing of the sharing the
4. General Evidence Room Notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing

5. General Real Time Identification Notes:
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iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best, Jacob

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 16 Feb 2018 16:08:01 -0500

Ok sounds good Chief!

On Fri, Feb 16, 2018 at 3:56 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

We do – just waiting for permission from the RMV to use there database.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 16, 2018 3:54 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, sounds good.

So was there any conclusion on the below? You guys still want your own solution or what?

Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop.

On Fri, Feb 16, 2018 at 3:13 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Good point Jacob – still waiting for clearance from the RMV.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

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Sent: Friday, February 16, 2018 11:00 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes

Chief, on the school shooting,
i.) Don't you see how facial alerts could be pretty valuable at main entrances?
ii.) On the search, the person was blending in below. Don't you see value in this? If you could live-stream back to the PD and someone could search for where the suspect went, it would be useful. Apparently the suspect was lost in the crowdhow scary!
http://abc13.com/watch-live-at-least-20-injured-in-florida-high-school-shooting/3084112/
"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.
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The article I had sent is below:

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In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

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chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 26, 2018 3:33 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri < chiefbotieri@plymouthpolice.com wrote:

We should have the info soon. Say hello to Cuban for me

On Jan 25, 2018, at 10:17 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

Chief Michael E. Botieri
Plymouth Police Department

20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, January 19, 2018 1:08 AM To: Michael Botieri; Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes
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Next Steps:

2. General Search/Identification Notes:
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp = sharing the control of the contro$
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
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iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.

Best,

Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Fri, 23 Feb 2018 14:46:29 -0500

Ryan some good press today! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/

Maybe meet again week after next? You guys around? I just messaged Chief as well.

On Fri, Feb 16, 2018 at 11:43 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Ryan you get any feedback on this? What VMS is there? Do you know? I think we'd just integrate with the VMS right? That is most important part.

On Tue, Feb 6, 2018 at 3:05 PM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote: Waiting to hear back on the best way to do this. From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, February 05, 2018 8:53 PM To: Ryan Ruggiero < Ruggiero@plymouthpolice.com > Cc: Antonio Gomes < https://literature.com/ Subject: Re: RESCHEDULE TODAY'S MEETING Ryan? On Tue, Jan 30, 2018 at 8:31 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Ryan, did you guys look at all into the lobby camera access? Jacob On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Tony/Ryan, nice meeting. Forgot to mention I had dug this up: $\underline{http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart}$ Best, Jacob

On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Thx!

On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com> wrote:

Good morning,

Yes. 2:00 today

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 18, 2018 9:18 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes	
Subject: Re: RESCHEDULE TODAY'S MEETING	
Nancy we good to meet today at 2? I could also come by earlier like 1 or 1:30, if others can make it.	
On Thu, Jan 11, 2018 at 9:09 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:	
Yes see you the 18th!	
On Thu, Jan 11, 2018 at 9:08 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote:	
Yes, no restrictions. We will see you Thursday, January 11, 2018 @ 2:00 PM.	
Thanks.	
Nancy Dillon	
Administrative Secretary	
Plymouth Police Department	
20 Long Pond Road	
Plymouth, MA 02360	
508-830-4218 X 272	
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 11, 2018 9:06 AM To: Nancy Dillon Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING	
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Date Fri, 23 Feb 2018 14:46:37 -0500

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To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

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chiefbotieri@plymouthpolice.com
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Subject Re: Condensed Notes

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Date Fri, 23 Feb 2018 15:23:35 -0500

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Date Wed, 28 Feb 2018 08:48:32 -0500

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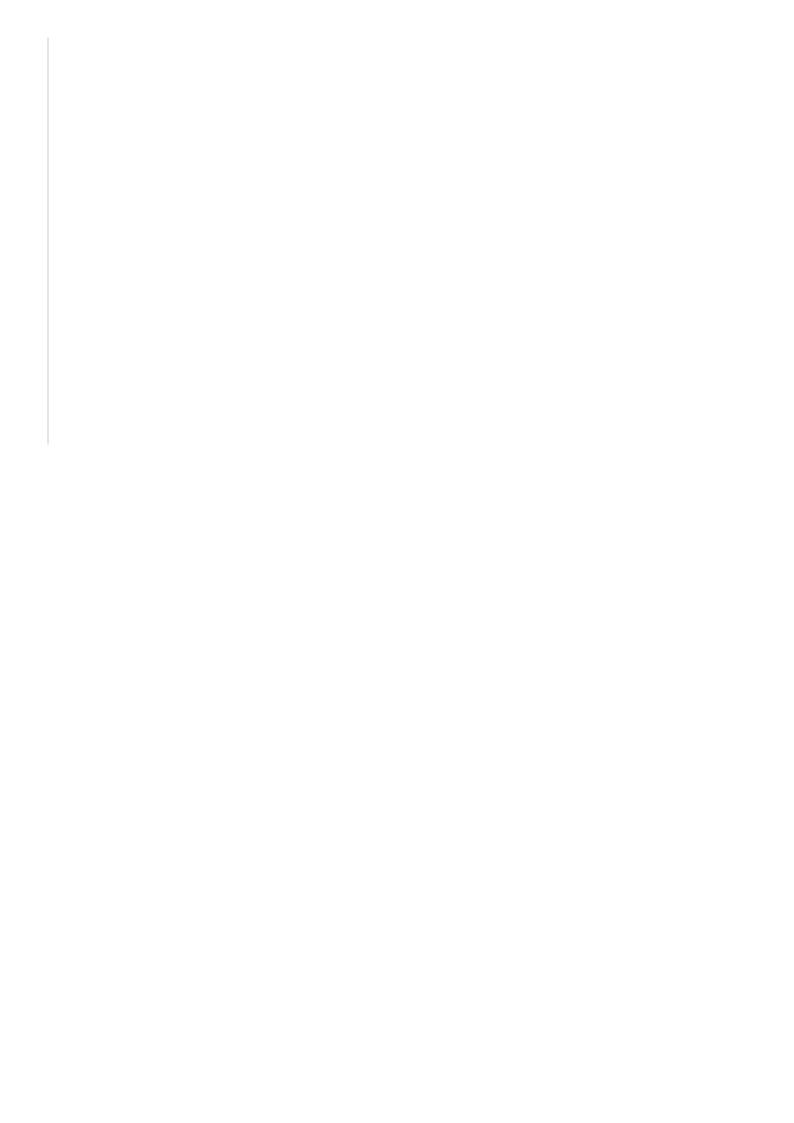
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Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Tue, 6 Mar 2018 18:35:11 -0500

Thx!

Good morning,

Ryan any update on lobby camera access? Hope all is well! On Fri, Feb 23, 2018 at 2:46 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote: Ryan some good press today! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/ Maybe meet again week after next? You guys around? I just messaged Chief as well. On Fri, Feb 16, 2018 at 11:43 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Ryan you get any feedback on this? What VMS is there? Do you know? I think we'd just integrate with the VMS right? That is most important part. On Tue, Feb 6, 2018 at 3:05 PM, Ryan Ruggiero < Ruggiero @plymouthpolice.com > wrote: Waiting to hear back on the best way to do this. From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, February 05, 2018 8:53 PM To: Ryan Ruggiero < Ruggiero@ plymouthpolice.com > Cc: Antonio Gomes < ltgomes@plymouthpolice.com> Subject: Re: RESCHEDULE TODAY'S MEETING Ryan? On Tue, Jan 30, 2018 at 8:31 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Ryan, did you guys look at all into the lobby camera access? Jacob On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Tony/Ryan, nice meeting. Forgot to mention I had dug this up: http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart Best, Jacob On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com > wrote:

١	es. 2:00 today.
1	hank you.
1	From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 18, 2018 9:18 AM O: Nancy Dillon C: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING
1	Vancy we good to meet today at 2? I could also come by earlier like 1 or 1:30, if others can make it.
	On Thu, Jan 11, 2018 at 9:09 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Yes see you the 18th!
	On Thu, Jan 11, 2018 at 9:08 AM, Nancy Dillon < dillon@plymouthpolice.com wrote: Tes, no restrictions. We will see you Thursday, January 11, 2018 @ 2:00 PM.
7	hanks.
I 2	Nancy Dillon Administrative Secretary Plymouth Police Department 0 Long Pond Road Plymouth, MA 02360
1	From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 11, 2018 9:06 AM To: Nancy Dillon
9	Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING
•	Yes that works.
(Can you guys view google docs ok?
	On Thu, Jan 11, 2018 at 9:05 AM, Nancy Dillon < dillon@plymouthpolice.com > wrote: Good Morning, Jacob,
Į	Unfortunately, we will need to cancel and reschedule today's 2:00 appointment. Chief Botieri will not be available. Can you do next Thursday, January 18, 2018 at 2:00 PM?
-	Thank you.
1	Nancy Dillon



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 8 Mar 2018 10:06:11 -0500

Chief, the leading biometric news provider on web just picked us up organically:

http://www.biometricupdate.com/201802/face-redaction-startup-suspect-technologies-plans-to-enter-facial-recognition-market

Can we meet next week? I messaged Ryan for an update on VMS as well.

On Wed, Feb 28, 2018 at 8:48 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief, how does next week look? Or week after?

On Friday, February 23, 2018, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

'Il check it out.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 23, 2018 3:24 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, I'm in DC and NYC all next week. :(

You guys around week after? Tuesday or Fri for example?

On Fri, Feb 23, 2018 at 3:17 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow – great article. Let's try to meet next week.

Chief Michael E. Botieri

Plymouth Police Department

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Plymouth, MA 02360

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chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 23, 2018 2:47 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Got some good press today Chief! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-

police-videos/
Maybe meet again week after next? You guys around?
On Fri, Feb 16, 2018 at 4:08 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Ok sounds good Chief!
On Fri, Feb 16, 2018 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
We do – just waiting for permission from the RMV to use there database.
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Plymouth, MA 02360
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chiefbotieri@plymouthpolice.com
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Chief, sounds good.
So was there any conclusion on the below? You guys still want your own solution or what?
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Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop.
On Fri, Feb 16, 2018 at 3:13 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:
Good point Jacob – still waiting for clearance from the RMV.
Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, February 16, 2018 11:00 AM

To: Michael Botieri

Subject: Re: Condensed Notes
Chief, on the school shooting,
i.) Don't you see how facial alerts could be pretty valuable at main entrances?
ii.) On the search, the person was blending in below. Don't you see value in this? If you could live-stream back to the PD and someone could search for where the suspect went, it would be useful. Apparently the suspect was lost in the crowdhow scary!
http://abc13.com/watch-live-at-least-20-injured-in-florida-high-school-shooting/3084112/
"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.
Israel said despite blending in with students who were trying to escape the Parkland school, Cruz was eventually taken into custody without incident off campus.
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To: Michael Botieri Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes
Chief, where you at with things?
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Mike, yes that doesn't surprise me. You said you still wanted your own though right?
The article I had sent is below:

https://www.bostonglobe.com/metro/2016/12/20/state-scans-mass-driver-license-photos-find-matches-with-suspects/xyVIxWkPL95hQbx4sUI2WM/story.html # comments

In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

In their requests, the agencies submitted a total of 331 images, which turned up 101 potential matches.

The Massachusetts Sheriffs' Association, an independent state agency, works with all 14 sheriff departments in Massachusetts and won a Department of Justice grant that has already provided 10 sheriffs departments with the technology to create facial recognition databases.

Sean G. Mullin, chief executive of BI2 Technologies, previously worked on a biometric identification system used for tracking missing children and senior citizens with Alzheimer's disease.

On Tue, Jan 30, 2018 at 11:41 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

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chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 26, 2018 3:33 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

We should have the info soon. Say hello to Cuban for me

On Jan 25, 2018, at 10:17 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

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Chi Chi da La Barini
Chief Michael E. Botieri Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
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encrodiction pymouthpoints.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, January 19, 2018 1:08 AM To: Michael Botieri; Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes
Chief/Ryan/Tony,
Thank you for your time.
We may have something rly scalable here! I guess what I'm thinking of launching now to start is the following:
Real-Time and Historical Video Review Platform for Law Enforcement
Real-Time Features:
-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
-Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
Historical Features:
-Facial Identification Matching (run any photo against a database and see if a match)
-Person Detection Review - show where all people have been in past X minutes (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
-Image Attribute Software (search people by age, gender, ethnicity, etc.)
Other Features:
-Video Conversion Software to view any file type
-Redaction

Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.
2. You guys will get us access to state RMV photos and look into lobby camera access. We meet again w/in 2 weeks.
Best, Jacob
On Mon, Jan 8, 2018 at 8:28 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
This is what alerting could like, on screen:
https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0
So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
Jacob
On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:

Next Steps:

1. Plymouth PD Considerations:

2. General Search/Identification Notes:
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing$
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp = sharing the control of the contro
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https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp = sharing the following and the complex of the com
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iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view o course.

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Best,

Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 8 Mar 2018 11:36:15 -0500

Chief, let's discuss next week?

On Thu, Mar 8, 2018 at 11:16 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow that's great – have I invested yet?

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

 $\begin{tabular}{ll} \textbf{From:} $jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, March 08, 2018 10:06 AM \\ \end{tabular}$

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Plymouth Police Department

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2. General Search/Identification Notes:
https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing

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$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp = sharing the sharing and the sharing and the sharing the sharing the sharing and the sharing the s$
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Best,
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Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 8 Mar 2018 13:26:22 -0500

Next thurs or fri work?

On Thursday, March 8, 2018, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

ok

Chief Michael E. Botieri

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20 Long Pond Road

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 $\textbf{From: } \underline{\mathsf{jsniff12@gmail.com}} \ [\mathsf{mailto:} \underline{\mathsf{jsniff12@gmail.com}}] \ \textbf{On Behalf Of} \ \mathsf{Jacob} \ \mathsf{Sniff} \\$

Sent: Thursday, March 08, 2018 10:06 AM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, the leading biometric news provider on web just picked us up organically:

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"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.
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In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement

officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

In their requests, the agencies submitted a total of 331 images, which turned up 101 potential matches.

The Massachusetts Sheriffs' Association, an independent state agency, works with all 14 sheriff departments in Massachusetts and won a Department of Justice grant that has already provided 10 sheriffs departments with the technology to create facial recognition databases.

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We should have the info soon. Say hello to Cuban for me

On Jan 25, 2018, at 10:17 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

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Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

Mike

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Plymouth Police Department

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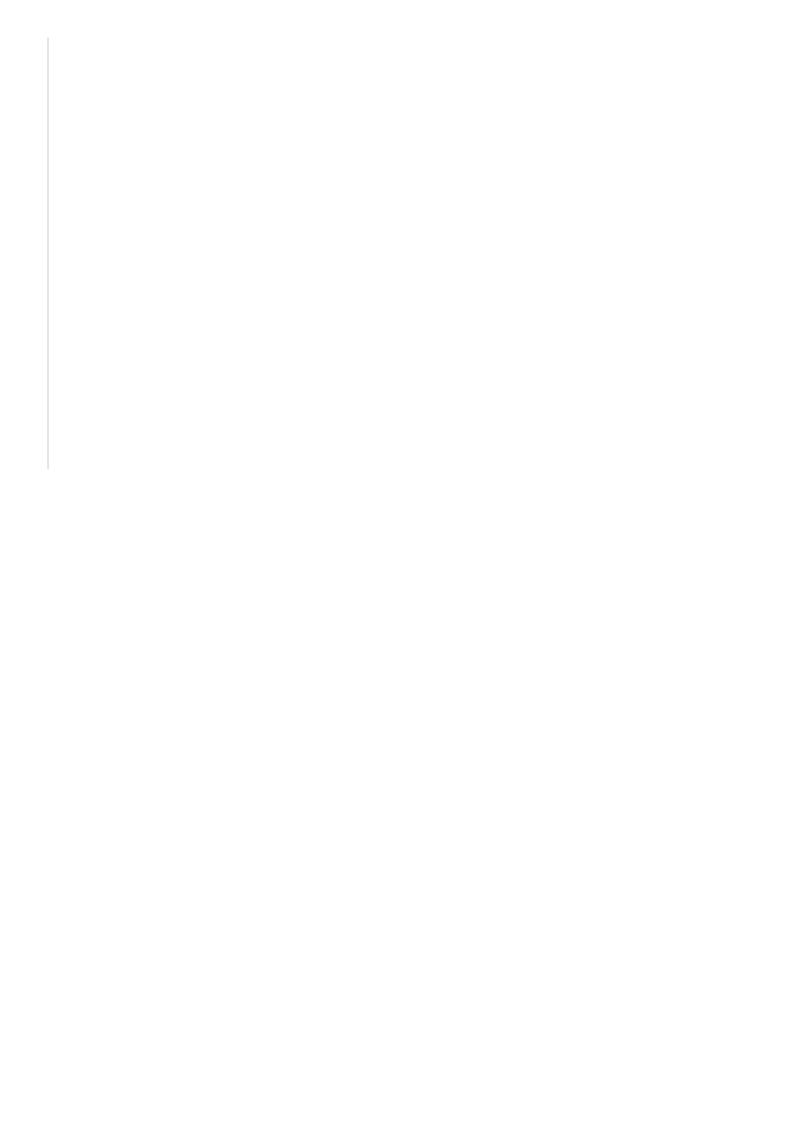
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Real-Time Features:
-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
-Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
Historical Features:
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-Image Attribute Software (search people by age, gender, ethnicity, etc.)
Other Features:
-Video Conversion Software to view any file type
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Next Steps:
1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search of the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.

2. You guys will get us access to state RMV photos and look into lobby camera access. We meet again w/in 2 weeks.

Best,
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Chief,
This is what alerting could like, on screen:
https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0
So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston
Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
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On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things.
Pls skim some of it if you have time before Thurs:
1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-EuwJkrFA6c8sIInDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing
2. General Search/Identification Notes:

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4. General Evidence Room Notes:
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"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Rest
Best, Jacob



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 8 Mar 2018 15:41:26 -0500

ok how about thurs or fri. the week after then?

On Thu, Mar 8, 2018 at 2:50 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Both days are full – let's look at the next week.

Mike

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https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
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$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp = sharing the sharing and the sharing and the sharing the sharing the sharing and the sharing the s$
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https://outline.com/rVa6Ff

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Got some good press today Chief! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/
Maybe meet again week after next? You guys around?
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We do – just waiting for permission from the RMV to use there database.
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"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.
Israel said despite blending in with students who were trying to escape the Parkland school, Cruz was eventually taken into custody without incident off campus.
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So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
Jacob
On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:
1. Plymouth PD Considerations:
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2. General Search/Identification Notes:
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp = sharing the control of the contro$
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https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
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Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 15 Mar 2018 07:40:22 -0400

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Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 16 Mar 2018 08:40:53 -0400

Chief is there any update with the fusion center? Or access to lobby cameras? Have you guys made good headway? Ryan isn't super responsive FYI about it.

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I'm pretty tied up all next week. I will find a good time.

Mike

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Chief, I'm in DC and NYC all next week. :(

You guys around week after? Tuesday or Fri for example?

On Fri, Feb 23, 2018 at 3:17 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow – great article. Let's try to meet next week.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 23, 2018 2:47 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Got some good press today Chief! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/

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On Fri, Feb 16, 2018 at 4:08 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

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On Fri, Feb 16, 2018 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

We do – just waiting for permission from the RMV to use there database.

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Good point Jacob – still waiting for clearance from the RMV.

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Sent: Friday, February 16, 2018 11:00 AM

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Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

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http://abc13.com/watch-live-at-least-20-injured-in-florida-high-school-shooting/3084112/

"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.

Israel said **despite blending in with students who** were trying to escape the Parkland school, Cruz was eventually taken into custody without incident off campus.

A new photo shows Cruz being handcuffed by police in Coral Springs.

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 $\textbf{From: } \underline{\mathsf{jsniff12@gmail.com}} \ [\mathsf{mailto:} \underline{\mathsf{jsniff12@gmail.com}}] \ \textbf{On Behalf Of} \ \mathsf{Jacob} \ \mathsf{Sniff} \\$

Sent: Monday, February 12, 2018 7:11 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes

Chief, where you at with things?

On Tue, Jan 30, 2018 at 8:28 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Mike, yes that doesn't surprise me. You said you still wanted your own though right?

The article I had sent is below:

https://www.bostonglobe.com/metro/2016/12/20/state-scans-mass-driver-license-photos-find-matches-with-suspects/xyVIxWkPL95hQbx4sUI2WM/story.html#comments

In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

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The Massachusetts Sheriffs' Association, an independent state agency, works with all 14 sheriff departments in Massachusetts and won a Department of Justice grant that has already provided 10 sheriffs departments with the technology to create facial recognition databases.

Sean G. Mullin, chief executive of BI2 Technologies, previously worked on a biometric identification system used for tracking missing children and senior citizens with Alzheimer's disease.

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 26, 2018 3:33 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

We should have the info soon. Say hello to Cuban for me

On Jan 25, 2018, at 10:17 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response. On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!! Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, January 19, 2018 1:08 AM To: Michael Botieri; Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes Chief/Ryan/Tony, Thank you for your time. We may have something rly scalable here! I guess what I'm thinking of launching now to start is the following: Real-Time and Historical Video Review Platform for Law Enforcement Real-Time Features: -Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually -Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor, abduction cases, etc.) **Historical Features:** -Facial Identification Matching (run any photo against a database and see if a match) -Person Detection Review - show where all people have been in past X minutes (to be used in active shooter situation, or the events you monitor, abduction cases, etc.) -Image Attribute Software (search people by age, gender, ethnicity, etc.) **Other Features:** -Video Conversion Software to view any file type

Next Steps:
1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.
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Best, Jacob
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This is what alerting could like, on screen:
https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0
So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
Jacob
On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:

-Redaction

1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-EuwJkrFA6c8sIInDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing
2. General Search/Identification Notes:
https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
5. General Real Time Identification Notes:
$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing$
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"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent. "

iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are

	people in view of course.
	Best,
	Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 26 Mar 2018 14:33:54 -0400

Also see where we're at with the lobby cam access, if you can.

On Mon, Mar 26, 2018 at 2:24 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Let me check with the guys about where we are at with CJIS

Chief Michael E. Botieri

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, March 26, 2018 12:32 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, any idea of late this week may work?

Jacob

On Wed, Mar 21, 2018 at 7:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief what about mid to late next week?

Jacob

On Fri, Mar 16, 2018 at 8:40 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Chief is there any update with the fusion center? Or access to lobby cameras? Have you guys made good headway? Ryan isn't super responsive FYI about it.

On Thu, Mar 15, 2018 at 10:04 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

 $I^\prime m$ pretty tied up all next week. I will find a good time.

Mike

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chiefbotieri@plymouthpolice.com

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Subject: Re: Condensed Notes

you around at all next week? what works?

On Wed, Mar 14, 2018 at 9:40 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow that's great.

On Mar 14, 2018, at 6:56 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

we even made the NYTIMES!

https://outline.com/rVa6Ff

On Thu, Mar 8, 2018 at 3:41 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

ok how about thurs or fri. the week after then?

On Thu, Mar 8, 2018 at 2:50 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Both days are full – let's look at the next week.

Mike

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, March 08, 2018 1:26 PM

To: Michael Botieri

Subject: Re: Condensed Notes

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On Thursday, March 8, 2018, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

ok

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, March 08, 2018 11:36 AM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, let's discuss next week?

On Thu, Mar 8, 2018 at 11:16 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Wow that's great - have I invested yet?

Mike

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To: Michael Botieri

Subject: Re: Condensed Notes

Chief, the leading biometric news provider on web just picked us up organically:

http://www.biometricupdate.com/201802/face-redaction-startup-suspect-technologies-plans-to-enter-facial-recognition-market

Can we meet next week? I messaged Ryan for an update on VMS as well.

On Wed, Feb 28, 2018 at 8:48 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Chief, how does next week look? Or week after?

On Friday, February 23, 2018, Michael Botieri <<u>chiefbotieri@plymouthpolice.com</u>> wrote:

'Il check it out.

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Chief Michael E. Botieri

Real-Time and Historical Video Review Platform for Law Enforcement

-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
-Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
Historical Features:
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So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.

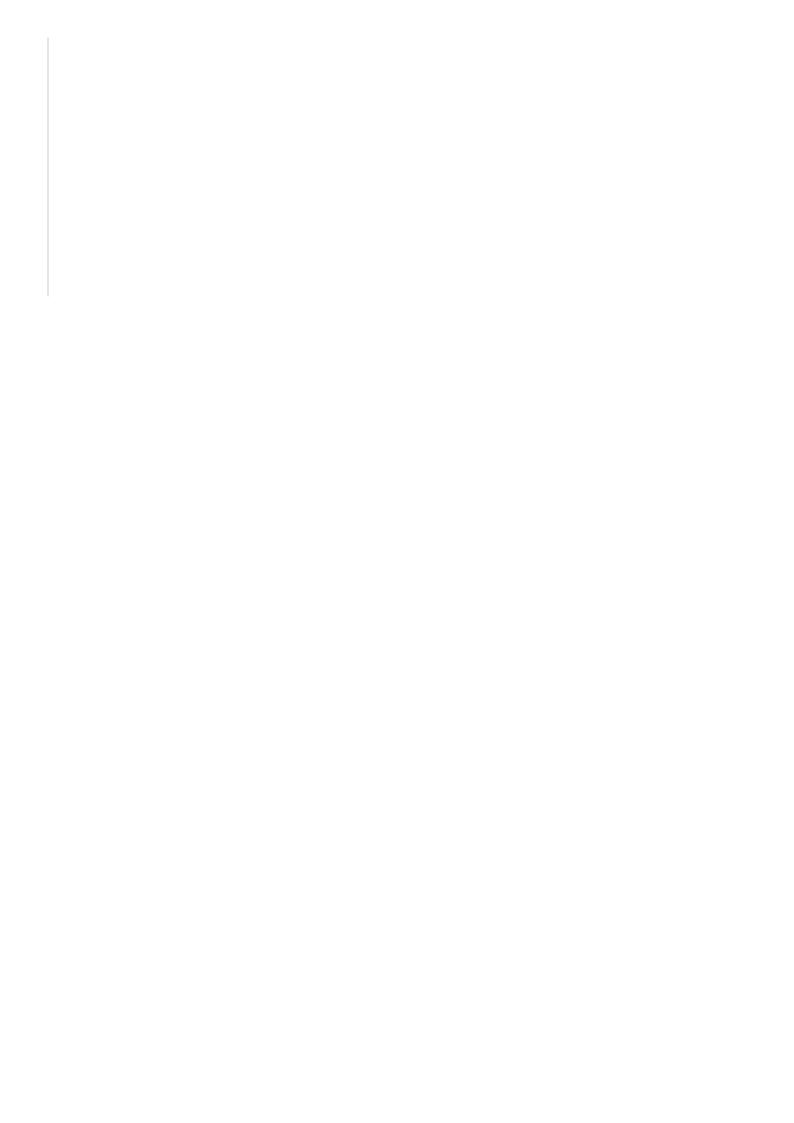
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You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
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https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing the following the control of the control o

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"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent. "
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best, Jacob

5. General Real Time Identification Notes:



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 4 Apr 2018 15:35:20 -0400

Chief, any update? What about next week?

Jacob

On Mon, Mar 26, 2018 at 2:33 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

Also see where we're at with the lobby cam access, if you can.

On Mon, Mar 26, 2018 at 2:24 PM, Michael Botieri chiefbotieri@plymouthpolice.com> wrote:

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I'm pretty tied up all next week. I will find a good time.

Mike

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we even made the NYTIMES!

https://outline.com/rVa6Ff

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Both days are full – let's look at the next week.

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We do – just waiting for permission from the RMV to use there database.

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A new photo shows Cruz being handcuffed by police in Coral Springs.

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Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

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I just emailed Cuban now; going to mention your request after his response.

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To: Michael Botieri; Ryan Ruggiero; Antonio Gomes

Subject: Re: Condensed Notes

Chief/Ryan/Tony,

Thank you for your time.

We may have something rly scalable here! I guess what I'm thinking of launching now to start is the following:

Real-Time and Historical Video Review Platform for Law Enforcement

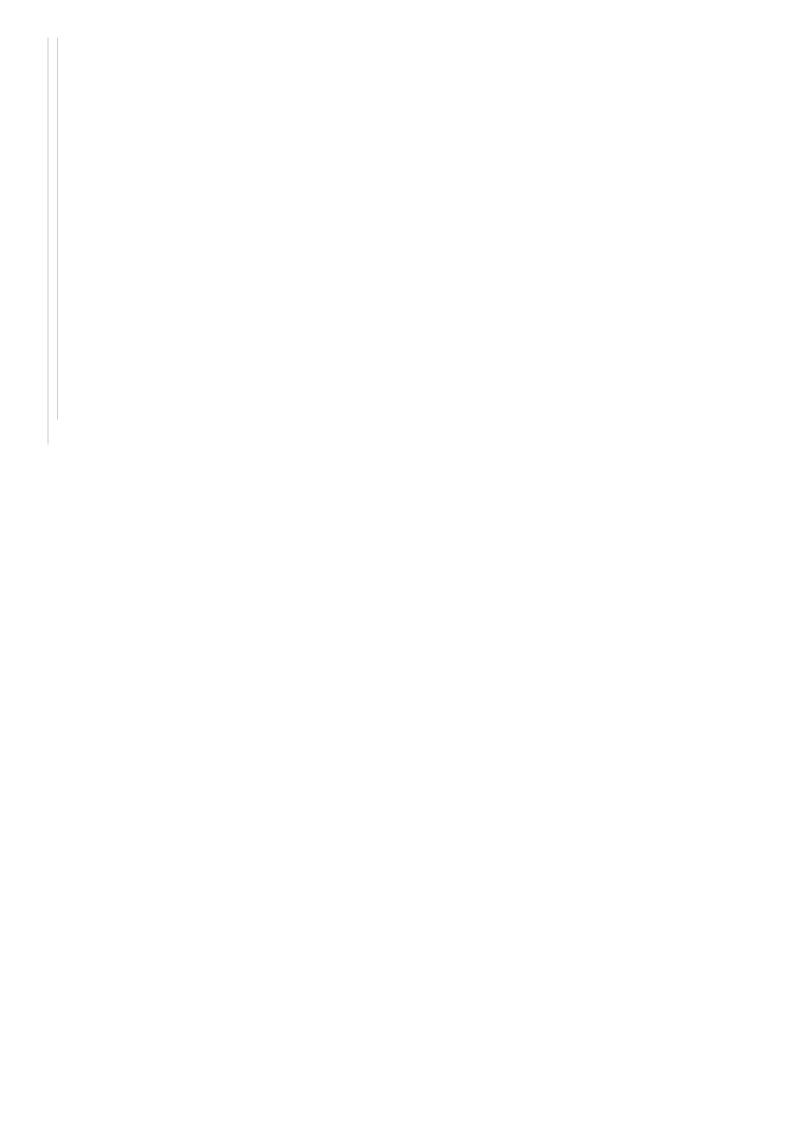
Real-Time Features:
-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually
-Real Time Person Detection - show where all people are (to be used in active shooter situation, or the events you monitor abduction cases, etc.)
Historical Features:
-Facial Identification Matching (run any photo against a database and see if a match)
-Person Detection Review - show where all people have been in past X minutes (to be used in active shooter situation, or the events you monitor, abduction cases, etc.)
-Image Attribute Software (search people by age, gender, ethnicity, etc.)
Other Features:
-Video Conversion Software to view any file type
-Redaction
Next Steps:
1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical and one real-time feature, both of which are main features of the platform.
2. You guys will get us access to state RMV photos and look into lobby camera access. We meet again w/in 2 weeks.
Best,
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This is what alerting could like, on screen:

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So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
Jacob
On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:
1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-EuwJkrFA6c8sIlnDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing
2. General Search/Identification Notes:
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp = sharing the following and t$
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp = sharing the control of the contro

4. General Evidence Room Notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp = sharing the following the control of the control
5. General Real Time Identification Notes:
5. General Real Time Recipined on Process
$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing\\$
ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a
slight zoom:
"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the
holidays, with context to the images you sent.
m ·
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best,
Jacob



From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Condensed Notes
To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 5 Apr 2018 07:55:46 -0400

Chief, check this out in news:

https://outline.com/dyWVd9

When police found a senior citizen apparently suffering from Alzheimer's missing from her family on Staten Island in 2014, officials took to technology.

They sent a photograph of the woman to an NYPD unit. A detective ran the image against a database of "several million" mug shots and was surprised to find the woman among the hundreds the software returned as possible matches.

But if the woman hadn't had a minor traffic violation previously, she might have languished in the hospital, according to Sgt. Edwin Coello, a supervisor in the Facial Identification Section.

On Wed, Apr 4, 2018 at 3:35 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief, any update? What about next week? On Mon, Mar 26, 2018 at 2:33 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Also see where we're at with the lobby cam access, if you can. On Mon, Mar 26, 2018 at 2:24 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote: Let me check with the guys about where we are at with CJIS Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, March 26, 2018 12:32 PM To: Michael Botieri Subject: Re: Condensed Notes Chief, any idea of late this week may work? Jacob On Wed, Mar 21, 2018 at 7:40 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Chief what about mid to late next week? Jacob

On Fri, Mar 16, 2018 at 8:40 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief is there any update with the fusion center? Or access to lobby cameras? Have you guys made good headway? Ryan isn't super responsive FYI about it. On Thu, Mar 15, 2018 at 10:04 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: I'm pretty tied up all next week. I will find a good time. Mike Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff **Sent:** Thursday, March 15, 2018 7:40 AM To: Michael Botieri Subject: Re: Condensed Notes you around at all next week? what works? On Wed, Mar 14, 2018 at 9:40 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Wow that's great. On Mar 14, 2018, at 6:56 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: we even made the NYTIMES! https://outline.com/rVa6Ff On Thu, Mar 8, 2018 at 3:41 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: ok how about thurs or fri. the week after then? On Thu, Mar 8, 2018 at 2:50 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Both days are full – let's look at the next week. Mike Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com

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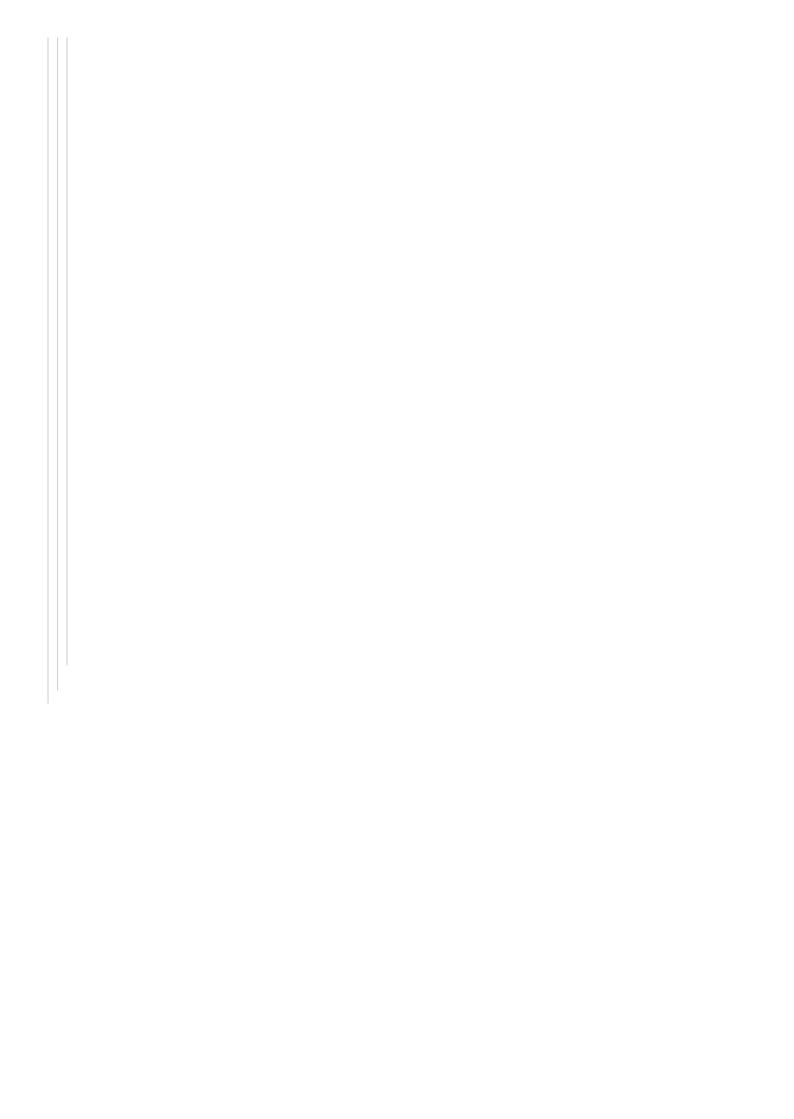
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i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:
1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-EuwJkrFA6c8sIlnDtILb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing
2. General Search/Identification Notes:

 $\underline{https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp=sharing}$

3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
5. General Real Time Identification Notes:
https://docs.google.com/document/d/1qTZAMbQJ8SgEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing
ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a slight zoom:
"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
"
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.
Best,
Jacob



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Condensed Notes

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 10 Apr 2018 13:15:45 -0400

Chief,

Can we meet next week? Want to get some stuff moving.

Best, Jacob

On Thu, Apr 5, 2018 at 7:55 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief, check this out in news:

https://outline.com/dyWVd9

When police found a senior citizen apparently suffering from Alzheimer's missing from her family on Staten Island in 2014, officials took to technology.

They sent a photograph of the woman to an NYPD unit. A detective ran the image against a database of "several million" mug shots and was surprised to find the woman among the hundreds the software returned as possible matches.

But if the woman hadn't had a minor traffic violation previously, she might have languished in the hospital, according to Sgt. Edwin Coello, a supervisor in the Facial Identification Section.

On Wed, Apr 4, 2018 at 3:35 PM, Jacob Sniff <\siniff@alumni.princeton.edu> wrote: Chief, any update? What about next week?

Jacob

On Mon, Mar 26, 2018 at 2:33 PM, Jacob Sniff <i sniff@alumni.princeton.edu> wrote: Also see where we're at with the lobby cam access, if you can.

On Mon, Mar 26, 2018 at 2:24 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Let me check with the guys about where we are at with CJIS

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, March 26, 2018 12:32 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, any idea of late this week may work?

Jacob

On Wed, Mar 21, 2018 at 7:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief what about mid to late next week?

Jacob

On Fri, Mar 16, 2018 at 8:40 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Chief is there any update with the fusion center? Or access to lobby cameras? Have you guys made good headway? Ryan isn't super responsive FYI about it.

On Thu, Mar 15, 2018 at 10:04 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

I'm pretty tied up all next week. I will find a good time.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] **On Behalf Of** Jacob Sniff **Sent:** Thursday, March 15, 2018 7:40 AM

To: Michael Botieri

Subject: Re: Condensed Notes

you around at all next week? what works?

On Wed, Mar 14, 2018 at 9:40 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow that's great.

On Mar 14, 2018, at 6:56 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

we even made the NYTIMES!

https://outline.com/rVa6Ff

On Thu, Mar 8, 2018 at 3:41 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

ok how about thurs or fri. the week after then?

On Thu, Mar 8, 2018 at 2:50 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Both days are full – let's look at the next week.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, March 08, 2018 1:26 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Next thurs or fri work?

On Thursday, March 8, 2018, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, March 08, 2018 11:36 AM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, let's discuss next week?

On Thu, Mar 8, 2018 at 11:16 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow that's great - have I invested yet?

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, March 08, 2018 10:06 AM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, the leading biometric news provider on web just picked us up organically:

http://www.biometricupdate.com/201802/face-redaction-startup-suspect-technologies-plans-to-enter-facial-recognition-market

Can we meet next week? I messaged Ryan for an update on VMS as well.

On Wed, Feb 28, 2018 at 8:48 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Chief, how does next week look? Or week after?

On Friday, February 23, 2018, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

'Il check it out.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

 $\textbf{From: } \underline{jsniff12@gmail.com} \ [mailto: \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ Jacob \ Sniff \ \underline{jsniff12@gmail.com}] \ \textbf{On Behalf Of } \\ \ \textbf{On Behalf$

Sent: Friday, February 23, 2018 3:24 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Chief, I'm in DC and NYC all next week. :(

You guys around week after? Tuesday or Fri for example?

On Fri, Feb 23, 2018 at 3:17 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Wow – great article. Let's try to meet next week.

Chief Michael E. Botieri

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Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 23, 2018 2:47 PM

To: Michael Botieri

Subject: Re: Condensed Notes

Got some good press today Chief! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/

Maybe meet again week after next? You guys around?

On Fri, Feb 16, 2018 at 4:08 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Ok sounds good Chief! On Fri, Feb 16, 2018 at 3:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: We do – just waiting for permission from the RMV to use there database. Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, February 16, 2018 3:54 PM To: Michael Botieri Subject: Re: Condensed Notes Chief, sounds good. So was there any conclusion on the below? You guys still want your own solution or what? Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop. On Fri, Feb 16, 2018 at 3:13 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote: Good point Jacob – still waiting for clearance from the RMV. Mike Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chief botieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, February 16, 2018 11:00 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

Chief, on the school shooting,

i.) Don't you see how facial alerts could be pretty valuable at main entrances?
ii.) On the search, the person was blending in below. Don't you see value in this? If you could live-stream back to the PD and someone could search for where the suspect went, it would be useful. Apparently the suspect was lost in the crowdhow scary
http://abc13.com/watch-live-at-least-20-injured-in-florida-high-school-shooting/3084112/
"Broward County Sheriff Scott Israel said suspect Nikolas Cruz, 19, was taken into custody after he slipped out of Stoneman Douglas High School as chaos ensued.
Israel said despite blending in with students who were trying to escape the Parkland school, Cruz was eventually taken into custody without incident off campus.
A new photo shows Cruz being handcuffed by police in Coral Springs.
n
On Mon, Feb 12, 2018 at 8:07 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
I'll check today.
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Monday, February 12, 2018 7:11 AM
To: Michael Botieri Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes
Chief, where you at with things?
On Tue, Jan 30, 2018 at 8:28 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Mike, yes that doesn't surprise me. You said you still wanted your own though right?
The article I had sent is below:

https://www.bostonglobe.com/metro/2016/12/20/state-scans-mass-driver-license-photos-find-matches-with-suspects/xyVIxWkPL95hQbx4sUI2WM/story.html#comments

In 2015, law enforcement agencies submitted 258 requests to scan the state's trove of RMV photos — or the equivalent of about one request per weekday.

Of that total, 102 requests were from local law enforcement agencies, 84 from state law enforcement officials, and 72 from federal agencies. (The Transportation Department said it did not have a list of the names of the agencies that submitted the requests.)

In their requests, the agencies submitted a total of 331 images, which turned up 101 potential matches.

The Massachusetts Sheriffs' Association, an independent state agency, works with all 14 sheriff departments in Massachusetts and won a Department of Justice grant that has already provided 10 sheriffs departments with the technology to create facial recognition databases.

Sean G. Mullin, chief executive of BI2 Technologies, previously worked on a biometric identification system used for tracking missing children and senior citizens with Alzheimer's disease.

On Tue, Jan 30, 2018 at 11:41 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Jacob – we have been in contact with the registry and the Fusion Center – it seems that they already have some kind of facial recognition software – we are waiting to check it out. We will keep you in the loop.

Chief Michael E. Botieri

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20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, January 26, 2018 3:33 AM

To: Michael Botieri

Cc: Ryan Ruggiero; Antonio Gomes **Subject:** Re: Condensed Notes

will do!

On Thu, Jan 25, 2018 at 10:46 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

We should have the info soon. Say hello to Cuban for me

On Jan 25, 2018, at 10:17 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

Chief, you guys making progress over there? How are things going?

I just emailed Cuban now; going to mention your request after his response.

On Fri, Jan 19, 2018 at 10:47 AM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

Thanks Jacob – great working with you yesterday – Have Mark Cubin give me a call!!!

Mike

20 Long Pond Road	
Plymouth, MA 02360	
508-830-4218 X 226	
chiefbotieri@plymouthpolice.com	
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, January 19, 2018 1:08 AM To: Michael Botieri; Ryan Ruggiero; Antonio Gomes Subject: Re: Condensed Notes	
Chief/Ryan/Tony,	
Thank you for your time.	
We may have something rly scalable here! I guess what I'm thinking of launching now to start is	the following:
Real-Time and Historical Video Review Platform for Law Enforcem	ient
Real-Time Features:	
-Facial Recognition Alert to be used across lobby cameras and a set of town cameras continually	
-Real Time Person Detection - show where all people are (to be used in active shooter situation, monitor, abduction cases, etc.)	or the events you
Historical Features:	
-Facial Identification Matching (run any photo against a database and see if a match)	
-Person Detection Review - show where all people have been in past X minutes (to be used in ac or the events you monitor, abduction cases, etc.)	tive shooter situation
-Image Attribute Software (search people by age, gender, ethnicity, etc.)	
Other Features:	
-Video Conversion Software to view any file type	
-Redaction	
Next Steps:	

Chief Michael E. Botieri
Plymouth Police Department

and one real-time feature, both of which are main features of the platform.
2. You guys will get us access to state RMV photos and look into lobby camera access. We meet again w/in 2 weeks.
Best, Jacob
On Mon, Jan 8, 2018 at 8:28 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
This is what alerting could like, on screen:
https://www.dropbox.com/s/n38y1jehi672d9c/FacialRec.avi?dl=0
So you can see the guy's name flashes on his face occasionally in 'red' when a match is made. This is me and a group at Boston Convention Center.
You can see it's going to work usually when face is 45 degrees or less turned. More than that and it will run into problems.
So from here, we would send the database match and the short clip to be reviewed by a dispatcher or whomever you think is relevant.
Jacob
On Fri, Jan 5, 2018 at 10:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Chief,
Before next week, few quick things:
i.) I've condensed all notes into a few different google docs. Can you view google docs ok? I hope this is a better way of looking at things. Pls skim some of it if you have time before Thurs:
1. Plymouth PD Considerations:
https://docs.google.com/document/d/1-Euw.JkrFA6c8sIlnDtlLb7pgFeqop8rWPQWpu4CsWm8/edit?usp=sharing

1. As for the proof of concept and the launching point, we agree to run facial recognition in the lobby cameras and running facial search on the dozens of photos you get a week is a good starting point. That would give us one historical

2. General Search/Identification Notes:
$https://docs.google.com/document/d/1mcU0WqNwFRgLKc1qfNDUXq41pLNx_o5r2AyZC-fonbM/edit?usp = sharing the control of the contro$
3. General Alert Notes:
https://docs.google.com/document/d/1MtsCbHsXnNDNiwr23JQWzwlVuDyZVrBbjnH5gwLyLgU/edit?usp=sharing
4. General Evidence Room Notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp = sharing the sharing of the state of the st
5. General Real Time Identification Notes:
$https://docs.google.com/document/d/1qTZAMbQJ8S\gEafgad1EXrhoRiIatLgKGxsSGrG1yc/edit?usp=sharing$
ii.) In regards to the distance discussion below, I've made a basic video and will show it in person; this is why I suggest a slight zoom:
"I will also aim to prepare a video showing how distance affects facial recognition in a similar deployment scenario over the holidays, with context to the images you sent.
iii.) Last, you mentioned that Tom is going to send a few pole camera videos. Is that possible? Preferably if there are people in view of course.

Best, Jacob From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 10 Apr 2018 18:45:10 -0400

Chief, check this out. Do you think your department could collaborate on below cases? Would it make sense for a hospital to call you ever?

https://americansecuritytoday.com/nypd-wants-licenses-facial-recognition-learn-multi-video/

"Besides the obvious benefit of identifying suspects in active investigations, this could:

Assist lost dementia patients.

- Such a system could identify lost adults with cognitive disorders like Alzheimer's, who might not know who they are or where they came from.
- One example: Wall Street Journal points out that this would have been useful in the case of a Staten Island woman with Alzheimer's who police found in 2014, and who could only be identified thanks to a minor traffic violation.

Identify the unidentified in hospitals.

- Facial recognition could help hospitals put names to unconscious patients who come in without ID, as well as John/Jane Doe cases.
- Connecting these individuals with their families could save them a lot of agony in wondering what happened/is happening to loved ones.

On Tue, Dec 12, 2017 at 12:20 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Will do - Hope all is well with too.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 12:18 PM

To: Michael Botieri Cc: Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief let's meet soon! Hope all is well.

On Tue, Dec 12, 2017 at 12:09 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

That sounds like it would be a great value for the evidence room.

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 11:44 AM

To: Michael Botieri **Cc:** Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief, I just talked to one contact I made at IACP, who is a chief in Indiana. he said that for them, it would be a huge value to just have a log of the people coming and going from the evidence room. Right now, there's no real log (don't have someone's face logged upon entry and exit); it really just takes one bad apple to mess everything up and cause a bunch of cases to be dismissed when evidence is tampered with; they could be allowing others in upon entry as well. Apparently they're audited in someway by NCIS yearly and this would help that audit. Relatedly, it seems if people are in the agency and don't have some CJIS background check, it's of value to him to know that everyone who entered, has had this done. He also wants cameras inside the facility and outside to be running facial continually. Maybe change can come Mont! I've been thinking about giving it a push next year.

Here's a google docs with some evidence room notes:
https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing
I will add more and organize a bit more later on.
On Thu, Nov 30, 2017 at 7:36 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
Can you guys view google docs ok if I share it with your email addresses?
On Wed, Nov 29, 2017 at 4:21 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:
I'll check it out Jacob
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Wednesday, November 29, 2017 12:44 PM To: Michael Botieri; Ryan Ruggiero Subject: Re: Initial Search Follow Up Note
Also related in news past couple days on search:
i.) Seems Amazon is in game. I think our service could be better still and I'm sure similar price:
http://www.nextgov.com/cio-briefing/2017/11/how-one-law-enforcement-agency-using-facial-recognition-identify-suspects/142816/
ii.)
http://www.11alive.com/article/news/local/is-it-mariah-fbi-asking-for-help-identifying-woman-child-in-photos/85-495407961
I did also compile a large list of notes/thoughts on facial access management for evidence rooms over holidays. Can you guys view google docs ok if I share it with your email addresses?
On Wed, Nov 22, 2017 at 1:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:
Thanks Jacob. Have a great Thanksgiving.
On Nov 22, 2017, at 12:56 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
Guys, I do plan to send a facial access management note in regards to evidence rooms over holidays; I've been thinking about it.
Have a good holiday!
Best,
Jacob

Chief,
I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the chain:
1. As the recent press and research articles below show, I do think that with a decent database to match from, at least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones).
2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No agencies around the area take advantage of it right now? Why are Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a decent database that we can go off from.
Things to look at:
i.) Recent Press Other Tools:
http://www.illinoishomepage.net/news/local-news/facial-recognition-solves-crime-cases/859552732
He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug shots. He says it's as easy pieP.I.E.
It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.
ii.) Crime Analysis Unit
https://www.usnews.com/news/best-states/florida/articles/2017-05-28/florida-case-is-poster-child-for-facial-recognition-tech

A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back

Lynch as a potential match.

On Sun, Nov 19, 2017 at 8:12 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

iii.) National Database + Facial Rec.

Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63

JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFace™ facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arrest records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN

JFRS enables Pennsylvania's criminal justice professionals to verify or discover identity matches through one-to-one or one-to-many searches in a database sized for 3.5 million criminal booking images. So far, the JFRS identity searches have aided investigators in solving numerous cases, including homicides, robberies, burglaries, fraud and identity theft.

JFRS also includes the PA Watchlist functionality that enables users in the field to add suspect images from bank cameras, ATMs, retail security cameras and other sources to the watch list, enhancing the opportunity for additional identifications.

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It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.

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how often? few times per year?

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Look at videos and maybe be the officers or detectives recognize the guy.

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Subject Facial Lobby Comments + Opinions

To Ed Davis <edavis@eddavisllc.com>, Michael Botieri <chiefbotieri@plymouthpolice.com>, "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>

Date Wed, 11 Apr 2018 12:22:55 -0400

Ed Davis/Chief Mike Botieri, and Chief Pat Flannely,

I've been discussing multiple uses of facial rec. with each of you. Ed, Pat is the Chief from Lafayette I mentioned. Mike, is the one from Plymouth in MA. Mike/Pat, I don't think you know each other either, but I believe I mentioned both of you to the other in past discussions; take this as the introduction:)

Right now, it seems the most interesting use case is facial rec. alerts from lobby cameras. I wanted to write a note, to solicit some comments and opinions on a few matters related to this:

- 1. To define what we mean, we are planning to move forward with the facial scanning in lobbies. More or less, the facial application will integrate and use existing cameras to scan everyone's face who enters a lobby, and compare to a local list of people that have open warrants (usually 5-10% of any town). It will have different categories of warrants and the officers will take different actions, based on the different categories. We will send any visual alerts back to the dispatchers/officers in the lobby to review and decide whether to take action on.
- 2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up.

I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense:

"Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the PD.

This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them.

"Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI.

- 3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant?
- 4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:

Here are some #'s below:

- -1k ppl per day
- -50 percent hit rate = 500 people per day (raw detection)
- -500*1000 = 500,000 match attempts (watch-list size of 1000)
- -0.0000001*500,000 = ~1 false match per 20 days (FAR of .00001 percent)

Lafayette lobby statistics:

"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.

The population in the county is about 185k people with about 70k in city limits and we have a few that don't follow the law. There's 1350 warrants for just LPD and some of those are multiple for the same person so backing out duplicates there are 1250 people that are wanted just by us."

5. Pat, had the below opinion, when discussing the identification and then containment issues. Does everyone agree? Any opinions? Additional Thoughts?

"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach

to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission.

This is not the same as in a mall or local jurisdiction as the population is going to be local. We would want to arrest all of them, or almost all of them, in an effort to clear out their case. A tiered approach is still applicable, just not as critical."

6. Are there potentially other markets where the tech makes more sense for now? Ed, you thought schools would be more tractable. It's interesting, I think Ed had exactly the opposite opinion of Pat, that police lobbies are good and schools are hard. I think I agree with Pat for now, dominate law enforcement and expand to other places.

Thoughts? Comments? Opinions?

Best, Jacob From "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>

Subject RE: Facial Lobby Comments + Opinions

To 'Jacob Sniff' <jsniff@alumni.princeton.edu>, Ed Davis <edavis@eddavisllc.com>, Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Thu, 12 Apr 2018 19:01:19 +0000

Jacob,

A few quick responses in red below.

Patrick J. Flannelly
Chief of Police
Lafayette Police Department
20 N. 6th St.
Lafayette, IN 47901
(765) 807-1210 (Office)
(765) 479-4445 (Mobile)
pjflannelly@lafayette.in.gov
www.lafayettepolice.us

From: jsniff12@gmail.com <jsniff12@gmail.com> On Behalf Of Jacob Sniff

Sent: Wednesday, April 11, 2018 12:23 PM

To: Ed Davis <edavis@ eddavisllc.com>; Michael Botieri <chiefbotieri@ plymouthpolice.com>; Patrick J. Flannelly <pjflannelly@ lafayette.in.gov>

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To "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>, Ed Davis <edavis@eddavisllc.com>, Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Fri, 13 Apr 2018 07:18:57 -0400

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From Jacob Sniff <jsniff@alumni.princeton.edu>

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To Michael Botieri <chiefbotieri@plymouthpolice.com>, "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>, Ed Davis <edavis@eddavisllc.com>

Date Fri, 13 Apr 2018 17:44:18 -0400

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Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

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Sent: Friday, April 13, 2018 7:19 AM

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From Ed Davis <edavis@eddavisllc.com>
Subject Re: Facial Lobby Comments + Opinions
To Jacob Sniff <jsniff@alumni.princeton.edu>
Date Sat, 14 Apr 2018 13:49:45 +0000

Good morning Gentlemen,

It is great to meet you and to be a part of this fascinating discussion. My apologies for getting back to you so late. My week was crazy and for a thoughtful response I had to wait until Saturday to secure the necessary time.

Fist, I agree that this technology is vital and is the future of law enforcement. I also know that if I tried to implement this system in Boston I would be run out of town by the liberal activists and privacy zealots, to say nothing of the Boston Globe and their advocacy for undocumented imigrants However, and thankfully, each community is different. I think that each police chief needs to make the call for their community. I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable. For you Jacob, the key is to ensure you are comfortable in each installation, as a focused political attack is a potential existential threat to your new business.

This technology needs a real life experiment and Jacob is lucky to have two police leaders who are interested in working with him. Good data from a successful deployment will establish a base line for purchasing decisions. The proposal to use police lobbies against the warrant database will clearly get you the most data in the fastest time. The devil is in a defensible outcome from the positive identifications. For instance, many arrests for low level violations of the law could be viewed poorly by the public. However, if arrests were focused only on felony offenses or sex offenders, no one could credibly protest. The key is to do this experiment with as little controversy as possible.

When I think about options for deployment and, after Parkland, that the nation is clamoring for a method to secure schools, this is an attractive option. Other potential locations are national sporting events, some federal facilities, the federal reserve system and others.

I hope this lengthy response establishes my point and is helpful to the big picture.

Sincerely, Ed

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chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, April 13, 2018 7:19 AM To: Patrick J. Flannelly; Ed Davis; Michael Botieri Subject: Re: Facial Lobby Comments + Opinions
Pat,
That is really good info. Few follow-ups for everyone:
i.) So right now, you arrest 4 to 8 people a month in your lobby. Are they just arrested normally by the officer; with handcuffs? Wow, I would never have guessed it would have been so high. Is it mostly low level stuff now? Person arrested and then freed? Are they verbally charged and then handcuffed?
ii.) We'll definitely be way higher than 60 to 70 percent, so no worries there. With a true positive of 95%+ at these volumes, mainly wondering if the false positive is fine and if missing people so of the time is ok. Again I think the #'s are pretty good here. 1 false positive every couple of week or once a month of course maybe higher than the status quo. The good thing is all they'll have to do is visually look at the match with the video feed snippet; and then decide whether to take action. So FP is pretty harmless I think.
Chief Botieri what do you think about everything?
Jacob
On Thu, Apr 12, 2018 at 3:01 PM, Patrick J. Flannelly < pjflannelly@lafayette.in.gov> wrote:
Jacob,
A few quick responses in red below.
Patrick J. Flannelly
Chief of Police
Lafayette Police Department
20 N. 6 th St.
Lafayette, IN 47901
(765) 807-1210 (Office)
(765) 479-4445 (Mobile)
pjflannelly@lafayette.in.gov
www.lafayettepolice.us
From: jsniff12@gmail.com <jsniff12@gmail.com> On Behalf Of Jacob Sniff</jsniff12@gmail.com>
Sent: Wednesday, April 11, 2018 12:23 PM To: Ed Davis <edavis@eddavisllc.com>; Michael Botieri <chiefbotieri@plymouthpolice.com>; Patrick J. Flannelly <pjflannelly@lafayette.in.gov> Subject: Facial Lobby Comments + Opinions</pjflannelly@lafayette.in.gov></chiefbotieri@plymouthpolice.com></edavis@eddavisllc.com>
Subject. Facial Looply Confinients + Opinions

Ed Davis/Chief Mike Botieri, and Chief Pat Flannely,

I've been discussing multiple uses of facial rec. with each of you. Ed, Pat is the Chief from Lafayette I mentioned. Mike, is the one from Plymouth in MA. Mike/Pat, I don't think you know each other either, but I believe I mentioned both of you to the other in past discussions; take this as the introduction:)
Right now, it seems the most interesting use case is facial rec. alerts from lobby cameras. I wanted to write a note, to solicit some comments and opinions on a few matters related to this:
1. To define what we mean, we are planning to move forward with the facial scanning in lobbies. More or less, the facial application will integrate and use existing cameras to scan everyone's face who enters a lobby, and compare to a local list of people that have open warrants (usually 5-10% of any town). It will have different categories of warrants and the officers will take different actions, based on the different categories. We will send any visual alerts back to the dispatchers/officers in the lobby to review and decide whether to take action on.
2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up.
I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense:
"Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the PD.
This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them.
"Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI. "
In speaking with our Chief Records Technician, she estimates that we, on average, will make 4 to 8 arrest per month in our lobby. These arrests include those that are coming to turn themselves in, but of these numbers, most of them are just unaware that they have a warrant. She estimates that we would probably double this number using facial recognition, but that might be a bit high in my opinion. These warrants would not traffic warrants where a person has never been arrested before because we would not have a photograph on file.
These numbers would be much higher if we still pre-screened after hours subjects for admittance into our homeless shelter. This is something that most agencies probably would never deal with, we just did this for a few years after having some violent battery cases occur in one of our shelters when subjects were admitted after hours. We began a program where subjects were required to get a pass from our Records Division for admittance if they were not prescreened. This led to a lot of arrest, mostly low level alcohol/drug related cases.
3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant?
If we were to maintain our current numbers, maybe with a slight increase, I certainly feel this would justify the expense. Automating the process just reduces the likelihood of error and could help improve customer service overall (unless you are one of the people that enters the lobby with a warrant on file).
4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:

Here are some #'s below:
-1k ppl per day
-50 percent hit rate = 500 people per day (raw detection)
-500*1000 = 500,000 match attempts (watch-list size of 1000)
-0.0000001*500,000 = ~1 false match per 20 days (FAR of .00001 percent)
Lafayette lobby statistics:
"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.
The population in the county is about 185k people with about 70k in city limits and we have a few that don't follow the law. There's 1350 warrants for just LPD and some of those are multiple for the same person so backing out duplicates there are 1250 people that are wanted just by us."
There is a verification process that officers will undertake before taking anyone into custody on a warrant, so we would view this technology only as lead information and would not arrest based on a "potential match" identified with facial recognition technology solely. I think a true positive rate of 95% is sufficient grounds to initiate a non-consensual stop to investigate further. That might take some vetting in the courts, but I think probably anything above 60 mould be grounds for a Terry Stop. Again, good policy will be need to be in place in advance.
5. Pat, had the below opinion, when discussing the identification and then containment issues. Does everyone agree? Any opinions? Additional Thoughts?
"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission.
This is not the same as in a mall or local jurisdiction as the population is going to be local. We would want to arrest all of them, or almost all of them, in an effort to clear out their case. A tiered approach is still applicable, just not as critical."
6. Are there potentially other markets where the tech makes more sense for now? Ed, you thought schools would be more tractable. It's interesting, think Ed had exactly the opposite opinion of Pat, that police lobbies are good and schools are hard. I think I agree with Pat for now, dominate law enforcement and expand to other places.
I have spoken with two of our area school superintendents since we began this conversation. Both are interested in learning more about the potential safety benefits and seem open to a pilot project. So, I guess I am changing my tune a little bit there. Again, I think a lot depends on how this technology is going to b used and that is communicated well in advance. If we start making truancy arrest or disciplining students for things captured by facial recognition that do not amount to priority safety measures it might become problematic.

Thoughts? Comments? Opinions?

Best,

Jacob

--

Edward F. Davis CEO, Edward Davis, LLC (617) 594-3650 www.eddavisllc.com



From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: RESCHEDULE TODAY'S MEETING

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Tue, 17 Apr 2018 08:44:33 -0400

Ryan, do you think it maybe possible just to access the camera stream directly? That way we wouldn't have to worry about the VMS for now. What do you think? Any updates?

On Tue, Mar 6, 2018 at 6:35 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Ryan any update on lobby camera access? Hope all is well!

On Fri, Feb 23, 2018 at 2:46 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

Ryan some good press today! https://www.americaninno.com/boston/boston-startup/mark-cuban-backed-startup-uses-a-i-to-redact-faces-in-police-videos/

Maybe meet again week after next? You guys around? I just messaged Chief as well.

On Fri, Feb 16, 2018 at 11:43 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Ryan you get any feedback on this? What VMS is there? Do you know? I think we'd just integrate with the VMS right? That is most important part.

On Tue, Feb 6, 2018 at 3:05 PM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

Waiting to hear back on the best way to do this.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, February 05, 2018 8:53 PM

To: Ryan Ruggiero < Ruggiero@ plymouthpolice.com > Cc: Antonio Gomes < ltgomes@ plymouthpolice.com >

Subject: Re: RESCHEDULE TODAY'S MEETING

Ryan?

On Tue, Jan 30, 2018 at 8:31 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Ryan, did you guys look at all into the lobby camera access?

Jacob

On Thu, Jan 18, 2018 at 5:34 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Tony/Ryan, nice meeting.

Forgot to mention I had dug this up:

 $\underline{http://www.tauntongazette.com/x273440750/Mass-Most-Wanted-Shoplifting-in-Plymouth-Walmart}$

Best,

Jacob

On Thu, Jan 18, 2018 at 9:33 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Thx!

On Thursday, January 18, 2018, Nancy Dillon < dillon@plymouthpolice.com > wrote:

Thank you. From: janiff12@gmail.com [mailto:janiff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 18, 2018 9:18 AM Col. Spon Studgers: Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING Nancy we good to meet today at 2°1 could also come by earlier like 1 or 1:30, if others can make it. On Thu, Jan 11, 2018 at 9:09 AM, Jacob Sniff < janiff@alumni.princeton.edu> wrote: Yes see you the 18th! On Thu, Jan 11, 2018 at 9:08 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote: Yes, no restrictions. We will see you Thursday, January 11, 2018 @ 2:00 PM. Thanks. Nancy Dillon Administrative Scoretary Plymouth Police Department 20 Long Rend Read Plymouth, MA 07360 508-830-4218 X 272 From: janiff12@gmail.com [mailto:janiff12@gmail.com] On Behalf Of Jacob Sniff Sent: Thursday, January 11, 2018 9:06 AM Cot Plymo Rougher, Antonio Gomes Subject: Re: RESCHEDULE TODAY'S MEETING Yes that works. Can you gurys view google does ok? On Thu, Jan 11, 2018 at 9:05 AM, Nancy Dillon < dillon@plymouthpolice.com> wrote: Good Morning, Jacob, Unfortunately, we will need to cancel and reschedule today's 2:00 appointment. Chief Botieri will not be available. Thursday, January 18, 2018 at 2:00 PM?		Good morning,
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Nancy Dillon

Administrative Secretary

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 272

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Wed, 18 Apr 2018 17:02:31 -0400

~11			0
	ш	·	1

I'm international next week.

Do you have time to meet week after next? If not, the week after?

Hope all is well!

Jacob

On Wed, Apr 11, 2018 at 11:47 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

At least a few times a year.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, April 11, 2018 7:19 AM

To: Michael Botieri

Subject: Re: Initial Search Follow Up Note

how often? few times per year?

On Wed, Apr 11, 2018 at 7:13 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Look at videos and maybe be the officers or detectives recognize the guy.

On Apr 11, 2018, at 7:01 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Mike, thank you. How often? What do u do now to appease the calls? Not much you can do?

Jacob

On Wednesday, April 11, 2018, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob,

We definitely get these type of calls. I'm headed in now. I'll talk with the guys and get back to you with a date.

Thanks

Mike

Keep up the great work.

On Apr 10, 2018, at 6:45 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, check this out. Do you think your department could collaborate on below cases? Would it make sense for a hospital to call you ever?

https://americansecuritytoday.com/nypd-wants-licenses-facial-recognition-learn-multi-video/

"Besides the obvious benefit of identifying suspects in active investigations, this could:

Assist lost dementia patients.

- Such a system could identify lost adults with cognitive disorders like Alzheimer's, who might not know who they are or where they came from.
- One example: Wall Street Journal points out that this would have been useful in the case of a Staten Island woman with Alzheimer's who police found in 2014, and who could only be identified thanks to a minor traffic violation.

Identify the unidentified in hospitals.

- Facial recognition could help hospitals put names to unconscious patients who come in without ID, as well as John/Jane Doe cases.
- Connecting these individuals with their families could save them a lot of agony in wondering what happened/is happening to loved ones.

On Tue, Dec 12, 2017 at 12:20 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Will do - Hope all is well with too.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 12:18 PM

To: Michael Botieri Cc: Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief let's meet soon! Hope all is well.

On Tue, Dec 12, 2017 at 12:09 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

That sounds like it would be a great value for the evidence room.

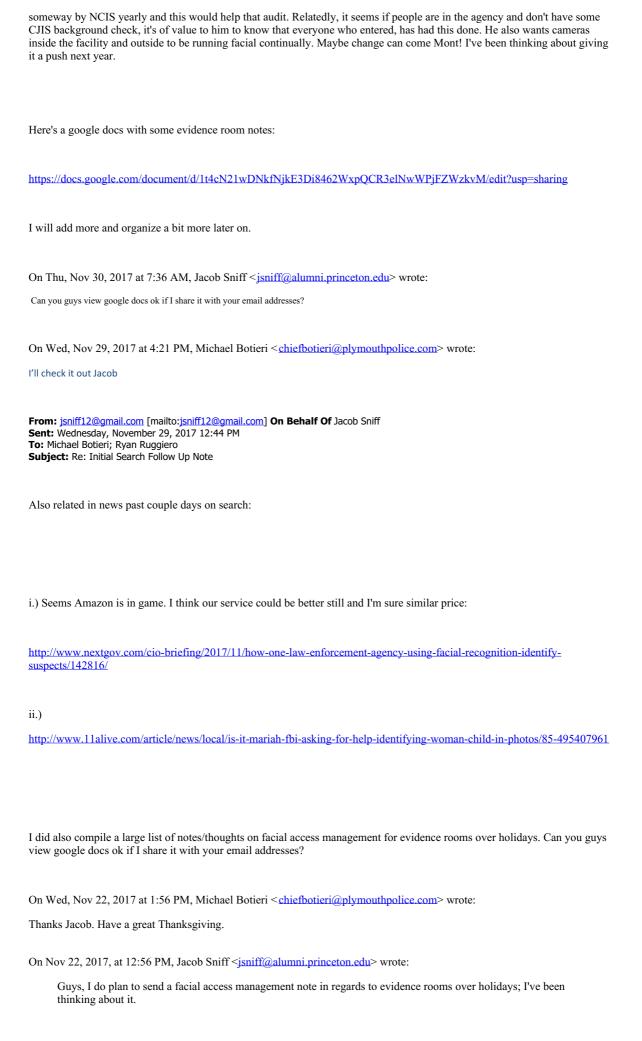
Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Tuesday, December 12, 2017 11:44 AM

To: Michael Botieri Cc: Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief, I just talked to one contact I made at IACP, who is a chief in Indiana. he said that for them, it would be a huge value to just have a log of the people coming and going from the evidence room. Right now, there's no real log (don't have someone's face logged upon entry and exit); it really just takes one bad apple to mess everything up and cause a bunch of cases to be dismissed when evidence is tampered with; they could be allowing others in upon entry as well. Apparently they're audited in



Have a good holiday!

Desi,
Jacob
On Sun New 10, 2017 at 8:12 DM. Jeach Sniff Signiff Columnia princeton adv Supreto.
On Sun, Nov 19, 2017 at 8:12 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
Chief,
I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some
notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the
chain:
1. As the recent press and research articles below show, I do think that with a decent database to match from, at
least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very
helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be
interested weekly, some for immediate identification, some more lax (like shoplifting ones).
2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any
agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we
discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No
agencies around the area take advantage of it right now? Why are Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a
decent database that we can go off from.
Things to look at:
i) Proved Prove Other Teeler
i.) Recent Press Other Tools:
http://www.illingishamenage.net/news/local_news/feeigl_recognition_colver_crime_cases/950552722
http://www.illinoishomepage.net/news/local-news/facial-recognition-solves-crime-cases/859552732
He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even
with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug shots. He
says it's as easy pieP.I.E.

It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.

https://www.usnews.com/news/best-states/florida/articles/2017-05-28/florida-case-is-poster-child-for-facial-recognition-tech

A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.

iii.) National Database + Facial Rec.

Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63

JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFaceTM facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arrest records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN.

JFRS enables Pennsylvania's criminal justice professionals to verify or discover identity matches through one-toone or one-to-many searches in a database sized for 3.5 million criminal booking images. So far, the JFRS identity searches have aided investigators in solving numerous cases, including homicides, robberies, burglaries, fraud and identity theft.

JFRS also includes the PA Watchlist functionality that enables users in the field to add suspect images from bank cameras, ATMs, retail security cameras and other sources to the watch list, enhancing the opportunity for additional identifications.

According to Harry Giordano, Special Projects manager for JNET, successes have occurred during the JNET System Training Sessions, which are currently taking place at Computer Training Labs across the commonwealth. "Officers coming to the JNET Training Sessions are asked to bring photos of unknown suspects from open cases and, using the system for the first time during training, are getting HITS and solving crimes," said Mr. Giordano. "Thanks to DataWorks Plus' intuitive Graphical User Interface and accuracy of the core facial recognition technology even first-time users are able to get positive results."

Over 39,000 municipal, county, state and federal justice professionals use JNET to access critical information and securely conduct investigations. JNET provides role-based access to over 35 distinct applications. In addition, JNET uses a service oriented architecture (SOA) model to broker the exchange of over 600 million messages annually between business partners. The JNET infrastructure connects all 67 Pennsylvania counties, 38 state agencies, and 37 federal law enforcement agencies.

JFRS provides a host of imaging tools that allow photographs to be cropped, rotated or manipulated to assist with comparison. Furthermore, JFRS employs two unique search algorithm technologies. Photographs submitted into JFRS by investigators are automatically analyzed by both search algorithms, ensuring that law enforcement

benefits from multiple technologies. With JFRS deployed on JNET, the system can be made available to any law enforcement agency in Pennsylvania. Law enforcement professionals from more than 500 agencies have completed training and have access to JFRS.
iv.) Research Articles:
http://www.wired.co.uk/article/facial-recognition-systems-can-identify-you-even-if-your-face-is-blurred
https://www.wired.com/2016/09/machine-learning-can-identify-pixelated-faces-researchers-show/
"The researchers said only 10 fully-visible examples of a person's face were needed to identify a blurred image with 91.5 per cent accuracy. With an average of just 1.25 tagged images, the system could still correctly identify an individual 56.8 per cent of the time, which is 73 times higher than chance would allow.
It fared worse in "across event" measurements - those in which the lighting, clothing and context had changed - but still performed at 17 times the rate of chance, identifying people in 31.9 per cent of obscured images.
The researchers also tested different obfuscation methods to see if there was variance in the identification performance. By attempting to recognise non-tagged Gaussian blurs, white boxes and black box images they found that the best method for staying anonymous is to post all your pictures to Facebook with a black box over your face and shoulders. The next safest would be blocking it out with a white box, then a Gaussian blur. "
Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Facial Lobby Comments + Opinions

To Ed Davis <edavis@eddavisllc.com>, "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>, Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Wed, 18 Apr 2018 19:20:12 -0400

These are all good thoughts. Thank you Ed and everyone. I want to move forward. However, I do think, after Ed's comments, we should discuss this in more detail. I think we should iron out Ed's comment: "I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable".

1. For example, I was just reading about this person in Tennessee today and they had their own political attack it seems in that state going after schools and other places:

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I wonder if we'll ever face similar issues as 1 or 2 above). The timing couldn't be better for us to give this a go.

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It is great to meet you and to be a part of this fascinating discussion. My apologies for getting back to you so late. My week was crazy and for a thoughtful response I had to wait until Saturday to secure the necessary time.

Fist, I agree that this technology is vital and is the future of law enforcement. I also know that if I tried to implement this system in Boston I would be run out of town by the liberal activists and privacy zealots, to say nothing of the Boston Globe and their advocacy for undocumented imigrants However, and thankfully, each community is different. I think that each police chief needs to make the call for their community. I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable. For you Jacob, the key is to ensure you are comfortable in each installation, as a focused political attack is a potential existential threat to your new business.

This technology needs a real life experiment and Jacob is lucky to have two police leaders who are interested in working with him. Good data from a successful deployment will establish a base line for purchasing decisions. The proposal to use police lobbies against the warrant database will clearly get you the most data in the fastest time. The devil is in a defensible outcome from the positive identifications. For instance, many arrests for low level violations of the law could be viewed poorly by the public. However, if arrests were focused only on felony offenses or sex offenders, no one could credibly protest. The key is to do this experiment with as little controversy as possible.

When I think about options for deployment and, after Parkland, that the nation is clamoring for a method to secure schools, this is an attractive option. Other potential locations are national sporting events, some federal facilities, the federal reserve system and others.

I hope this lengthy response establishes my point and is helpful to the big picture.

Sincerely,

Ed

On Fri, Apr 13, 2018 at 5:44 PM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: | Guys,

One other related item I thought of.

I went to a presentation in DC last month and I heard surprisingly that only '18% of tdsb (Terrorist Screening Database) has at least one biometric', with facial being the large portion by far. Pat, do you have a set of people on file with warrants that you don't have a matching photo of them? Maybe our service could also include this---we find a photo of anyone who doesn't have one on file, by searching the web or elsewhere. And also some age progression of current people on file, so it's not outdated ever. Apparently for most people on the national watchlist, we don't even have a photo of them. Jacob On Fri, Apr 13, 2018 at 4:18 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote: Most of those are warrant arrests. I do not think the False Positive is a big problem at this point. Mike Chief Michael E. Botieri Plymouth Police Department 20 Long Pond Road Plymouth, MA 02360 508-830-4218 X 226 chiefbotieri@plymouthpolice.com From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, April 13, 2018 7:19 AM To: Patrick J. Flannelly; Ed Davis; Michael Botieri Subject: Re: Facial Lobby Comments + Opinions Pat. That is really good info. Few follow-ups for everyone: i.) So right now, you arrest 4 to 8 people a month in your lobby. Are they just arrested normally by the officer; with handcuffs? Wow, I would never have guessed it would have been so high. Is it mostly low level stuff now? Person arrested and then freed? Are they verbally charged and then handcuffed? ii.) We'll definitely be way higher than 60 to 70 percent, so no worries there. With a true positive of 95%+ at these volumes, mainly wondering if the false positive is fine and if missing people so of the time is ok. Again I think the #s are pretty good here. 1 false positive every couple of week or once a month of course maybe higher than the status quo. The good thing is all they'll have to do is visually look at the match with the video feed snippet; and then decide whether to take action. So FP is pretty harmless I think. Chief Botieri what do you think about everything?

Jacob

Jacob,

On Thu, Apr 12, 2018 at 3:01 PM, Patrick J. Flannelly < piflannelly@lafayette.in.gov> wrote:

A few quick responses in red below.
Patrick J. Flannelly
Chief of Police
Lafayette Police Department
20 N. 6 th St.
Lafayette, IN 47901
(765) 807-1210 (Office)
(765) 479-4445 (Mobile)
pjflannelly@lafayette.in.gov
www.lafayettepolice.us
From: jsniff12@gmail.com <jsniff12@gmail.com> On Behalf Of Jacob Sniff</jsniff12@gmail.com>
Sent: Wednesday, April 11, 2018 12:23 PM To: Ed Davis com ; Patrick J. Flannelly com ; Patrick J. Flannelly com ; Patrick J. Flannelly piflannelly@lafayette.in.gov
Subject: Facial Lobby Comments + Opinions
Ed Davis/Chief Mike Botieri, and Chief Pat Flannely,
I've been discussing multiple uses of facial rec. with each of you. Ed, Pat is the Chief from Lafayette I mentioned. Mike, is the one from Plymouth in MA. Mike/Pat, I don't think you know each other either, but I believe I mentioned both of you to the other in past discussions; take this as the
introduction:)
Right now, it seems the most interesting use case is facial rec. alerts from lobby cameras. I wanted to write a note, to solicit some comments and opinions on a few matters related to this:
opinions on a few matters related to this.
1. To define what we mean, we are planning to move forward with the facial scanning in lobbies. More or less, the facial application will integrate
and use existing cameras to scan everyone's face who enters a lobby, and compare to a local list of people that have open warrants (usually 5-10% of any town). It will have different categories of warrants and the officers will take different actions, based on the different categories. We will
send any visual alerts back to the dispatchers/officers in the lobby to review and decide whether to take action on.
2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion
last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up.
I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense:
"Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the
PD.
This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them.

"Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI.
"
In speaking with our Chief Records Technician, she estimates that we, on average, will make 4 to 8 arrest per month in our lobby. These arrests include those that are coming to turn themselves in, but of these numbers, most of them are just unaware that they have a warrant. She estimates that we would probabl double this number using facial recognition, but that might be a bit high in my opinion. These warrants would not traffic warrants where a person has never been arrested before because we would not have a photograph on file.
These numbers would be much higher if we still pre-screened after hours subjects for admittance into our homeless shelter. This is something that most agencies probably would never deal with, we just did this for a few years after having some violent battery cases occur in one of our shelters when subjects were admitted after hours. We began a program where subjects were required to get a pass from our Records Division for admittance if they were not prescreened. This led to a lot of arrest, mostly low level alcohol/drug related cases.
3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant?
If we were to maintain our current numbers, maybe with a slight increase, I certainly feel this would justify the expense. Automating the process just reduce the likelihood of error and could help improve customer service overall (unless you are one of the people that enters the lobby with a warrant on file).
4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:
Here are some #'s below:
-1k ppl per day
-50 percent hit rate = 500 people per day (raw detection)
-500*1000 = 500,000 match attempts (watch-list size of 1000)
-0.0000001*500,000 = ~1 false match per 20 days (FAR of .00001 percent)
Lafayette lobby statistics:
"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.
The population in the county is about 185k people with about 70k in city limits and we have a few that don't follow the law. There's 1350 warrants for just LPD and some of those are multiple for the same person so backing out duplicates there are 1250 people that are wanted just by us."

There is a verification process that officers will undertake before taking anyone into custody on a warrant, so we would view this technology only as lead information and would not arrest based on a "potential match" identified with facial recognition technology solely. I think a true positive rate of 95% is sufficient grounds to initiate a non-consensual stop to investigate further. That might take some vetting in the courts, but I think probably anything above 60

to 70% would be grounds for a Terry Stop. Again, good policy will be need to be in place in advance.

	5. Pat, had the below opinion, when discussing the identification and then containment issues. Does everyone agree? Any opinions? Additional Thoughts?
	"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission.
	This is not the same as in a mall or local jurisdiction as the population is going to be local. We would want to arrest all of them, or almost all of them, in an effort to clear out their case. A tiered approach is still applicable, just not as critical."
	6. Are there potentially other markets where the tech makes more sense for now? Ed, you thought schools would be more tractable. It's interesting, I think Ed had exactly the opposite opinion of Pat, that police lobbies are good and schools are hard. I think I agree with Pat for now, dominate law enforcement and expand to other places.
	I have spoken with two of our area school superintendents since we began this conversation. Both are interested in learning more about the potential safety benefits and seem open to a pilot project. So, I guess I am changing my tune a little bit there. Again, I think a lot depends on how this technology is going to be used and that is communicated well in advance. If we start making truancy arrest or disciplining students for things captured by facial recognition that do not amount to priority safety measures it might become problematic.
	Thoughts? Comments? Opinions?
	Best, Jacob
(61 wv	Ward F. Davis EO, Edward Davis, LLC 7) 594-3650 Tw. eddavisllc.com EDWARD DAVIS LC Expert Security, Integrated Business Solutions.

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Facial Lobby Comments + Opinions

To Ed Davis <edavis@eddavisllc.com>, "Patrick J. Flannelly" <pjflannelly@lafayette.in.gov>, Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Sat, 28 Apr 2018 21:12:35 -0400

Guys, seems at least Wisconsin schools maybe a good initial market:

MADISON - Wisconsin Attorney General Brad Schimel said the state will use **\$30 million in grants** to ensure that by fall all Wisconsin schools are using a single secure entrance and other basic safeguards.

https://www.jsonline.com/story/news/politics/2018/04/25/wisconsin-spend-30-million-secure-entrances-all-state-schools-september-attorney-gschools-using-secu/549718002/

"The first category of grants will focus on basic safety steps such as making sure all classroom doors have locks and school entrances have glass that can resist shattering after being shot.

Schimel said he wanted schools to have **one locked entrance monitored by staff** rather than multiple entryways through which outsiders could come and go at will. Schools could also seek grants for alarms that would sound when someone from inside the school propped open an emergency exit."

On Wed, Apr 18, 2018 at 7:20 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

These are all good thoughts. Thank you Ed and everyone. I want to move forward. However, I do think, after Ed's comments, we should discuss this in more detail. I think we should iron out Ed's comment: "I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable".

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Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, April 13, 2018 7:19 AM

To: Patrick J. Flannelly; Ed Davis; Michael Botieri **Subject:** Re: Facial Lobby Comments + Opinions

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2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up. I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense: "Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them. "Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI. In speaking with our Chief Records Technician, she estimates that we, on average, will make 4 to 8 arrest per month in our lobby. These arrests include those that are coming to turn themselves in, but of these numbers, most of them are just unaware that they have a warrant. She estimates that we would probably double this number using facial recognition, but that might be a bit high in my opinion. These warrants would not traffic warrants where a person has never been arrested before because we would not have a photograph on file. These numbers would be much higher if we still pre-screened after hours subjects for admittance into our homeless shelter. This is something that most agencies probably would never deal with, we just did this for a few years after having some violent battery cases occur in one of our shelters when subjects were admitted after hours. We began a program where subjects were required to get a pass from our Records Division for admittance if they were not pre-screened. This led to a lot of arrest, mostly low level alcohol/drug related cases. 3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant? If we were to maintain our current numbers, maybe with a slight increase, I certainly feel this would justify the expense. Automating the process just reduces the likelihood of error and could help improve customer service overall (unless you are one of the people that enters the lobby with a warrant on file). 4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match: Here are some #'s below: -1k ppl per day -50 percent hit rate = 500 people per day (raw detection) -500*1000 = 500,000 match attempts (watch-list size of 1000) -0.0000001*500,000 = ~1 false match per 20 days (FAR of .00001 percent)

Lafayette lobby statistics:
"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.
The population in the county is about 185k people with about 70k in city limits and we have a few that don't follow the law. There's 1350 warrants for just LPD and some of those are multiple for the same person so backing out duplicates there are 1250 people that are wanted just by us."
There is a verification process that officers will undertake before taking anyone into custody on a warrant, so we would view this technology only as lead information and would not arrest based on a "potential match" identified with facial recognition technology solely. I think a true positive rate of 95% is sufficient grounds to initiate a non-consensual stop to investigate further. That might take some vetting in the courts, but I think probably anything above 60 to 70% would be grounds for a Terry Stop. Again, good policy will be need to be in place in advance.
5. Pat, had the below opinion, when discussing the identification and then containment issues. Does everyone agree? Any opinions? Additional Thoughts?
"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission
This is not the same as in a mall or local jurisdiction as the population is going to be local. We would want to arrest all of them, or almost all of them, in an effort to clear out their case. A tiered approach is still applicable, just not as critical."
6. Are there potentially other markets where the tech makes more sense for now? Ed, you thought schools would be more tractable. It's interesting, I think Ed had exactly the opposite opinion of Pat, that police lobbies are good and schools are hard. I think I agree with Pat for now dominate law enforcement and expand to other places.
I have spoken with two of our area school superintendents since we began this conversation. Both are interested in learning more about the potential safety benefits and seem open to a pilot project. So, I guess I am changing my tune a little bit there. Again, I think a lot depends on how this technology is going to be used and that is communicated well in advance. If we start making truancy arrest or disciplining students for things captured by facial recognition that do not amount to priority safety measures it might become problematic.
Thoughts? Comments? Opinions?
Best,
Jacob



From Ed Davis <edavis@eddavisllc.com>
Subject Re: Facial Lobby Comments + Opinions
To Jacob Sniff <jsniff@alumni.princeton.edu>
Date Sun, 29 Apr 2018 07:41:26 -0400

Well done finding this opportunity Jacob. If you need assistance with the state or schools, please let me know.

Sent from my iPhone

On Apr 28, 2018, at 9:12 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Guys, seems at least Wisconsin schools maybe a good initial market:

MADISON - Wisconsin Attorney General Brad Schimel said the state will use **\$30 million in grants** to ensure that by fall all Wisconsin schools are using a single secure entrance and other basic safeguards.

https://www.jsonline.com/story/news/politics/2018/04/25/wisconsin-spend-30-million-secure-entrances-all-state-schools-september-attorney-gschools-using-secu/549718002/

"The first category of grants will focus on basic safety steps such as making sure all classroom doors have locks and school entrances have glass that can resist shattering after being shot.

Schimel said he wanted schools to have **one locked entrance monitored by staff** rather than multiple entryways through which outsiders could come and go at will. Schools could also seek grants for alarms that would sound when someone from inside the school propped open an emergency exit."

On Wed, Apr 18, 2018 at 7:20 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

These are all good thoughts. Thank you Ed and everyone. I want to move forward. However, I do think, after Ed's comments, we should discuss this in more detail. I think we should iron out Ed's comment: "I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable".

1. For example, I was just reading about this person in Tennessee today and they had their own political attack it seems in that state going after schools and other places:

http://www.guns.com/2018/04/18/tennessee-veteran-sues-state-to-share-facial-recognition-software-without-a-license/

Apparently, he has similar ideas as us and apparently the alert mechanism, requires him to obtain an onerous license, which could take 5 years to obtain:

"when it ordered he obtain a license to install alarm systems before donating his software to a local synagogue.

"While the board itself allegedly copped to the software's security potential, officials said Jackson's product inhabits a "gray area" within the industry and told him to obtain proper licensing before distributing it — anywhere. The process, however, could require Jackson spend five years installing security alarms as an apprentice.

2. FB for example has a class action law-suit in the news just yesterday for photo-identification:

https://techcrunch.com/2018/04/16/judge-says-class-action-suit-against-facebook-over-facial-recognition-can-go-forward/

I wonder if we'll ever face similar issues as 1 or 2 above). The timing couldn't be better for us to give this a go.

Jacob

On Sat, Apr 14, 2018 at 9:49 AM, Ed Davis <<u>edavis@eddavisllc.com</u>> wrote: Good morning Gentlemen,

It is great to meet you and to be a part of this fascinating discussion. My apologies for getting back to you so late. My week was crazy and for a thoughtful response I had to wait until Saturday to secure the necessary time.

Fist, I agree that this technology is vital and is the future of law enforcement. I also know that if I tried to implement this system in Boston I would be run out of town by the liberal activists and privacy zealots, to say nothing of the Boston Globe and their advocacy for undocumented imigrants. However, and thankfully, each community is different. I think that each police chief needs to make the call for their community. I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable. For you Jacob, the key is to ensure you are comfortable in each installation, as a focused political attack is a potential existential threat to your new business.

This technology needs a real life experiment and Jacob is lucky to have two police leaders who are interested in working with him. Good data from a successful deployment will establish a base line for purchasing decisions. The proposal to use police lobbies against the warrant database will clearly get you the most data in the fastest time. The devil is in a defensible outcome from the positive identifications. For instance, many arrests for low level violations of the law could be viewed poorly by the public. However, if arrests were focused only on felony offenses or sex offenders, no one could credibly protest. The key is to do this experiment with as little controversy as possible.

When I think about options for deployment and, after Parkland, that the nation is clamoring for a method to secure schools, this is an attractive option. Other potential locations are national sporting events, some federal facilities, the federal reserve system and others.

I hope this lengthy response establishes my point and is helpful to the big picture.

Sincerely, Ed

On Fri, Apr 13, 2018 at 5:44 PM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: | Guys,

One other related item I thought of.

I went to a presentation in DC last month and I heard surprisingly that only '18% of tdsb (Terrorist Screening Database) has at least one biometric', with facial being the large portion by far.

Pat, do you have a set of people on file with warrants that you don't have a matching photo of them? Maybe our service could also include this---we find a photo of anyone who doesn't have one on file, by searching the web or elsewhere. And also some age progression of current people on file, so it's not outdated ever.

Apparently for most people on the national watchlist, we don't even have a photo of them.

Best, Jacob

On Fri, Apr 13, 2018 at 4:18 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob,

Most of those are warrant arrests. I do not think the False Positive is a big problem at this point.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, April 13, 2018 7:19 AM

To: Patrick J. Flannelly; Ed Davis; Michael Botieri **Subject:** Re: Facial Lobby Comments + Opinions

Pat,

That is really good info. Few follow-ups for everyone:

i.) So right now, you arrest 4 to 8 people a month in your lobby. Are they just arrested normally by the officer; with handcuffs? Wow, I would never have guessed it would have been so high. Is it mostly low level stuff now? Person arrested and then freed? Are they verbally charged and then handcuffed?
ii.) We'll definitely be way higher than 60 to 70 percent, so no worries there. With a true positive of 95%+ at these volumes, mainly wondering if the false positive is fine and if missing people so of the time is ok. Again I think the #'s are pretty good here. I false positive every couple of week or once a month of course maybe higher than the status quo. The good thing is all they'll have to do is visually look at the match with the video feed snippet; and then decide whether to take action. So FP is pretty harmless I think.
Chief Botieri what do you think about everything?
Jacob
On Thu, Apr 12, 2018 at 3:01 PM, Patrick J. Flannelly < pjflannelly@lafayette.in.gov> wrote:
Jacob,
A few quick responses in red below.
Patrick J. Flannelly
Chief of Police
Lafayette Police Department
20 N. 6 th St.
Lafayette, IN 47901
(765) 807-1210 (Office)
(765) 479-4445 (Mobile)
pjflannelly@lafayette.in.gov
www.lafayettepolice.us
From: jsniff12@gmail.com <jsniff12@gmail.com> On Behalf Of Jacob Sniff Sent: Wednesday, April 11, 2018 12:23 PM To: Ed Davis <<u>edavis@eddavisllc.com</u>>; Michael Botieri <<u>chiefbotieri@plymouthpolice.com</u>>; Patrick J. Flannelly <<u>piflannelly@lafayette.in.gov</u>></jsniff12@gmail.com>
Subject: Facial Lobby Comments + Opinions
Ed Davis/Chief Mike Botieri, and Chief Pat Flannely,
I've been discussing multiple uses of facial rec. with each of you. Ed, Pat is the Chief from Lafayette I mentioned. Mike, is the one from Plymouth in MA. Mike/Pat, I don't think you know each other either, but I believe I mentioned both of you to the other in past discussions; take this as the introduction:)

Right now, it seems the most interesting use case is facial rec. alerts from lobby cameras. I wanted to write a note, to solicit some comments and opinions on a few matters related to this:

1. To define what we mean, we are planning to move forward with the facial scanning in lobbies. More or less, the facial application will integrate and use existing cameras to scan everyone's face who enters a lobby, and compare to a local list of people that have open warrants (usually 5-10% of any town). It will have different categories of warrants and the officers will take different actions, based on the different categories. We will send any visual alerts back to the dispatchers/officers in the lobby to review and decide whether to take action on. 2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up. I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense: "Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the PD. This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them. "Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI. In speaking with our Chief Records Technician, she estimates that we, on average, will make 4 to 8 arrest per month in our lobby. These arrests include those that are coming to turn themselves in, but of these numbers, most of them are just unaware that they have a warrant. She estimates that we would probably double this number using facial recognition, but that might be a bit high in my opinion. These warrants would not traffic warrants where a person has never been arrested before because we would not have a photograph on file. These numbers would be much higher if we still pre-screened after hours subjects for admittance into our homeless shelter. This is something that most agencies probably would never deal with, we just did this for a few years after having some violent battery cases occur in one of our shelters when subjects were admitted after hours. We began a program where subjects were required to get a pass from our Records Division for admittance if they were not pre-screened. This led to a lot of arrest, mostly low level alcohol/drug related cases. 3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant? If we were to maintain our current numbers, maybe with a slight increase, I certainly feel this would justify the expense. Automating the process just reduces the likelihood of error and could help improve customer service overall (unless you are one of the people that enters the lobby with a warrant on file). 4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:

Here are some #'s below:
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Lafayette lobby statistics:
"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.
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"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission.
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I have spoken with two of our area school superintendents since we began this conversation. Both are interested in learning more about the potential safety benefits and seem open to a pilot project. So, I guess I am changing my tune a little bit there. Again, I think a lot depends on how this technology is going to be used and that is communicated well in advance. If we start making truancy arrest or disciplining students for things captured by facial recognition that do not amount to priority safety measures it might become problematic.

Thoughts? Comments? Opinions?

Best,

Jacob

--

Edward F. Davis CEO, Edward Davis, LLC (617) 594-3650 www.eddavisllc.com



From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 1 May 2018 12:06:52 -0400

Chief, does sometime next week work?

Jacob

On Wed, Apr 18, 2018 at 5:02 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief,

I'm international next week.

Do you have time to meet week after next? If not, the week after?

Hope all is well!

Jacob

On Wed, Apr 11, 2018 at 11:47 AM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

At least a few times a year.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

 $\textbf{From: } \underline{jsniff12@gmail.com} \text{ } [\text{mailto:} \underline{jsniff12@gmail.com}] \textbf{ On Behalf Of } \text{Jacob Sniff} \\$

Sent: Wednesday, April 11, 2018 7:19 AM

To: Michael Botieri

Subject: Re: Initial Search Follow Up Note

how often? few times per year?

On Wed, Apr 11, 2018 at 7:13 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Look at videos and maybe be the officers or detectives recognize the guy.

On Apr 11, 2018, at 7:01 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Mike, thank you. How often? What do u do now to appease the calls? Not much you can do?

Jacob

On Wednesday, April 11, 2018, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

Jacob,

We definitely get these type of calls. I'm headed in now. I'll talk with the guys and get back to you with a date.

Thanks

Mike

Keep up the great work.

On Apr 10, 2018, at 6:45 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Chief, check this out. Do you think your department could collaborate on below cases? Would it make sense for a hospital to call you ever?

https://americansecuritytoday.com/nypd-wants-licenses-facial-recognition-learn-multi-video/

"Besides the obvious benefit of identifying suspects in active investigations, this could:

Assist lost dementia patients.

· Such a system could identify lost adults with cognitive disorders like Alzheimer's, who might not know who they

are or where they came from.

One example: Wall Street Journal points out that this would have been useful in the case of a Staten Island

woman with Alzheimer's who police found in 2014, and who could only be identified thanks to a minor traffic

violation.

Identify the unidentified in hospitals.

Facial recognition could help hospitals put names to unconscious patients who come in without ID, as well as

John/Jane Doe cases.

· Connecting these individuals with their families could save them a lot of agony in wondering what happened/is

happening to loved ones.

On Tue, Dec 12, 2017 at 12:20 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Will do – Hope all is well with too.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 12:18 PM

To: Michael Botieri **Cc:** Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief let's meet soon! Hope all is well.

On Tue, Dec 12, 2017 at 12:09 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

That sounds like it would be a great value for the evidence room.

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 11:44 AM

To: Michael Botieri Cc: Ryan Ruggiero Subject: Re: Initial Search Follow Up Note

Chief, I just talked to one contact I made at IACP, who is a chief in Indiana. he said that for them, it would be a huge value to just have a log of the people coming and going from the evidence room. Right now, there's no real log (don't have someone's face logged upon entry and exit); it really just takes one bad apple to mess everything up and cause a bunch of cases to be dismissed when evidence is tampered with; they could be allowing others in upon entry as well. Apparently they're audited in someway by NCIS yearly and this would help that audit. Relatedly, it seems if people are in the agency and don't have some CJIS background check, it's of value to him to know that everyone who entered, has had this done. He also wants cameras inside the facility and outside to be running facial continually. Maybe change can come Mont! I've been thinking about giving it a push next year.

Here's a google docs with some evidence room notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing

I will add more and organize a bit more later on.

On Thu, Nov 30, 2017 at 7:36 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Can you guys view google docs ok if I share it with your email addresses?

On Wed, Nov 29, 2017 at 4:21 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

I'll check it out Jacob

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, November 29, 2017 12:44 PM

To: Michael Botieri; Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Also related in news past couple days on search:

i.) Seems Amazon is in game. I think our service could be better still and I'm sure similar price:

http://www.nextgov.com/cio-briefing/2017/11/how-one-law-enforcement-agency-using-facial-recognition-identify-suspects/142816/

ii.)

http://www.11 a live.com/article/news/local/is-it-mariah-fbi-asking-for-help-identifying-woman-child-in-photos/85-495407961

I did also compile a large list of notes/thoughts on facial access management for evidence rooms over holidays. Can you guys view google docs ok if I share it with your email addresses?

On Wed, Nov 22, 2017 at 1:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Thanks Jacob. Have a great Thanksgiving.

On Nov 22, 2017, at 12:56 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Guys, I do plan to send a facial access management note in regards to evidence rooms over holidays; I've been thinking about it.
Have a good holiday!
Best,
Jacob
On Sun, Nov 19, 2017 at 8:12 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
Chief,
I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the chain:
1. As the recent press and research articles below show, I do think that with a decent database to match from, a least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones).
2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No agencies around the area take advantage of it right now? Why are Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a decent database that we can go off from.
Things to look at:
i.) Recent Press Other Tools:
http://www.illinoishomepage.net/news/local-news/facial-recognition-solves-crime-cases/859552732

He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug

shots. He says it's as easy pie...P.I.E.

It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.

ii.) Crime Analysis Unit

https://www.usnews.com/news/best-states/florida/articles/2017-05-28/florida-case-is-poster-child-for-facial-recognition-tech

A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.

iii.) National Database + Facial Rec.

Some of the longest-running and largest systems are found at the state and local level. The Pinellas County Sheriff's Office in Florida, for example, began implementing its current system in 2001.61 Over 5,300 officials from 242 federal, state, and local agencies have access to the system.62 In Pennsylvania, officials from over 500 agencies already use the state's face recognition system, which is open to all 1,020 law enforcement agencies in the state.63

JNET Facial Recognition System (JFRS) uses DataWorks Plus' FACE Plus product, a web-based solution that provides accurate, reliable identification, and which incorporates NEC's NeoFaceTM facial recognition matching software technology to process and compare images. The system serves more than 800 contributing law enforcement and other state offices in Pennsylvania and includes more than 250 capture locations, more than 2.5 million arrest records, and 38,000 web retrieval users sharing data records and mug shot images across the state's WAN.

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JFRS provides a host of imaging tools that allow photographs to be cropped, rotated or manipulated to assist with comparison. Furthermore, JFRS employs two unique search algorithm technologies. Photographs submitted into JFRS by investigators are automatically analyzed by both search algorithms, ensuring that law enforcement benefits from multiple technologies. With JFRS deployed on JNET, the system can be made available to any law enforcement agency in Pennsylvania. Law enforcement professionals from more than 500 agencies have completed training and have access to JFRS.

iv.) Research Articles:

http://www.wired.co.uk/article/facial-recognition-systems-can-identify-you-even-if-your-face-is-blurred

https://www.wired.com/2016/09/machine-learning-can-identify-pixelated-faces-researchers-show/

"The researchers said only 10 fully-visible examples of a person's face were needed to identify a blurred image with 91.5 per cent accuracy. With an average of just 1.25 tagged images, the system could still correctly identify an individual 56.8 per cent of the time, which is 73 times higher than chance would allow.

It fared worse in "across event" measurements - those in which the lighting, clothing and context had changed - but still performed at 17 times the rate of chance, identifying people in 31.9 per cent of obscured images.

The researchers also tested different obfuscation methods to see if there was variance in the identification performance. By attempting to recognise non-tagged Gaussian blurs, white boxes and black box images they found that the best method for staying anonymous is to post all your pictures to Facebook with a black box over your face and shoulders. The next safest would be blocking it out with a white box, then a Gaussian blur."

Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu>

Subject Re: Initial Search Follow Up Note

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 7 May 2018 08:37:48 -0400

Chief, this week doesn't work?

Jacob

On Tue, May 1, 2018 at 12:06 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief, does sometime next week work?

Jacob

On Wed, Apr 18, 2018 at 5:02 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief,

I'm international next week.

Do you have time to meet week after next? If not, the week after?

Hope all is well!

Jacob

On Wed, Apr 11, 2018 at 11:47 AM, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

At least a few times a year.

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, April 11, 2018 7:19 AM

To: Michael Botieri

Subject: Re: Initial Search Follow Up Note

how often? few times per year?

On Wed, Apr 11, 2018 at 7:13 AM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

Look at videos and maybe be the officers or detectives recognize the guy.

On Apr 11, 2018, at 7:01 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Mike, thank you. How often? What do u do now to appease the calls? Not much you can do?

Jacob

On Wednesday, April 11, 2018, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob,

We definitely get these type of calls. I'm headed in now. I'll talk with the guys and get back to you with a date.

Thanks

Mike

Keep up the great work.

On Apr 10, 2018, at 6:45 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

Chief, check this out. Do you think your department could collaborate on below cases? Would it make sense for a hospital to call you ever?

https://americansecuritytoday.com/nypd-wants-licenses-facial-recognition-learn-multi-video/

"Besides the obvious benefit of identifying suspects in active investigations, this could:

Assist lost dementia patients.

- · Such a system could identify lost adults with cognitive disorders like Alzheimer's, who might not know who they are or where they came from.
- · One example: *Wall Street Journal* points out that this would have been useful in the case of a Staten Island woman with Alzheimer's who police found in 2014, and who could only be identified thanks to a minor traffic violation.

Identify the unidentified in hospitals.

- · Facial recognition could help hospitals put names to unconscious patients who come in without ID, as well as John/Jane Doe cases.
- · Connecting these individuals with their families could save them a lot of agony in wondering what happened/is happening to loved ones.

On Tue, Dec 12, 2017 at 12:20 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Will do - Hope all is well with too.

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 12:18 PM

To: Michael Botieri Cc: Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief let's meet soon! Hope all is well.

On Tue, Dec 12, 2017 at 12:09 PM, Michael Botieri chiefbotieri@plymouthpolice.com wrote:

That sounds like it would be a great value for the evidence room.

Mike

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Tuesday, December 12, 2017 11:44 AM

To: Michael Botieri **Cc:** Ryan Ruggiero

Subject: Re: Initial Search Follow Up Note

Chief, I just talked to one contact I made at IACP, who is a chief in Indiana. he said that for them, it would be a huge value to just have a log of the people coming and going from the evidence room. Right now, there's no real log (don't have someone's face logged upon entry and exit); it really just takes one bad apple to mess everything up and cause a bunch of cases to be dismissed when evidence is tampered with; they could be allowing others in upon entry as well. Apparently they're audited in someway by NCIS yearly and this would help that audit. Relatedly, it seems if people are in the agency and don't have some CJIS background check, it's of value to him to know that everyone who entered, has had this done. He also wants cameras inside the facility and outside to be running facial continually. Maybe change can come Mont! I've been thinking about giving it a push next year.

Here's a google docs with some evidence room notes:

https://docs.google.com/document/d/1t4cN21wDNkfNjkE3Di8462WxpQCR3elNwWPjFZWzkvM/edit?usp=sharing

I will add more and organize a bit more later on.

On Thu, Nov 30, 2017 at 7:36 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Can you guys view google docs ok if I share it with your email addresses?

On Wed, Nov 29, 2017 at 4:21 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

I'll check it out Jacob

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Wednesday, November 29, 2017 12:44 PM

To: Michael Botieri; Ryan Ruggiero **Subject:** Re: Initial Search Follow Up Note

Also related in news past couple days on search:

i.) Seems Amazon is in game. I think our service could be better still and I'm sure similar price:

http://www.nextgov.com/cio-briefing/2017/11/how-one-law-enforcement-agency-using-facial-recognition-identify-suspects/142816/

ii.)

http://www.11alive.com/article/news/local/is-it-mariah-fbi-asking-for-help-identifying-woman-child-in-photos/85-495407961

I did also compile a large list of notes/thoughts on facial access management for evidence rooms over holidays. Can you guys view google docs ok if I share it with your email addresses?

Thanks Jacob. Have a great Thanksgiving.
On Nov 22, 2017, at 12:56 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:</jsniff@alumni.princeton.edu>
Guys, I do plan to send a facial access management note in regards to evidence rooms over holidays; I've been thinking about it.
Have a good holiday!
Best,
Jacob
On Sun, Nov 19, 2017 at 8:12 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief,
I thought about the search for a-while this weekend, as I looked at the images from Wal-Mart, etc. and read some notes I took over past year. Skim the notes below. Few initial things and pls add the detective we met to the chain:
1. As the recent press and research articles below show, I do think that with a decent database to match from, at least 30% of the time, the facial technology should work well enough from the poor image quality. I'm wondering if you have thoughts on if this is enough to be successful? I guess I would think that would be very helpful, but obviously this means, more than half the time it may not be. You mentioned you guys would be interested weekly, some for immediate identification, some more lax (like shoplifting ones).
2. I don't think our facial engine is currently optimized for the blurry images you gave me, but we could optimize it within a few months for sure.
3. Have you heard of any of the tools listed below? So there's nothing in MA at all at crime labs or at any agencies or nothing like JNET in Philadelphia? Boston PD itself has nothing?
4. Could we reasonably again access to MA RMV databases or other similar databases in MA? I know we discussed this at meeting and the consensus was yes. I guess I'm wondering how long would this take? No agencies around the area take advantage of it right now? Why are Illinois and Pennsylvania different? It's obviously going to have to be a combination of really good tech (which we should be there soon) and also a decent database that we can go off from.
Things to look at:
i.) Recent Press Other Tools:

On Wed, Nov 22, 2017 at 1:56 PM, Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

He ran Jennifer's pictures through their arrest files which have 58,000 mug shots from Macon County. And even with a blurry image, the computer was able to match her fake surveillance picture to my pretend mug shots. He says it's as easy pie...P.I.E.

It's a lead and a starting point to build their case. When they have a decent image to go off of, German says 30% of cases are solved through this technology.

ii.) Crime Analysis Unit

https://www.usnews.com/news/best-states/florida/articles/2017-05-28/florida-case-is-poster-child-for-facial-recognition-tech

A couple of weeks later when they decided to pursue the case, all they had was the address where the transaction took place and the nickname Lynch had given them, "Midnight." They sent a photo to the Sheriff's Office Crime Analysis Unit, and the unit sent back Lynch as a potential match.

iii.) National Database + Facial Rec.

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Jacob



From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Suspect Technologies Initial Proposal

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Tue, 15 May 2018 17:11:23 -0400

Chief Botieri,

We're excited to work with you.

I've attached our initial proposal for consideration.

As we work toward deployment, we do need to figure out remote login access if we move forward with on-prem. We will also def. need reliable internet for the system for the pilot + initial stages.

Can you discuss this proposal sometime later this week or next? You and Lafayette have a similar proposal and we are hoping we can launch with you guys both ASAP. :)

Best Regards, Jacob From Jacob Sniff <isniff@alumni.princeton.edu>
Subject Re: Suspect Technologies Initial Proposal
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Mon, 21 May 2018 16:45:30 -0400

Chief,

You have a chance to do a first review?

Can we chat on phone sometime briefly later this week? What works well for you?

Best, Jacob

On Tue, May 15, 2018 at 5:11 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

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Best Regards, Jacob From Jacob Sniff <isniff@alumni.princeton.edu>
Subject Re: Suspect Technologies Initial Proposal
To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Sun, 27 May 2018 02:17:43 -0400

Chief,

Can we possibly chat on phone this week? Hope to launch with you guys this summer!

Best, Jacob

On Mon, May 21, 2018 at 4:45 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

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Best Regards, Jacob

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Suspect Technologies Initial Proposal To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Mon, 28 May 2018 19:16:06 -0400

guys both ASAP. :)

Great. Looking forward!
On Mon, May 28, 2018 at 2:06 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:</chiefbotieri@plymouthpolice.com>
Jacob – I will definitely give you a call – I was out at training all last week.
Mike
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff
Sent: Monday, May 21, 2018 4:46 PM To: Michael Botieri
Cc: Ryan Ruggiero; Antonio Gomes Subject: Re: Suspect Technologies Initial Proposal
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Best Regards,

Jacob

From Jacob Sniff <isniff@alumni.princeton.edu>
Subject Re: Suspect Technologies Initial Proposal
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Fri, 1 Jun 2018 16:12:07 -0400

On Tue, May 15, 2018 at 5:11 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief Botieri,

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Best Regards, Jacob From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Suspect Technologies Initial Proposal
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Fri, 1 Jun 2018 16:20:34 -0400

try now? this work?

On Fri, Jun 1, 2018 at 4:18 PM, Michael Botieri chiefbotieri@plymouthpolice.com> wrote:

No attachment
Chief Michael E. Botieri
Plymouth Police Department
20 Long Pond Road
Plymouth, MA 02360
508-830-4218 X 226
chiefbotieri@plymouthpolice.com
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Jacob

From Jacob Sniff <isniff@alumni.princeton.edu> Subject Re: Suspect Technologies Initial Proposal To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Thu, 7 Jun 2018 14:55:47 -0400

Chief, you look at this, at all? Any thoughts?

Jacob

On Fri, Jun 1, 2018 at 4:39 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Got it - thanks

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Suspect Technologies Initial Proposal To Michael Botieri <chiefbotieri@plymouthpolice.com> Date Mon, 11 Jun 2018 15:16:49 -0400

Chief, that's great. So if we moved forward, all you would have to do is put it in the yearly budget? Is that correct? Or would we have more hurdles than that?

Jacob

On Mon, Jun 11, 2018 at 12:53 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob – I think it seems very fair – I just don't have the money budgeted for it.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

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508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Thursday, June 07, 2018 2:56 PM

To: Michael Botieri

Subject: Re: Suspect Technologies Initial Proposal

Chief, you look at this, at all? Any thoughts?

Jacob

On Fri, Jun 1, 2018 at 4:39 PM, Michael Botieri < chiefbotieri@plymouthpolice.com > wrote:

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Subject Re: Suspect Technologies Initial Proposal
To Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Mon, 11 Jun 2018 21:15:15 -0400

Chief, that sounds good. I want to get rolling on some proof of concepts in the mean-time.

You talk to Ryan or Antonio at all? Any updates?

On Mon, Jun 11, 2018 at 5:03 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

I wouldn't be able to get it in the upcoming FY19 budget. I would be requesting for next July 1st, 2019

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508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, June 11, 2018 3:17 PM

To: Michael Botieri

Subject: Re: Suspect Technologies Initial Proposal

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508-830-4218 X 226
chiefbotieri@plymouthpolice.com
From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff Sent: Friday, June 01, 2018 4:12 PM To: Michael Botieri Subject: Re: Suspect Technologies Initial Proposal
On Tue, May 15, 2018 at 5:11 PM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Chief Botieri,
We're excited to work with you.
I've attached our initial proposal for consideration.
As we work toward deployment, we do need to figure out remote login access if we move forward with on-prem. We will also def. need reliable internet for the system for the pilot + initial stages.

Can you discuss this proposal sometime later this week or next? You and Lafayette have a similar proposal and we are hoping we can launch with you guys both ASAP. :)
Best Regards,
Jacob

Subject Fwd: Sex Offenders, Those With Warrants Not Welcome at Hurricane Shelters

To Michael Botieri <chiefbotieri@plymouthpolice.com>

Date Mon, 18 Jun 2018 15:25:55 -0400

Chief here's the Irma chain; start from the top and let me know if anything doesn't make sense.

----- Forwarded message -----

From: Jacob Sniff < jsniff@alumni.princeton.edu>

Date: Sun, Jun 17, 2018 at 11:07 AM

Subject: Re: Sex Offenders, Those With Warrants Not Welcome at Hurricane Shelters

To: "Patrick J. Flannelly" pjflannelly@lafayette.in.gov

Cc: jacob@suspecttech.com

Seems NAACP was also chiming in:

https://www.usatoday.com/story/news/2017/09/08/fla-naacp-asks-officials-workers-not-check-warrants-hurricane-shelters/648205001/

Also check out this stern response:

https://www.thedailybeast.com/florida-sheriff-warns-fugitives-theyll-be-jailed-if-they-seek-shelter

""While we are checking, if we see someone with an active warrant we have to place them under arrest," she added. **She didn't seem persuaded by the criticism that this would discourage people from showing up in the first place.** "That is a risk a person would run," Horstman said. "I think it is much safer to be in our jail than to expose yourself to a Category 5 storm. You are using the phrase, 'people who are scared to go to jail.' If you have a warrant, legally you should be in jail. You should turn yourself in and be safe in our jail rather than risk your life waiting out a storm."

It does seem that some inmates had a bad experience in Katrina though:

https://kdvr.com/2017/09/07/florida-sheriff-those-with-active-warrants-seeking-shelter-from-hurricane-irma-will-go-to-jail/

"According to Human Rights Watch, 600 inmates in the Orleans Parish Prison compound were trapped in chest-deep water for four days before they were rescued from the flooded city."

Pat, maybe we could deploy the tech at homeless shelters for quick check? Seems everyone form DeBlasio and NYPD and Massachusetts are dealing with this. I wonder how homeless shelters check identities to begin with; I imagine most don't have id's. Do people fingerprint now? Could facial be quicker and more effective?

1. http://www.nydailynews.com/new-york/sharp-increase-risk-posing-sex-offenders-living-ny-shelters-article-1.3496587

The number of registered sex offenders in homeless shelters for families has doubled in the last three years despite the city's promise to end these potentially dangerous placements, a report released Thursday charged.

On Sun, Jun 17, 2018 at 10:54 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Sheriff Judd says he stands by his statements. "If you show up at a shelter, we're going to shelter you safely, but it's going to be in the county jail because we have a legal obligation to execute the warrant," Sheriff Judd told FOX 13.

The sheriff says that his tweets give all offenders fair warning, four or five days in advance, so those with warrants still have time to take care of their infractions and then go to a shelter if they choose to, or make other arrangements.

Sexual predators and offenders, however, are never welcome at shelters, he said, and which is something they are told when they are placed on the sex offender registry.

On Sun, Jun 17, 2018 at 10:45 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Pat.

What would Ed Davis think of this?

http://insider.foxnews.com/2017/09/07/hurricane-irma-florida-sheriff-grady-judd-no-sex-offenders-active-warrants-shelters

Seems the sheriff during Hurricane Irma wouldn't allow sexual offenders and others with warrants to go to shelters.

Relatedly, I wonder if facial rec could have been more efficient processing for him when checking ID's at the shelters generally and looking for those with open warrants.

Also, look at the ACLU response at 2:35 and see the sheriff's response.

Subject Meet End of Next Week?

To Antonio Gomes ttgomes@plymouthpolice.com, Michael Botieri chiefbotieri@plymouthpolice.com

Date Thu, 19 Jul 2018 14:58:14 -0400

Hey Guys,

You guys both around thurs or fri. next week? What works?

Best Regards, Jacob From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Meet End of Next Week?

To Antonio Gomes < ltgomes@plymouthpolice.com>

Date Thu, 19 Jul 2018 16:07:18 -0400

ok thank you!

Jacob

On Thu, Jul 19, 2018 at 3:23 PM, Antonio Gomes ltgomes@plymouthpolice.com wrote:

Wait for Chief. Today is wake for Weymouth Officer and tomorrow is the funeral

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff
Sent: Thursday, July 19, 2018 2:58 PM
To: Antonio Gomes; Michael Botieri
Subject: Meet End of Next Week?

Hey Guys,

You guys both around thurs or fri. next week? What works?

Best Regards,

Subject Re: Meet End of Next Week?

To Antonio Gomes stigones@plymouthpolice.com, Michael Botieri stigones@plymouthpolice.com,

Date Wed, 25 Jul 2018 14:44:28 -0400

Chief/Antonio,

You guys want to try connecting in person next week?

Best Regards, Jacob

On Thu, Jul 19, 2018 at 2:58 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Hev Guvs.

You guys both around thurs or fri. next week? What works?

Best Regards,

Subject coplink

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

Date Thu, 9 Aug 2018 11:58:03 -0400

How does it look guys?

Subject Re: coplink

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

Date Tue, 21 Aug 2018 09:25:10 -0400

Chief, any update?

Best, Jacob

On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: How does it look guys?

Subject Re: coplink

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>

Date Fri, 24 Aug 2018 08:14:30 -0400

Guys, good news? Bad news?

Jacob

On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: Chief, any update?

Best, Jacob

On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: How does it look guys?

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: coplink
To Ryan Ruggiero <Ruggiero@plymouthpolice.com>
Date Fri, 24 Aug 2018 11:02:04 -0400

ok grt!

Jacob

On Fri, Aug 24, 2018 at 10:27 AM, Ryan Ruggiero Ruggiero@plymouthpolice.com wrote:

We reached out to the Fusion center and the Captain we need to speak with is on vacation. Hopefully we will hear back next week.

On Aug 24, 2018, at 8:15 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Guys, good news? Bad news?

Jacob

On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief, any update?

Best,
Jacob

On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

How does it look guys?

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: coplink

To Ryan Ruggiero <Ruggiero@plymouthpolice.com>, Michael Botieri <chiefbotieri@plymouthpolice.com>
Date Fri, 31 Aug 2018 09:09:17 -0400

guys any news this week?

On Fri, Aug 24, 2018 at 11:02 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:
ok grt!

On Fri, Aug 24, 2018 at 10:27 AM, Ryan Ruggiero <Ruggiero@plymouthpolice.com> wrote:
We reached out to the Fusion center and the Captain we need to speak with is on vacation. Hopefully we will hear back next week.
On Aug 24, 2018, at 8:15 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:
Guys, good news? Bad news?

Jacob

On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief, any update?

Best, Jacob

On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

How does it look guys?

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: coplink To Ryan Ruggiero <Ruggiero@plymouthpolice.com>, Michael Botieri <chiefbotieri@plymouthpolice.com> Date Mon, 17 Sep 2018 07:24:53 -0400 Ryan hope all is well. Any update over there? You hear back?

Jacob

On Fri, Aug 31, 2018 at 9:09 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: guys any news this week?

On Fri, Aug 24, 2018 at 11:02 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: ok grt!

On Fri, Aug 24, 2018 at 10:27 AM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

We reached out to the Fusion center and the Captain we need to speak with is on vacation. Hopefully we will hear back next week.

On Aug 24, 2018, at 8:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:

Guys, good news? Bad news?

Jacob

On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Chief, any update?

Best, Jacob

On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: How does it look guys?

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: coplink To Ryan Ruggiero <Ruggiero@plymouthpolice.com>, Michael Botieri <chiefbotieri@plymouthpolice.com> Date Mon, 24 Sep 2018 14:29:31 -0400 Ryan, they get back to you? Any news? On Mon, Sep 17, 2018 at 7:24 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Ryan hope all is well. Any update over there? You hear back? Jacob On Fri, Aug 31, 2018 at 9:09 AM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote: guys any news this week? On Fri, Aug 24, 2018 at 11:02 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: ok grt! On Fri, Aug 24, 2018 at 10:27 AM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote: We reached out to the Fusion center and the Captain we need to speak with is on vacation. Hopefully we will hear back next week. On Aug 24, 2018, at 8:15 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Guys, good news? Bad news? Jacob On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Chief, any update? Best, Jacob On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

How does it look guys?

```
To Ryan Ruggiero < Ruggiero@plymouthpolice.com>
                     Date Mon, 24 Sep 2018 14:32:31 -0400
thanks for the update Ryan.
On Mon, Sep 24, 2018 at 2:30 PM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:
  I have not heard back from Coplink. Voicemails and emails have been sent with to response.
  From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff
  Sent: Monday, September 17, 2018 7:25 AM
  To: Ryan Ruggiero < Ruggiero@plymouthpolice.com >; Michael Botieri < chiefbotieri@plymouthpolice.com >
  Subject: Re: coplink
  Ryan hope all is well. Any update over there? You hear back?
  Jacob
  On Fri, Aug 31, 2018 at 9:09 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
    guys any news this week?
    On Fri, Aug 24, 2018 at 11:02 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
      ok grt!
      On Fri, Aug 24, 2018 at 10:27 AM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:
         We reached out to the Fusion center and the Captain we need to speak with is on vacation. Hopefully we will hear back next week.
        On Aug 24, 2018, at 8:15 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
               Guys, good news? Bad news?
               Jacob
               On Tue, Aug 21, 2018 at 9:25 AM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote:
                 Chief, any update?
                 Best,
                 Jacob
                 On Thu, Aug 9, 2018 at 11:58 AM, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:
                   How does it look guys?
                   Jacob
```

Subject Re: coplink



From Jacob Sniff <isniff@alumni.princeton.edu> Subject Re: Facial Lobby Comments + Opinions To Ed Davis <edavis@eddavisllc.com> Date Mon, 1 Oct 2018 15:48:30 -0400

Ed, we are all going to be at IACP; if you are going, maybe we could all meet up sometime there?

Best, Jacob

On Sun, Apr 29, 2018 at 7:41 AM Ed Davis < edavis@eddavisllc.com > wrote:

Well done finding this opportunity Jacob. If you need assistance with the state or schools, please let me know.

Sent from my iPhone

On Apr 28, 2018, at 9:12 PM, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Guys, seems at least Wisconsin schools maybe a good initial market:

MADISON - Wisconsin Attorney General Brad Schimel said the state will use \$30 million in grants to ensure that by fall all Wisconsin schools are using a single secure entrance and other basic safeguards.

https://www.jsonline.com/story/news/politics/2018/04/25/wisconsin-spend-30-million-secure-entrances-all-state-schools-september-attorney-gschools-using-secu/549718002/

"The first category of grants will focus on basic safety steps such as making sure all classroom doors have locks and school entrances have glass that can resist shattering after being shot.

Schimel said he wanted schools to have **one locked entrance monitored by staff** rather than multiple entryways through which outsiders could come and go at will. Schools could also seek grants for alarms that would sound when someone from inside the school propped open an emergency exit."

On Wed, Apr 18, 2018 at 7:20 PM, Jacob Sniff < isniff@alumni.princeton.edu > wrote:

These are all good thoughts. Thank you Ed and everyone. I want to move forward. However, I do think, after Ed's comments, we should discuss this in more detail. I think we should iron out Ed's comment: "I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable".

1. For example, I was just reading about this person in Tennessee today and they had their own political attack it seems in that state going after schools and other places:

http://www.guns.com/2018/04/18/tennessee-veteran-sues-state-to-share-facial-recognition-software-without-a-license/

Apparently, he has similar ideas as us and apparently the alert mechanism, requires him to obtain an onerous license, which could take 5 years to obtain:

"when it ordered he obtain a license to install alarm systems before donating his software to a local synagogue.

"While the board itself allegedly copped to the software's security potential, officials said Jackson's product inhabits a "gray area" within the industry and told him to obtain proper licensing before distributing it — anywhere. The process, however, could require Jackson spend five years installing security alarms as an apprentice.

2. FB for example has a class action law-suit in the news just yesterday for photo-identification:

https://techcrunch.com/2018/04/16/judge-says-class-action-suit-against-facebook-over-facial-recognition-can-go-forward/linear-go-forward

I wonder if we'll ever face similar issues as 1 or 2 above). The timing couldn't be better for us to give this a go.

On Sat, Apr 14, 2018 at 9:49 AM, Ed Davis <<u>edavis@eddavisllc.com</u>> wrote: Good morning Gentlemen,

It is great to meet you and to be a part of this fascinating discussion. My apologies for getting back to you so late. My week was crazy and for a thoughtful response I had to wait until Saturday to secure the necessary time.

Fist, I agree that this technology is vital and is the future of law enforcement. I also know that if I tried to implement this system in Boston I would be run out of town by the liberal activists and privacy zealots, to say nothing of the Boston Globe and their advocacy for undocumented imigrants. However, and thankfully, each community is different. I think that each police chief needs to make the call for their community. I am a community policing advocate, so I believe that this type of screening, in a place that we want everyone to feel free to access for help is not advisable. For you Jacob, the key is to ensure you are comfortable in each installation, as a focused political attack is a potential existential threat to your new business.

This technology needs a real life experiment and Jacob is lucky to have two police leaders who are interested in working with him. Good data from a successful deployment will establish a base line for purchasing decisions. The proposal to use police lobbies against the warrant database will clearly get you the most data in the fastest time. The devil is in a defensible outcome from the positive identifications. For instance, many arrests for low level violations of the law could be viewed poorly by the public. However, if arrests were focused only on felony offenses or sex offenders, no one could credibly protest. The key is to do this experiment with as little controversy as possible.

When I think about options for deployment and, after Parkland, that the nation is clamoring for a method to secure schools, this is an attractive option. Other potential locations are national sporting events, some federal facilities, the federal reserve system and others.

I hope this lengthy response establishes my point and is helpful to the big picture.

Sincerely, Ed

On Fri, Apr 13, 2018 at 5:44 PM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: | Guys,

One other related item I thought of.

I went to a presentation in DC last month and I heard surprisingly that only '18% of tdsb (Terrorist Screening Database) has at least one biometric', with facial being the large portion by far.

Pat, do you have a set of people on file with warrants that you don't have a matching photo of them? Maybe our service could also include this---we find a photo of anyone who doesn't have one on file, by searching the web or elsewhere. And also some age progression of current people on file, so it's not outdated ever.

Apparently for most people on the national watchlist, we don't even have a photo of them.

Best, Jacob

On Fri, Apr 13, 2018 at 4:18 PM, Michael Botieri <chiefbotieri@plymouthpolice.com> wrote:

Jacob

Most of those are warrant arrests. I do not think the False Positive is a big problem at this point.

Mike

Chief Michael E. Botieri

Plymouth Police Department

20 Long Pond Road

Plymouth, MA 02360

508-830-4218 X 226

chiefbotieri@plymouthpolice.com

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Friday, April 13, 2018 7:19 AM

To: Patrick J. Flannelly; Ed Davis; Michael Botieri **Subject:** Re: Facial Lobby Comments + Opinions

That is really good info. Few follow-ups for everyone:
i.) So right now, you arrest 4 to 8 people a month in your lobby. Are they just arrested normally by the officer; with handcuffs? Wow, I would never have guessed it would have been so high. Is it mostly low level stuff now? Person arrested and then freed? Are they verbally charged and then handcuffed?
ii.) We'll definitely be way higher than 60 to 70 percent, so no worries there. With a true positive of 95%+ at these volumes, mainly wondering if the false positive is fine and if missing people so of the time is ok. Again I think the #'s are pretty good here. I false positive every couple of week or once a month of course maybe higher than the status quo. The good thing is all they'll have to do is visually look at the match with the video feed snippet; and then decide whether to take action. So FP is pretty harmless I think.
Chief Botieri what do you think about everything?
Jacob
On Thu, Apr 12, 2018 at 3:01 PM, Patrick J. Flannelly < pjflannelly@lafayette.in.gov> wrote: Jacob,
A few quick responses in red below.
Patrick J. Flannelly
Chief of Police
Lafayette Police Department
20 N. 6 th St.
Lafayette, IN 47901
(765) 807-1210 (Office)
(765) 479-4445 (Mobile)
pjflannelly@lafayette.in.gov
www.lafayettepolice.us
From: jsniff12@gmail.com <jsniff12@gmail.com> On Behalf Of Jacob Sniff Sent: Wednesday, April 11, 2018 12:23 PM To: Ed Davis <edavis@eddavisllc.com>; Michael Botieri <chiefbotieri@plymouthpolice.com>; Patrick J. Flannelly <piflannelly@lafayette.in.gov> Subject: Facial Lobby Comments + Opinions</piflannelly@lafayette.in.gov></chiefbotieri@plymouthpolice.com></edavis@eddavisllc.com></jsniff12@gmail.com>
Ed Davis/Chief Mike Botieri, and Chief Pat Flannely,

I've been discussing multiple uses of facial rec. with each of you. Ed, Pat is the Chief from Lafayette I mentioned. Mike, is the one from Plymouth in MA. Mike/Pat, I don't think you know each other either, but I believe I mentioned both of you to the other in

Pat,

past discussions; take this as the introduction:)
Right now, it seems the most interesting use case is facial rec. alerts from lobby cameras. I wanted to write a note, to solicit some comments and opinions on a few matters related to this:
1. To define what we mean, we are planning to move forward with the facial scanning in lobbies. More or less, the facial application will integrate and use existing cameras to scan everyone's face who enters a lobby, and compare to a local list of people that have open warrants (usually 5-10% of any town). It will have different categories of warrants and the officers will take different actions, based on the different categories. We will send any visual alerts back to the dispatchers/officers in the lobby to review and decide whether to take action on.
2. Ed, you mentioned that if we did the lobby idea in Boston, that they would go absolutely nuts and it would be a privacy disaster. Our discussion last week was that police departments are supposed to be welcoming and this would ultimately deter people from showing up.
I wonder everyone's thoughts. Pat and Mike are very open to it and think it has several benefits for their mid-sized agencies. At Pat's agency, you can see a quote from him below why it makes perfect sense:
"Our officers, as a matter of officer safety, will runs warrant check as one of the first thing they do when speaking with people who come to the PD.
This technology would just automate that process, and in fact, it would likely make it safer because the officer would know who the person is before engaging with them.
"Yes, officers will ask for ID and then use their mobile radio to request a warrant check from dispatch. They may not do this for every person they come into contact with, but as a rule, it will be a majority. This is a common practice. If the names are known in advance of an officer arriving, our dispatchers will run the (local) warrant check in advance of the contact. This is why having facial recognition on Body Camera's is another interesting feature. I would say this is not a matter of "if," but will be a matter of routine protocol automated by AI. "
In speaking with our Chief Records Technician, she estimates that we, on average, will make 4 to 8 arrest per month in our lobby. These arrests include those that are coming to turn themselves in, but of these numbers, most of them are just unaware that they have a warrant. She estimates that we would probably double this number using facial recognition, but that might be a bit high in my opinion. These warrants would not traffic warrants where a person has never been arrested before because we would not have a photograph on file.
These numbers would be much higher if we still pre-screened after hours subjects for admittance into our homeless shelter. This is something that most agencies probably would never deal with, we just did this for a few years after having some violent battery cases occu in one of our shelters when subjects were admitted after hours. We began a program where subjects were required to get a pass from our Records Division for admittance if they were not pre-screened. This led to a lot of arrest, mostly low level alcohol/drug related cases.
3. What does everyone think a minimum success would be? Like 1 suspect per year? That would at least justify it? What are your thoughts? Pat as your offices manually check now, how often have they historically caught someone with a warrant?
If we were to maintain our current numbers, maybe with a slight increase, I certainly feel this would justify the expense. Automating the process just reduces the likelihood of error and could help improve customer service overall (unless you are one of the people that enters the lobby with a warrant on file).
4. There will of course be some false positive and also missed suspects. I wonder what everyone thinks is acceptable. I think our

true positive will be 95% accurate at 1 false positive per month. 98% accurate at 1 false positive a week for below volume. To be clear, what makes the statistics clearly work is we err on the side of caution, i.e. we would rather not generate a match unless we're pretty sure there's a match:
Here are some #'s below:
-1k ppl per day
-50 percent hit rate = 500 people per day (raw detection)
-500*1000 = 500,000 match attempts (watch-list size of 1000)
-0.0000001*500,000 = ~1 false match per 20 days (FAR of .00001 percent)
Lafayette lobby statistics:
"But if you had to just pull a number out it's probably close to a thousand people a day are in the lobby for service. It's also one of the main entrances for employees so you will see maybe 30 of us walking thru and going straight in to the doorway and not interacting with the counter multiple times a day.
The population in the county is about 185k people with about 70k in city limits and we have a few that don't follow the law. There's 1350 warrants for just LPD and some of those are multiple for the same person so backing out duplicates there are 1250 people that are wanted just by us."
There is a verification process that officers will undertake before taking anyone into custody on a warrant, so we would view this technology only as lead information and would not arrest based on a "potential match" identified with facial recognition technology solely. I think a true positive rate of 95% is sufficient grounds to initiate a non-consensual stop to investigate further. That might take some vetting in the courts, but I think probably anything above 60 to 70% would be grounds for a Terry Stop. Again, good policy will be need to be in place in advance.
5. Pat, had the below opinion, when discussing the identification and then containment issues. Does everyone agree? Any opinions? Additional Thoughts?
"Well, I would say identifying the person and then knowing what to do with them are two different issues. The issue with Airports is that many people are just passing through and are nowhere near their originating jurisdiction. It would be very costly for airport police to arrest everyone wanted on a warrant, even if the originating jurisdiction has placed an Extradition hold on them, because they would be responsible for securing and maintaining the person until that happens, which can take up to weeks. Airports would likely just need to focus, in a way in which you have identified, a tiered approach to make a workflow decision in advance of the problem that would allow them to actually accomplish their mission.
This is not the same as in a mall or local jurisdiction as the population is going to be local. We would want to arrest all of them, or almost all of them, in an effort to clear out their case. A tiered approach is still applicable, just not as critical."
6. Are there potentially other markets where the tech makes more sense for now? Ed, you thought schools would be more tractable. It's interesting, I think Ed had exactly the opposite opinion of Pat, that police lobbies are good and schools are hard. I think I agree with Pat for now, dominate law enforcement and expand to other places.

I have spoken with two of our area school superintendents since we began this conversation. Both are interested in learning more about the potential safety benefits and seem open to a pilot project. So, I guess I am changing my tune a little bit there. Again, I think a lot depends on how this technology is going to be used and that is communicated well in advance. If we start making truancy arrest or disciplining students for things captured by facial recognition that do not amount to priority safety measures it might become problematic.

Thoughts? Comments? Opinions?

Best,

Jacob

Edward F. Davis CEO, Edward Davis, LLC (617) 594-3650 www.eddavisllc.com



Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Fri, 5 Oct 2018 07:52:49 -0400

Ryan any news this week?

Also, is this you guys? Saw it in news:

 $\underline{https://www.capecod.com/newscenter/plymouth-agencies-getting-federal-funding-for-opioid-fight/}\\$

Didn't realize you guys were fighting opioid epidemic.

Jacob

On Tue, Sep 25, 2018 at 3:29 PM Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

Jacob,

The Chief wanted me to give you a call. I do not have your number. If you have a second please give me a call.

Ryan

From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 24, 2018 2:33 PM

To: Ryan Ruggiero Ruggiero@plymouthpolice.com

Cc: Michael Botieri chiefbotieri@plymouthpolice.com

Subject: Re: coplink

thanks for the update Ryan.

On Mon, Sep 24, 2018 at 2:30 PM, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

Jacob,

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From: jsniff12@gmail.com [mailto:jsniff12@gmail.com] On Behalf Of Jacob Sniff

Sent: Monday, September 17, 2018 7:25 AM

 $\textbf{To:} \ \ \text{Ryan Ruggiero} \\ \textbf{@plymouthpolice.com} \\ \textbf{>;} \ \ \textbf{Michael Botieri} \\ \textbf{<} \\ \textbf{chiefbotieri} \\ \textbf{@plymouthpolice.com} \\ \textbf{>} \\ \textbf{>}$

Subject: Re: coplink

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Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Fri, 12 Oct 2018 10:57:22 -0400

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Didn't realize you guys were fighting opioid epidemic.

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Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Wed, 17 Oct 2018 14:00:50 -0400

Ryan, just called you. Not urgent. Just wanted to talk about the project.

On Friday, October 12, 2018, Jacob Sniff < jsniff@alumni.princeton.edu> wrote:

Ryan, should we just use your guys's data? Seems like the path we should go down now?

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Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com >

Date Wed, 24 Oct 2018 10:25:19 -0400

Ryan, just called you. Any news?

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Jacob

Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Wed, 31 Oct 2018 12:50:26 -0400

Ryan? How can we help?

On Wed, Oct 24, 2018 at 10:25 AM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: | Ryan, just called you. Any news?

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How does it look guys?
Jacob

Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Thu, 8 Nov 2018 11:23:32 -0500

Ryan, hope all is well. Just called you. Any news? How can we just start with your local database?

On Wed, Oct 31, 2018 at 12:50 PM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: | Ryan? How can we help?

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Subject Re: coplink

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Wed, 28 Nov 2018 11:30:04 -0500

Ryan can we meet sometime next couple weeks? What works for you guys?

On Thursday, November 8, 2018, Jacob Sniff < isniff@alumni.princeton.edu> wrote:

Ryan, hope all is well. Just called you. Any news? How can we just start with your local database?

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Subject Meeting

To Antonio Gomes rigglero@plymouthpolice.com, Michael Botieri chiefbotieri@plymouthpolice.com, Ryan Ruggiero rigglero@plymouthpolice.com, Ryan Rigglero rigglero@plymouthpolice.com, Ryan rigg

Date Mon, 3 Dec 2018 22:08:25 -0500

Hey Guys,

Can we meet sometime next week or week after?

Does either Friday work sometime?

From Jacob Sniff <jsniff@alumni.princeton.edu>
Subject Re: Facial recognition
To Antonio Gomes <ltgomes@plymouthpolice.com>
Date Fri, 7 Dec 2018 14:43:45 -0500

Antonio,

Thank you for your feedback; it seems none of those organizations will be helpful to us now or in near future.

I wanted to update you on our plans:

- i.) We launch one platform that has video conversion, redaction, video tagging, and frame by frame video review by Jan 1st
- ii.) We then add recognition within 30 days historically, assuming there aren't any modifications to the video review platform above

I look forward to working with you guys!

Best Regards, Jacob

On Fri, Dec 7, 2018 at 1:57 PM Antonio Gomes < ltgomes@plymouthpolice.com> wrote:

I spoke with the State Police Fusion Center today in regards to connecting with their facial recognition software. These are the answers to our questions:

- A private vendor is not allowed to access the facial recognition database through the Fusion Center. (It has been requested before).
- · The Fusion Center's software cannot perform the integration of systems.
- The Mass. RMV locks the software down. Jacob would have to go directly to the RMV for permission, however, others have tried that as well without success. Evidently the RMV is very protective of its database.
- · The Fusion Center does not have an RMV source phone number to contact directly.

Det. Lt. Antonio Gomes

Plymouth Police Dept.

20 Long Pond Road

Plymouth, Ma 02360

508-830-4218 x236

508-830-4239 fax

Subject Re: Facial recognition

To Antonio Gomes tgomes@plymouthpolice.com, Michael Botieri chiefbotieri@plymouthpolice.com

Date Thu, 13 Dec 2018 16:38:46 -0500

Guys, look forward to working together. Check out our press release just today:

https://xconomy.com/boston/2018/12/12/mark-cuban-facial-recognition-startup-suspect-technoligies/

On Friday, December 7, 2018, Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Antonio,

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508-830-4239 fax

Subject Re: Facial recognition

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Fri, 14 Dec 2018 12:53:24 -0500

Ok sounds good Ryan.

On Friday, December 14, 2018, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote:

Jacob.

Awesome article. We are in the process of converting all of our Station cameras to digital IP cameras. The should take a month or so.

This should give us some data we can work with. Let me figure out the camera schedule and we can have you out for a meeting to take a look.

Thanks,

Ryan

From: Michael Botieri

Sent: Friday, December 14, 2018 7:42 AM **To:** Jacob Sniff < jsniff@alumni.princeton.edu>

Cc: Antonio Gomes < !tgomes@plymouthpolice.com; Ryan Ruggiero < Ruggiero@plymouthpolice.com;

Subject: Re: Facial recognition

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To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Thu, 10 Jan 2019 07:30:45 -0500

Ryan, hope all is well. Happy new year.

Can I visit you guys 3rd or 4th week of Jan?

Best, Jacob

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Cc: Antonio Gomes < ltgomes@plymouthpolice.com; Ryan Ruggiero < Ruggiero@plymouthpolice.com;

Subject: Re: Facial recognition

Great article Jacob.

On Dec 13, 2018, at 4:40 PM, Jacob Sniff <jsniff@alumni.princeton.edu> wrote:

Guys, look forward to working together. Check out our press release just today:

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Det. Lt. Antonio Gomes

Plymouth Police Dept.

20 Long Pond Road

Plymouth, Ma 02360

508-830-4218 x236

508-830-4239 fax

From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Facial recognition To Ryan Ruggiero <Ruggiero@plymouthpolice.com>, Antonio Gomes <Itgomes@plymouthpolice.com> Date Mon, 14 Jan 2019 12:56:53 -0500 Ryan/Antonio, We are working on launching the video conversion piece too. Is there a common list of file types that you struggle with converting? We have built our rule engine and I just want to make sure we aren't missing a large set of files we haven't seen. If there are any sample files, that's even better. Best Regards, Jacob On Thu, Jan 10, 2019 at 7:30 AM Jacob Sniff < isniff@alumni.princeton.edu> wrote: Ryan, hope all is well. Happy new year. Can I visit you guys 3rd or 4th week of Jan? Best, Jacob On Fri, Dec 14, 2018 at 12:53 PM Jacob Sniff < jsniff@alumni.princeton.edu> wrote: Ok sounds good Ryan. On Friday, December 14, 2018, Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote: Jacob, Awesome article. We are in the process of converting all of our Station cameras to digital IP cameras. The should take a month or so. This should give us some data we can work with. Let me figure out the camera schedule and we can have you out for a meeting to take a look. Thanks, Ryan From: Michael Botieri Sent: Friday, December 14, 2018 7:42 AM To: Jacob Sniff < jsniff@alumni.princeton.edu> Cc: Antonio Gomes ttgomes@plymouthpolice.com; Ryan Ruggiero Ruggiero@plymouthpolice.com; Subject: Re: Facial recognition Great article Jacob. On Dec 13, 2018, at 4:40 PM, Jacob Sniff < jsniff@alumni.princeton.edu > wrote: Guys, look forward to working together. Check out our press release just today: On Friday, December 7, 2018, Jacob Sniff < isniff@alumni.princeton.edu> wrote: Antonio, Thank you for your feedback; it seems none of those organizations will be helpful to us now or in near future.

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From Jacob Sniff <jsniff@alumni.princeton.edu> Subject Re: Facial recognition To Ryan Ruggiero < Ruggiero@plymouthpolice.com> Date Fri, 18 Jan 2019 09:18:59 -0500 Yes that works. Cya guys then! On Fri, Jan 18, 2019 at 8:54 AM Ryan Ruggiero < Ruggiero@plymouthpolice.com > wrote: Jacob, We have upgraded all department cameras. We like to have you in Wednesday the 23rd at 10am if you are available. Please let me know. Thanks, Ryan From: Jacob Sniff [mailto:jsniff@alumni.princeton.edu] Sent: Thursday, January 10, 2019 7:31 AM To: Ryan Ruggiero < Ruggiero@ plymouthpolice.com > Cc: Michael Botieri <chiefbotieri@plymouthpolice.com>; Antonio Gomes <ltgomes@plymouthpolice.com> Subject: Re: Facial recognition Ryan, hope all is well. Happy new year. Can I visit you guys 3rd or 4th week of Jan?

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Subject Re: Facial recognition

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Fri, 18 Jan 2019 10:29:48 -0500

Ryan, it would be good if Detective Gomes can come too. I'm going to bring one other guy with me from my team as well (Srikanth CTO cc'ed).

Jacob

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To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

Date Wed, 23 Jan 2019 09:32:19 -0500

Ryan, we are in traffic. 10:30 is better start time.

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To Michael Botieri <chiefbotieri@plymouthpolice.com>, Ryan Ruggiero <ruggiero@plymouthpolice.com>, Antonio Gomes <ltgomes@plymouthpolice.com>

Date Sun, 27 Jan 2019 08:55:33 -0500

Chief/Detective/Ryan,

Thank you so much for meeting us. I wanted to update you on our plans:

- i.) We will launch and deliver a cloud platform that has video conversion, redaction, video tagging, and frame by frame video review by Feb 15th.
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One of our honest concerns after our meeting is proprietary formats, such as .exe files and how often those are used in the field. I hope we can convert a decent # of your actual files, else our other features may not be as useful b/c you can't use the system if we can't view the file. Hopefully we can deal with many of your actual files you find in the field.

I would hate to run into a situation where:

- -we can only convert a small portion of your files
- -of the files we can convert, many aren't good enough quality for recognition

I do want to set expectations reasonably; we may only have success with less than 50 percent of files, but hopefully that's still a huge help. I look forward to working with you guys! Our team will also agree to try to manually convert any files that we don't have success with our program upon launch.

From Jacob Sniff <jacob@suspecttech.com>

Subject Re:

To Michael Botieri <chiefbotieri@plymouthpolice.com>, Antonio Gomes <ltgomes@plymouthpolice.com>, Ryan Ruggiero <Ruggiero@plymouthpolice.com>

Date Fri, 15 Feb 2019 08:48:55 -0500

Chief/Detective/Ryan,

1. Here's a test redaction and frame-by-frame video analysis and video conversion account:

http://40.87.49.81/

username: jsniff12@gmail.com

pass: jacob

- 2. I've attached a simple 1 pg user manual.
- 3. Some sample videos to try:

https://www.dropbox.com/sh/jpdbtb9ij0bgyrn/AADS_pkRRuSbevc8ij1uy18za?dl=0

Let me know of any issues; Ryan, can we also have a phone call sometime in next 2 weeks about the facial recognition engine? We have several updates on our end.

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On Sun, Jan 27, 2019 at 9:07 AM Michael Botieri < chiefbotieri@plymouthpolice.com> wrote:

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From Jacob Sniff <jacob@suspecttech.com>

Subject Re:

To Ryan Ruggiero < Ruggiero@plymouthpolice.com>

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Best, Jacob

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