

Elements of An Investigation: Geotags, Hashtags, and Everything In Between



Traditional Investigations

PERSON VIA PC



PERSON VIA PERSON



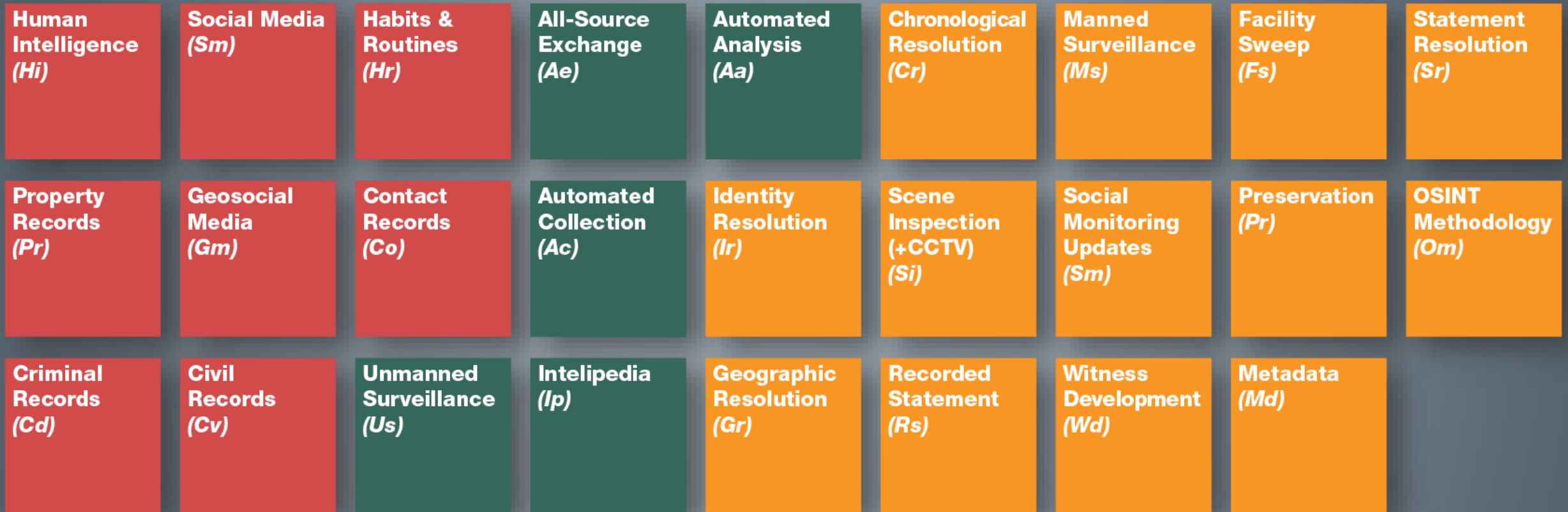
LOCATION/INCIDENT VIA PC

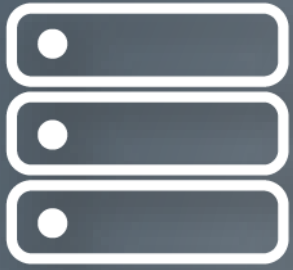


LOCATION/INCIDENT VIA PERSON



Elements of an Investigation





A sound Investigative Infrastructure begins with data providers capable of supplying publicly available information on subjects of interest.



CRIMINAL



PROPERTY



CIVIL

Two charged in Jermyn bar scuffle, one stabbed in abdomen

██████████ walked out of the men's room and ██████████ rushed him. It was a mistake.

The two wrestled Saturday night in the Bottler's Tavern bathroom on Delaware Street in Jermyn, angry over a girl they both dated.

Bar patron Allen Sutton stood on a toilet and tried to separate the men as they fought, but ██████████ pulled out a 2-inch blade and stabbed ██████████ in his abdomen, police said.

██████████ was charged with aggravated assault with a deadly weapon, simple assault with a deadly weapon, recklessly endangering another person, disorderly conduct by engaging in a fight and public drunkenness.

"Something" was protruding from ██████████ left side when police arrived, acting Jermyn Police Chief William Arthur said. ██████████ had emergency surgery at Geisinger Community Medical Center, according to Chief Arthur.

██████████ initially denied stabbing ██████████ but later said he fought back when ██████████ pushed him up against the wall, then admitted he pulled out the folding knife and stabbed the man in his left side.

The knife fell to the floor, and police were not able to find it.

Mr. Collins would not say what happened, but did say he and Mr. Collins have history going "way back."

-He got scared and attempted to hide.

-In doing so, he ran towards some landscaping in the lot and did not see that there was a retaining wall on the other side.

-██████████ ran off the top of the retaining wall and fell approximately four feet onto the parking lot.

-When he did, he injured his leg.

-Security soon contacted a naked ██████████, and allowed him to put his underwear back on and then they called the police department.

-The fire department treated ██████████ and believed that he may have broken his shin bone of his right leg.

Mark Type	Mark Code
FOREARM, NONSPECIFIC	Tattoo
Description	
APRIL	
Mark Type	Mark Code
SHOULDER, LEFT- TATTOO	Tattoo
Description	
ROSE	
Mark Type	Mark Code
SHOULDER, RIGHT- TATTOO	Tattoo
Description	
BIRD	

FINANCIAL DISTRESS

- **Bankruptcy Records**
- Liens & Judgments
- Foreclosure Records

LITIGATION HISTORY

- Lawsuits
- Dockets

OUTSIDE/CONCURRENT EMPLOYMENT

- Work/Business Affiliations
- Professional Licenses
- Business Registered at Subject's Address
- UCC Filings

ADDITIONAL INFORMATION

- Relatives/Associates
- Phone Numbers
- Email Addresses
- Driving Record
- Recreational Licenses

SCHEDULE F - CREDITORS HOLDING UNSECURED NONPRIORITY CLAIMS

Current Monthly Income Details for the Debtor

Debtor Income Details:

Income for the Period 12/01/2012 to 05/31/2013.

Line 3 - Gross wages, salary, tips, bonuses, overtime, commissions

Source of Income

Income by Month:

6 Months Ago:	12/2012	\$2,504.26
5 Months Ago:	01/2013	\$2,106.58
4 Months Ago:	02/2013	\$2,557.07
3 Months Ago:	03/2013	\$2,844.62
2 Months Ago:	04/2013	\$2,430.68
Last Month:	05/2013	\$2,428.28
Average per month:		\$2,478.58

Line 4 - Income from operation of a business, profession, or farm

Source of Income: Martinis for 2

Income/Expense/Net by Month:

	Date	Income	Expense	Net
6 Months Ago:	12/2012	\$100.60	\$141.53	\$-40.93
5 Months Ago:	01/2013	\$170.84	\$28.95	\$141.89
4 Months Ago:	02/2013	\$48.75	\$4.26	\$44.49
3 Months Ago:	03/2013	\$125.50	\$5.80	\$119.70
2 Months Ago:	04/2013	\$203.50	\$16.49	\$187.01
Last Month:	05/2013	\$0.00	\$314.00	\$-314.00
Average per month:		\$108.20	\$85.17	

Average Monthly NET Income:

\$23.03

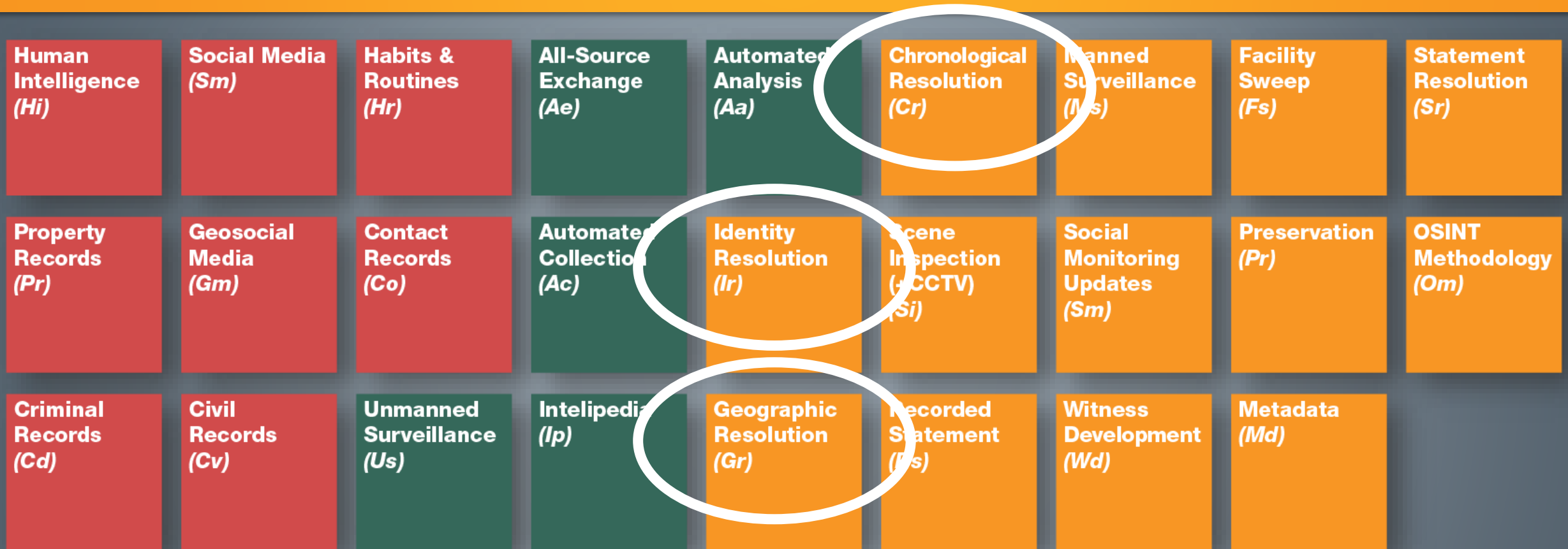
CONTACT RECORDS (email, phone) → (GEO)SOCIAL MEDIA

CIVIL RECORDS → FINANCIAL DISTRESS,
OUTSIDE EMPLOYMENT,
LITIGATION HISTORY

CRIMINAL RECORDS → HUMAN INTELLIGENCE

PROPERTY RECORDS → LIFESTYLE, HABITS & ROUTINES
RECREATIONAL / BUSINESS LICENSES

Elements of an Investigation



DATA FAMILY



TECHNOLOGY FAMILY



METHODOLOGY FAMILY

Methodology: Information Confirmation



IDENTITY RESOLUTION:

- “Am I filming the correct person?”
- “Are these the correct background records?”
- “Is this the correct Twitter account?”
- “Who is ‘unicorn20’ on Twitter in real life?”



GEOGRAPHIC RESOLUTION:

- “Is this the correct location for surveillance set-up?”
- “Where was this photo really taken?”



CHRONOLOGICAL RESOLUTION:

- “When will my subject most likely be active for surveillance?”
- “When was this photo really taken?”

Identity Resolution: Surveillance

Good morning everyone, I'm looking for a picture of [redacted] [redacted]
Bob [redacted] Nichole [redacted] Eden [redacted]
Thanks guys!

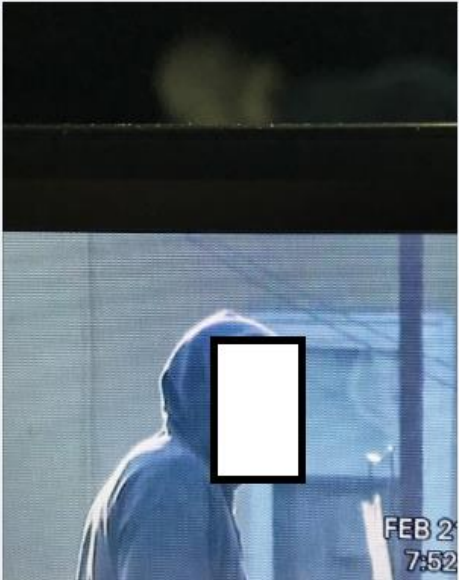
Jonathan [redacted]
[redacted] 1983
[redacted]

cc: Bob [redacted] Nichole [redacted] and Eden [redacted]

LIKE REPLY SHARE ...

[redacted]

CG Christopher [redacted] - February 21 at 5:41am from iPhone
Could anyone confirm if this is [redacted]



UNLIKE REPLY SHARE ...
You and [redacted] like this

BG Bob [redacted] - February 21 at 6:16am
This was posted by confirmed relative [redacted] and she calls him [redacted] I will post another one.

[redacted]
December 3, 2009



Share

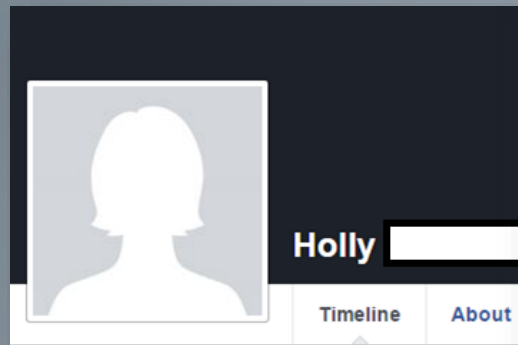
UNLIKE REPLY SHARE ...
You and Christopher [redacted] like this

CG Christopher [redacted] - February 21 at 6:18am from iPhone
Awesome, thank you so much man

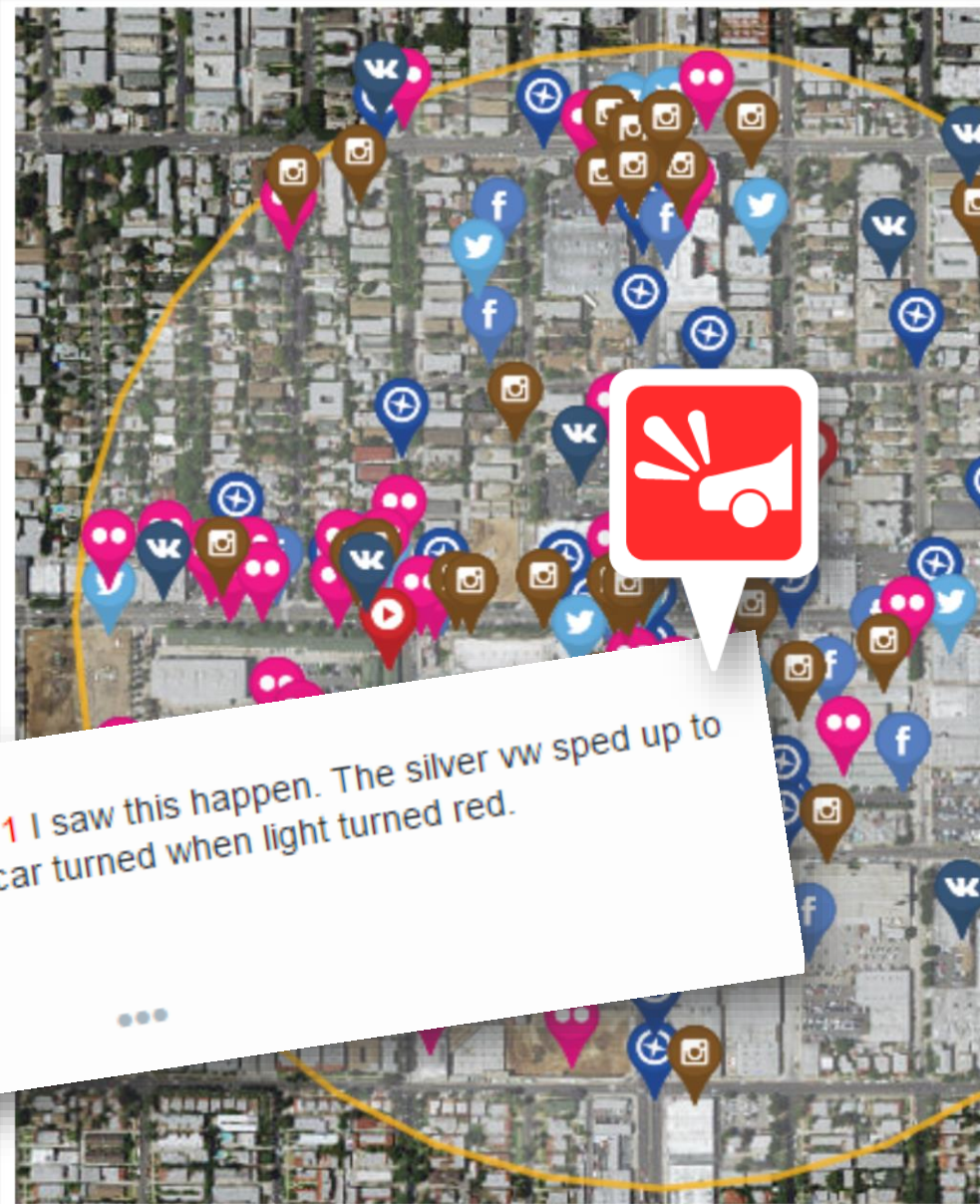
Identity Resolution: Desktop Investigation



HOLLY SMITH



Identity Resolution: Geosocial Investigation

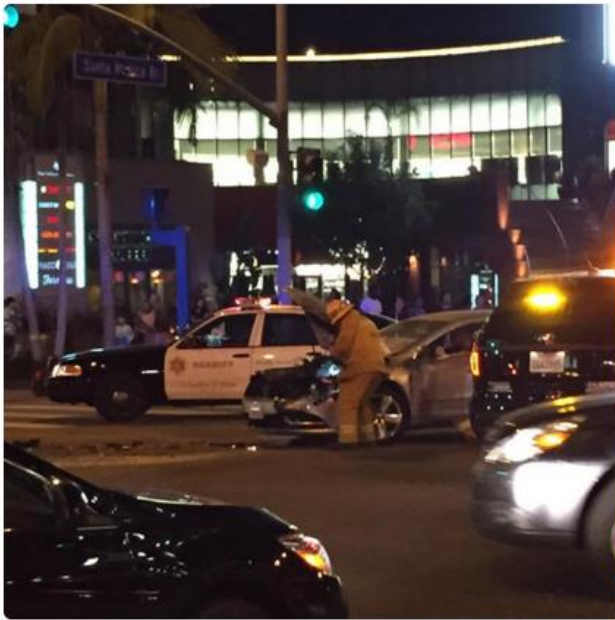


 **Joe Joe** @kom [redacted] 4 Sep 2015
@raddude [redacted] @HollywoodLA311 I saw this happen. The silver vw sped up to get through the light. The black car turned when light turned red.
10:22 PM - 4 Sep 2015 · Details

 **David** [redacted]
@raddude [redacted]



Big crash on Santa Monica and La Brea.
The ambulance just arrived!
[@WehoDaily](#) [@LAScanner](#)
[@HollywoodLA311](#) [@GayWeHo](#)



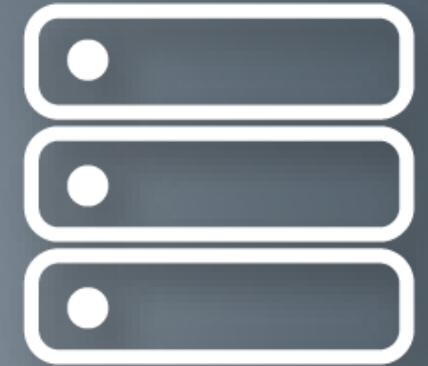
RETWEETS
3

LIKES
4

    **HW 311**

9:22 PM - 4 Sep 2015
West Hollywood, CA

Identity Resolution: Geosocial Investigation



DATABASE RECORDS

Geographic Resolution: Surveillance

BP

Brandon [redacted] – February 27 at 4:33pm

#ge [redacted]

- Searching the marina, a boat matching the description of the one on the subject's Facebook is located here.



UNLIKE REPLY SHARE ...

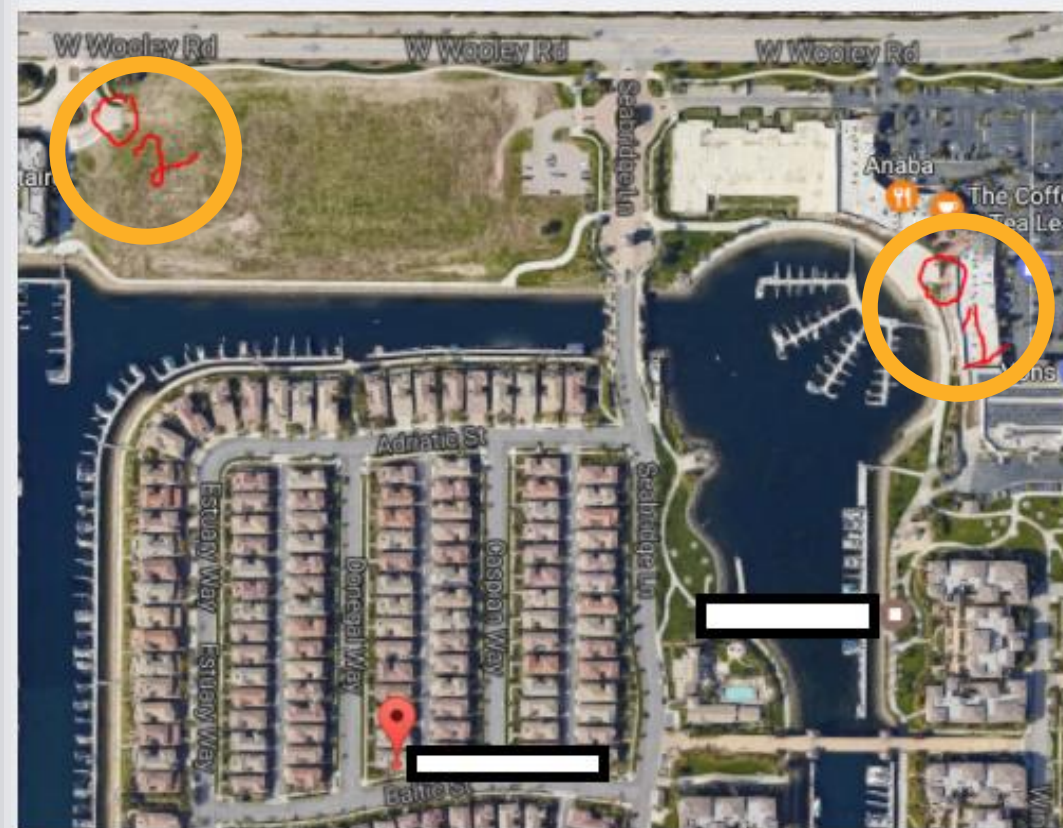
You and [redacted] like this

Brandon [redacted] – March 5 at 5:41pm

- Subjects boat is located in the picture above(yellow and white boat)

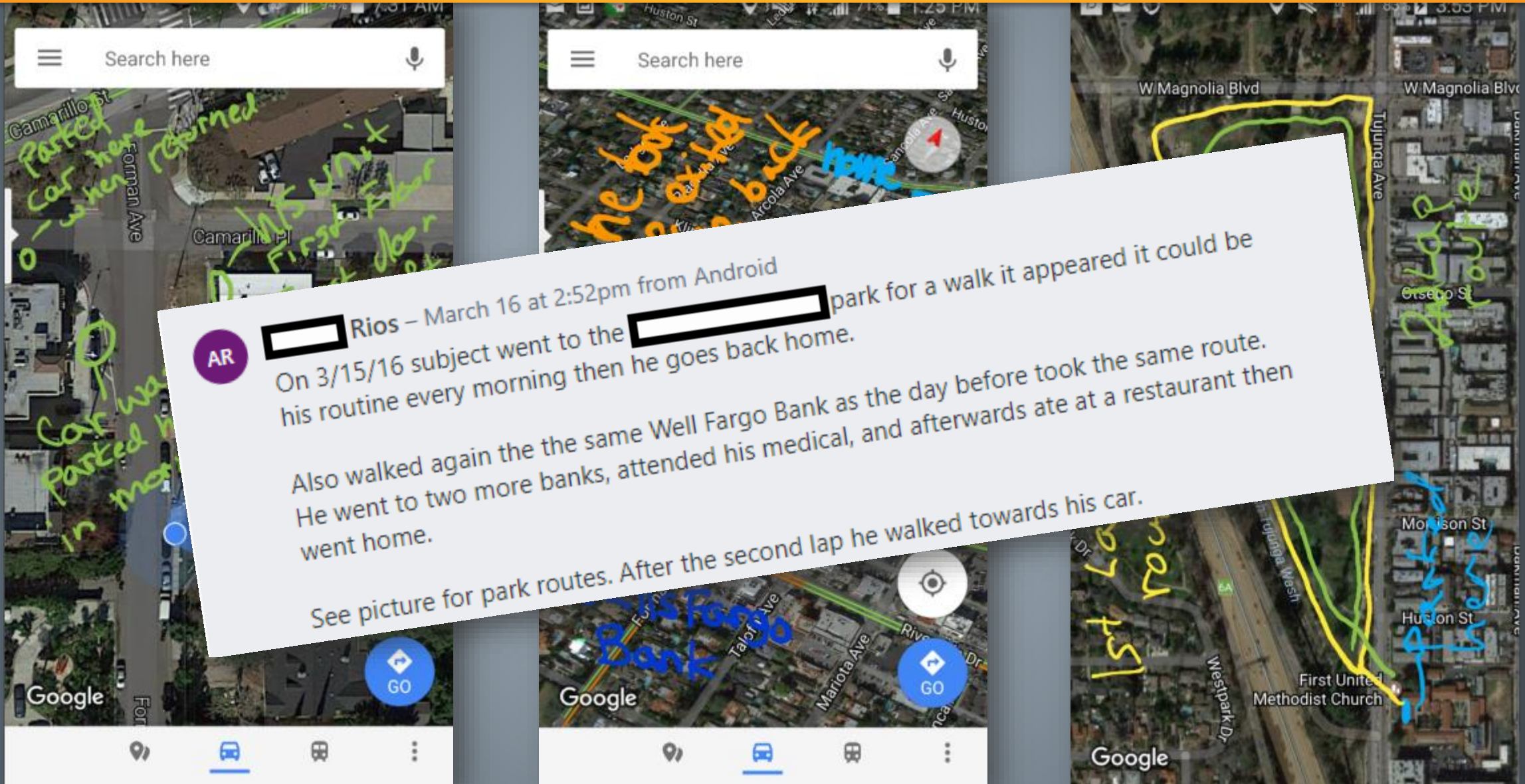
3/05/2017

- Set up on foot in spot 1
- Set up in vehicle Spot 2



LIKE REPLY SHARE ...

Geographic Resolution: Surveillance



Geographic Resolution: Surveillance



Nicole [redacted] – March 14 at 6:19am

[redacted] subject n [redacted] Amy [redacted]. No vehicles in background. Appears to play pool at the Golden Q and [redacted] IA.

LIKE REPLY SHARE

#Lancasterk62786



Nicole Auskalni

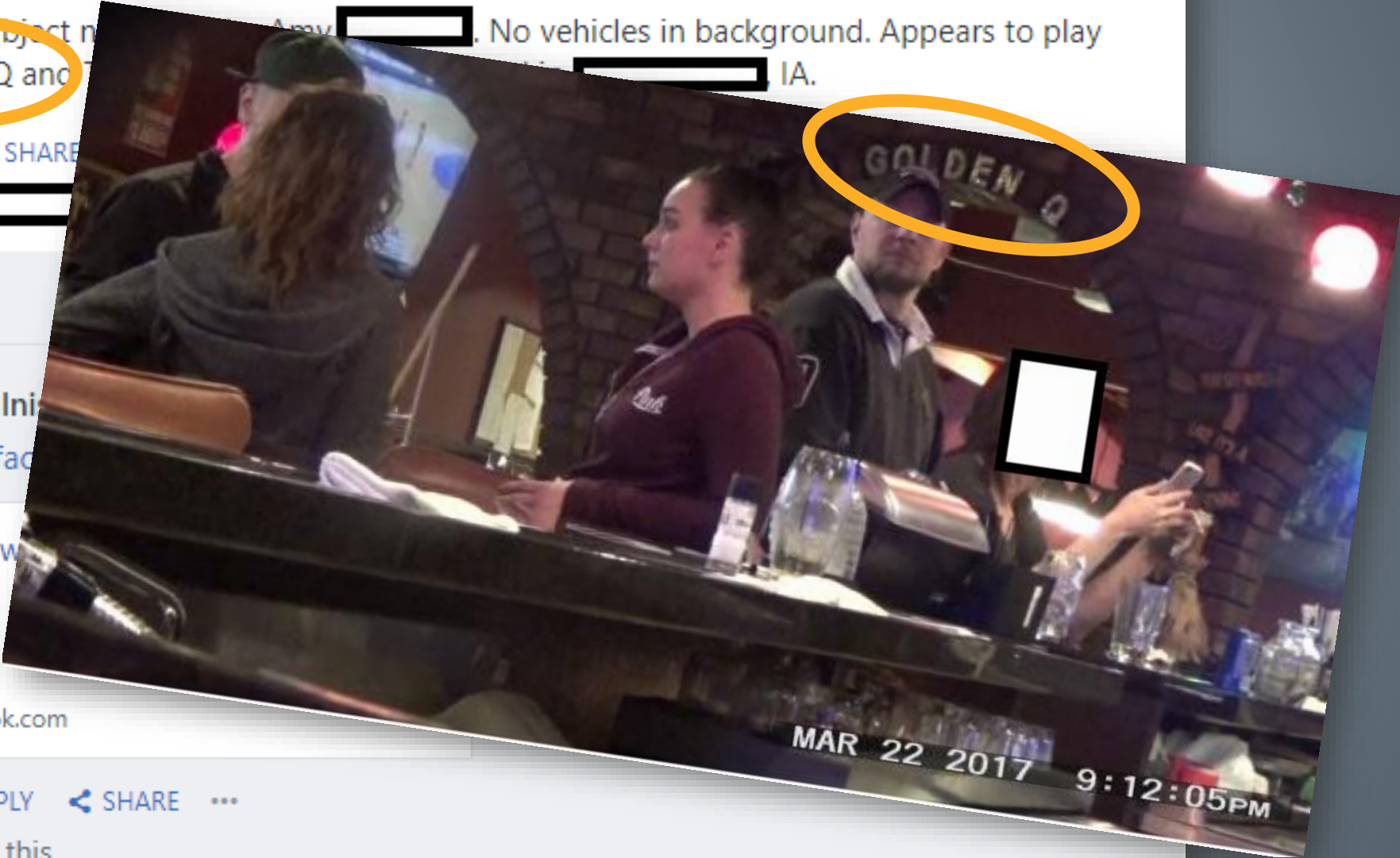
<https://www.facebook.com/Lancasterk62786>

<https://www.facebook.com/Lancasterk62786>
.521

www.facebook.com

LIKE REPLY SHARE ...

[redacted] likes this



Geographic Resolution: Desktop Investigation



Bill [redacted] changed his profile picture.
February 9



Google

"Indian chief statues in front of buildings"



Google

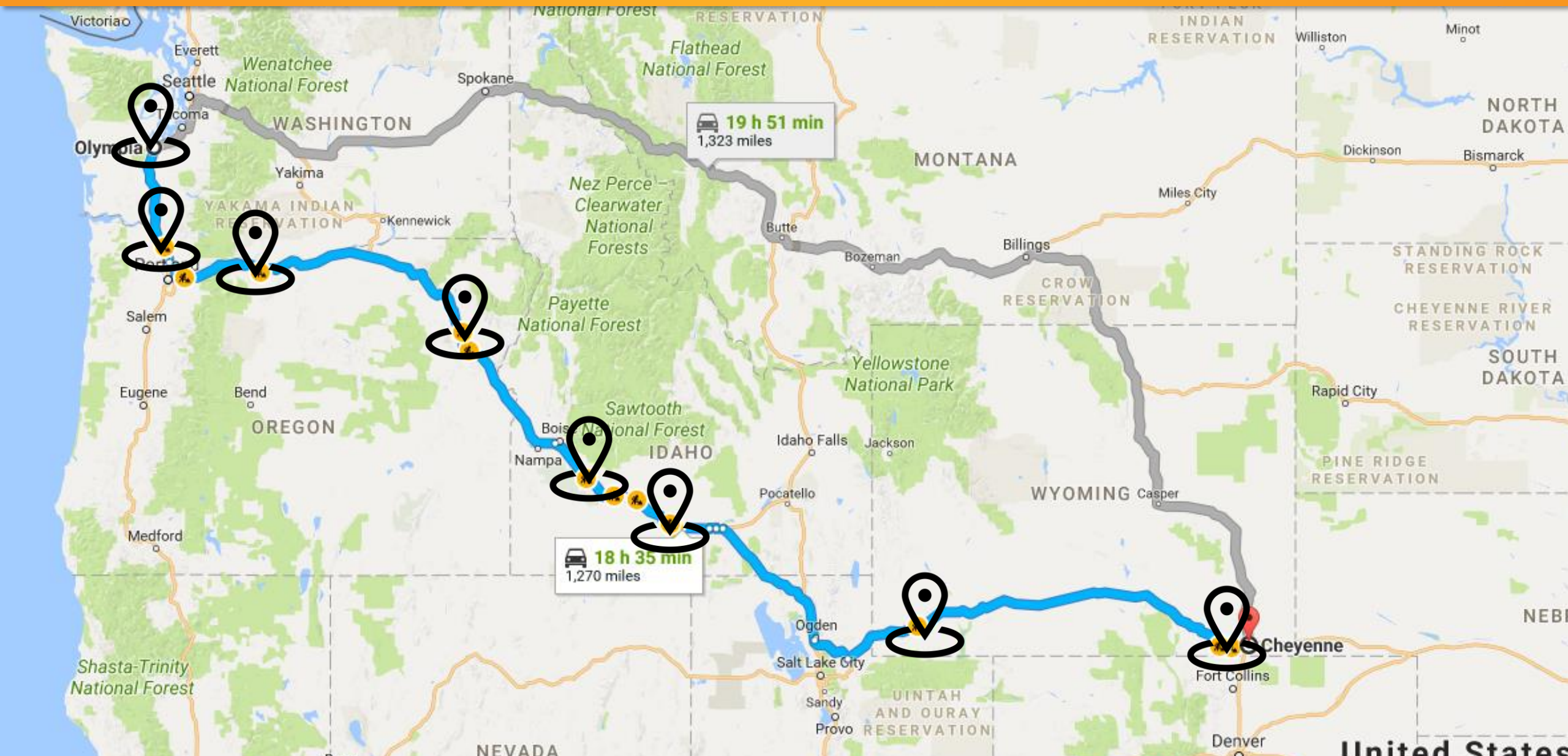
"Chief Washakie" statue



chief washakie statue
chief washakie statue **cheyenne wy**
chief washakie **sculpture**

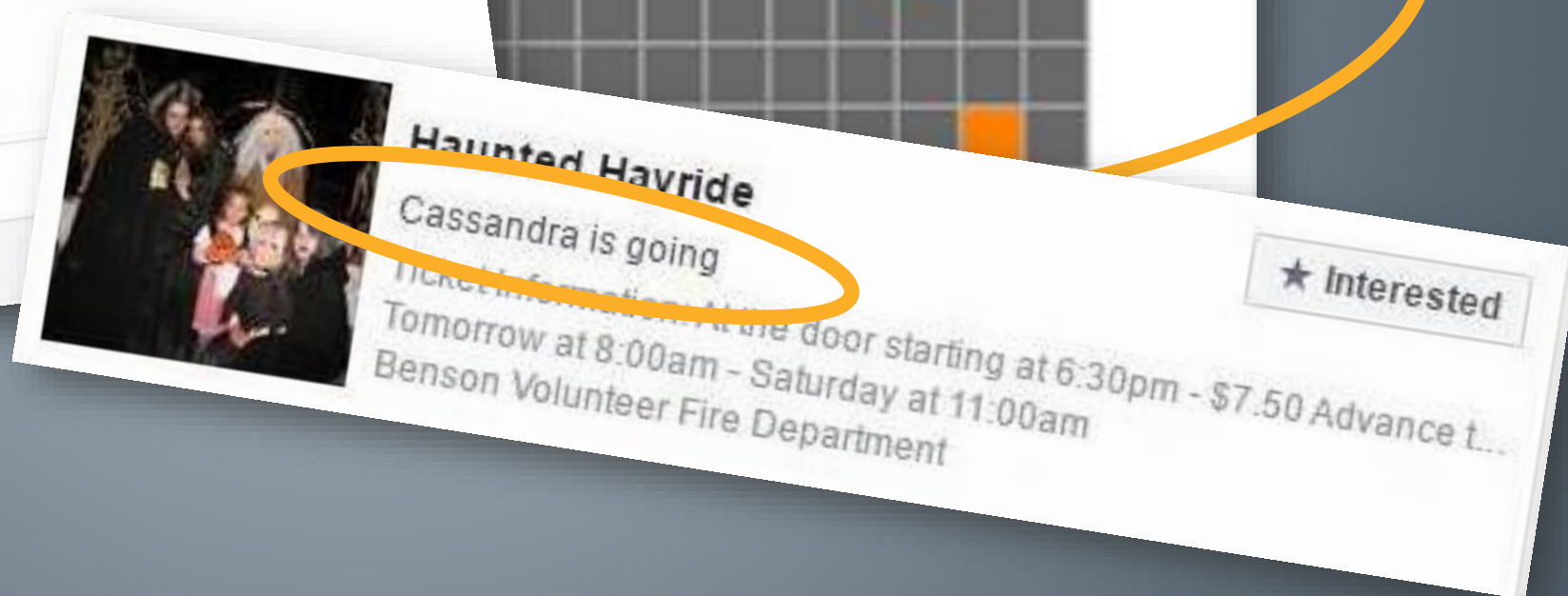
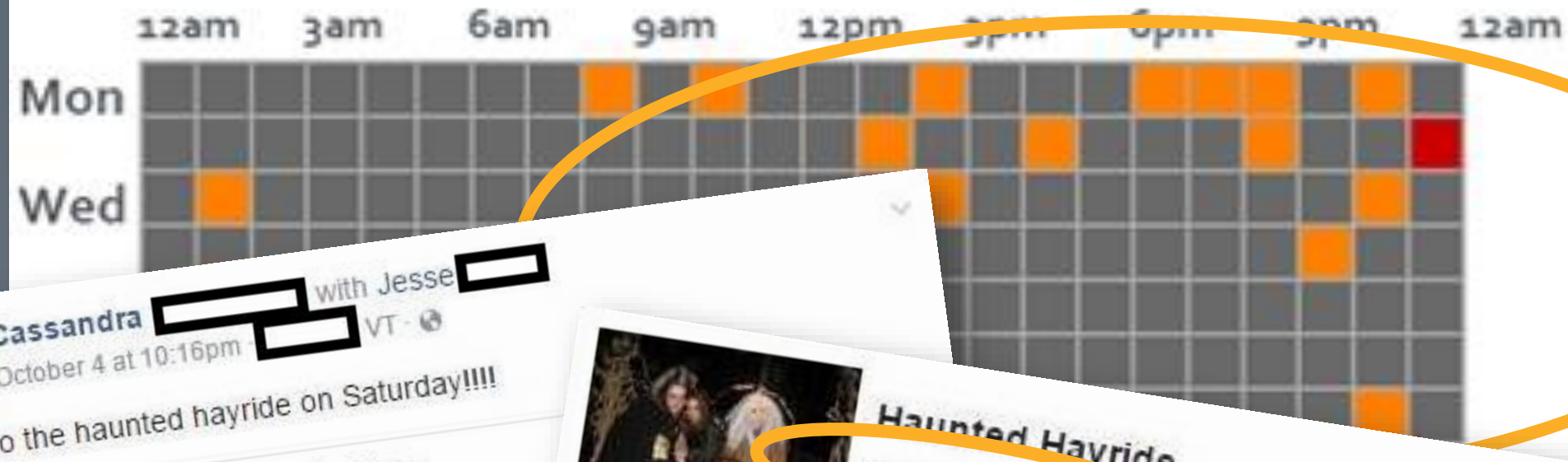


Geographic Resolution: Desktop Investigation



Chronological Resolution: Surveillance

POST FREQUENCY



Chronological Resolution: Desktop Investigation

Jamee [redacted] added 14 new photos — with [redacted] and 8 others
November 8, 2015 · Roseville, CA · 🌐

Spartan team! So proud of you all 😊❤️



[redacted] Spartan Race
★★★★★
SACRAMENTO, CA, US Elevation: 30ft
Results: November 07, 2015 ▾
Facebook Share Tweet Email

Results Statistics Reviews

Course: Sacramento Super: Open ▾

View By: Genders ▾ Overall 1 - 100 ▾

jamee pau

Rank	Athlete	Bib	Finish	Division
+ 1816	Jamee [redacted] CA, US Female 32	3848	3:14:15	F 30-34

Breakouts

Chronological Resolution: Desktop Investigation



[redacted] added 4 new photos.

April 8, 2014 · 🌐

Some intense stick fighting went down with [redacted] today at the dojo.



Share

Chronological Resolution: Geosocial Investigation

This image is a collage illustrating a geosocial investigation through a chronological timeline of social media posts and a large event photograph.

Left Column (Chronological Timeline):

- Post 1:** A Facebook post from a user with a redacted name, dated May 14 at 7:37pm. The name and time are circled in orange.
- Post 2:** A Facebook post from the same user, dated May 14 at 7:42pm. The name and time are circled in orange.
- Post 3:** A Facebook post from the same user, dated May 14 at 8:23pm. The name and time are circled in orange.
- Post 4:** A Facebook post from a user with a redacted name, dated Saturday, May 14, 2016 at 9:01pm. The name and time are circled in orange.
- Post 5:** A Facebook post from a user with a redacted name, dated Saturday, May 14, 2016 at 8:56pm. The name and time are circled in orange.

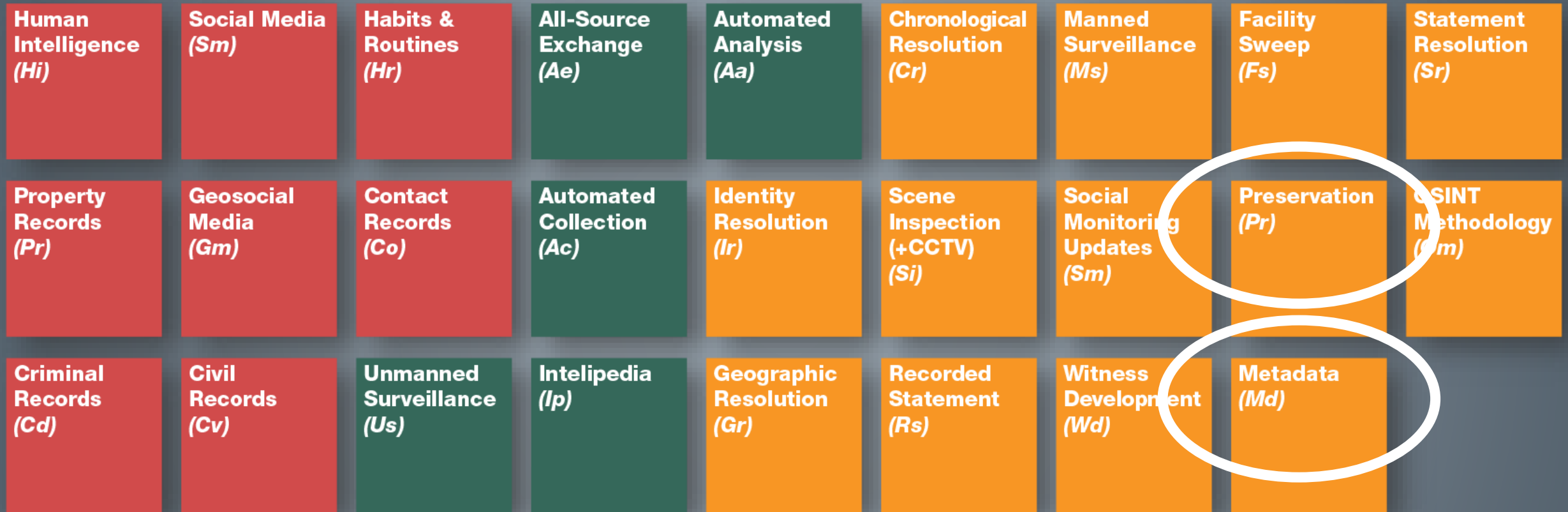
Right Column (Event Photo):

- Post:** A Facebook post from a user with a redacted name, titled "Prom is going off here at [redacted]!".
- Image:** A large photograph of a crowded dance floor at a prom. A red square highlights a specific area in the background.
- Engagement:** The post shows 7 retweets and 41 likes.
- Timestamp:** The post is dated 9:45 PM - 14 May 2016. The time is circled in orange.

Central Element:

- A vertical strip of smaller photographs showing people dancing and socializing at the event.

Elements of an Investigation



DATA FAMILY



TECHNOLOGY FAMILY



METHODOLOGY FAMILY

E-Vault

The following link contains accounts featured in the above bibliography that have been preserved on the designated date.

E-Vault Location: [Archived Links 08/01/2017](#)



WWW.FACEBOOK.COM

- [Mike \[REDACTED\]](#)
- [Photos commented on by Mike \[REDACTED\]](#)
- [Posts about Mike \[REDACTED\]](#)
- [Videos of Mike \[REDACTED\]](#)
- [Videos commented on by \[REDACTED\]](#)

WWW.INSTAGRAM.COM

- [Mike \[REDACTED\] mikesepp42](#)

These archives reflect the subjects publically viewable information as it was on the date the site was visited.

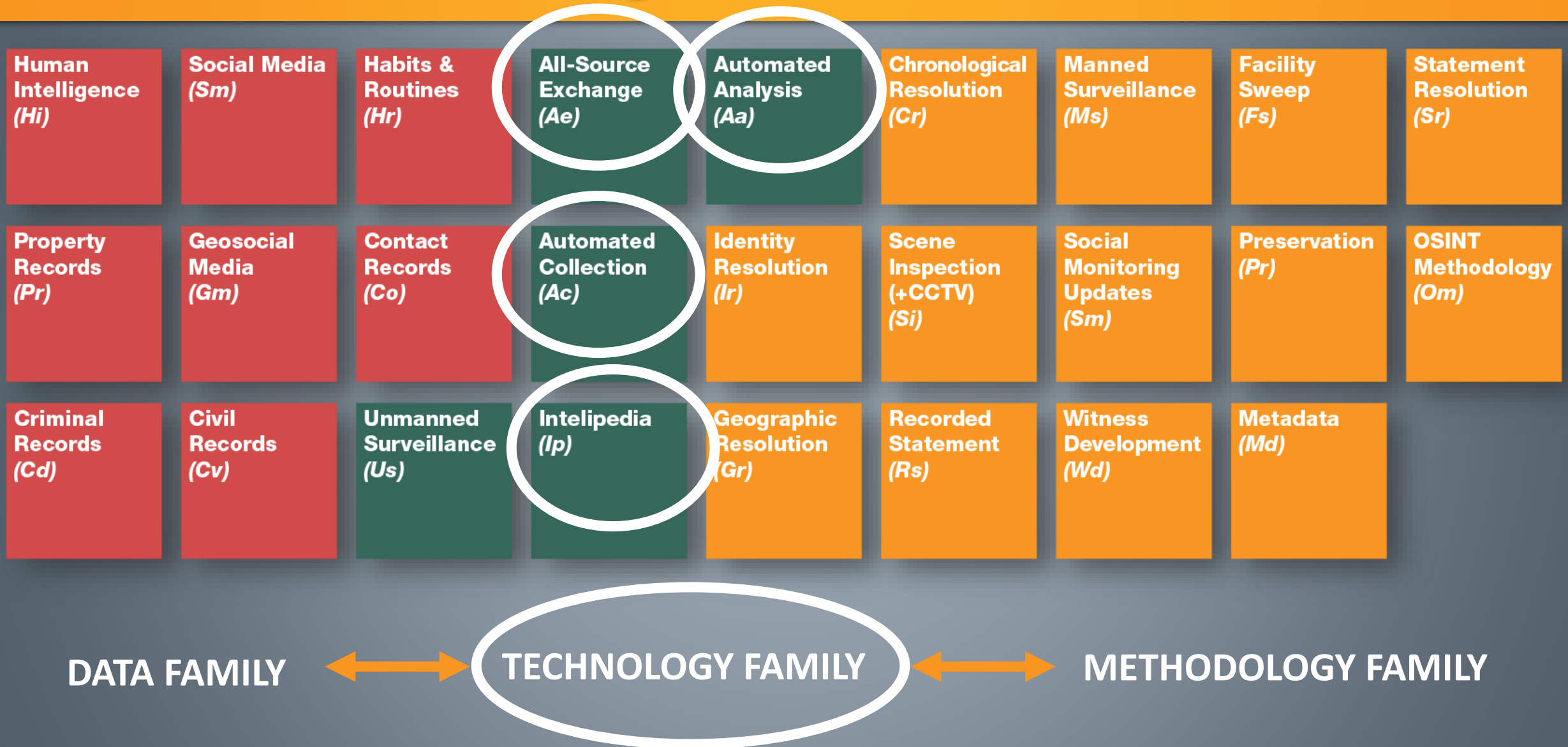
What is Metadata?

- The term metadata was first used to describe the information found in card catalogs of libraries.
- Essentially, it is “data about data”. In the context of social media evidence, it is the digital thumbprint verifying when the content was posted, from where, from whose account, and that it is original and unaltered.
- From an evidentiary standpoint, it is the best way to establish social media content and ensure it holds up in court.

Authentication (Metadata)

Resource	
Other Info	
Indexing Status	OK
Tags	
MD5 hash	68190C3A2366E374E02FF7F947614808
Ingestion	12/11/2013 3:00:16 PM
Link Fetch Status	
Extracted Text Location	20131211_131646
body_stored	
Mountpoint ID	3973562140388903231
Deliverable Exports	
Account Name	John Smith
Item Deleted	0
Source	Facebook
Collection Type	PublicInformationAccount
Location Geo	
Location Description	
Location ID	
Tags Text	
Version Number	0
Version is Not Latest	0
Location Geo Latitude	
Location Geo Longitude	
Scan Stamp	20131211145611779
Location Geo Longitude	

Elements of an Investigation





Megan [redacted] – March 1 at 5:36am

a Gym Sweep came back with hits for Gold's Gym at [redacted] Boston, MA for [redacted] 83

The following Gyms confirmed records were available regarding the subject:		
RPM Fitness Inc [redacted] P: (617) 207-9040 E: rpmfitnesswinthrop@g	Distance: 0 Miles Contact: Shawn (Refused Last Name)	April 2015 - April 2016 Contact stated this is the only date range of membership service showing for the subject. Contact also stated that the subject paid \$30 monthly for membership.
Gold's Gym [redacted] P: (617) 268-5500 E: southiegold@gmail.c	Distance: 3.12 Miles Contact: Matt M.	Contact verified the subject is in the records system at this facility, but would not release dates of service.

The following Gyms would neither confirm nor deny treatment for the subject:	
Move Fitness 1 Michaels Mall Winthrop, MA 02152	Phone: (617) 207-9452
	Email: info@move-fitness.co
	Distance: 0 Miles
	Contact: (Refused Name)
Fitt Factory 5 Breed St Boston, MA 02128	Phone: (978) 810-4310
	Email: fittfactorygym@gmail
	Distance: 0.84 Miles
	Contact: Daniela Restrepo
Crossfit Lando 30 Terminal St # 2-301 Charlestown, MA 02129	Phone: (617) 580-3120
	Distance: 3.03 Miles
	Contact: (Refused Name)
	Phone: (617) 426-0875
Brick Boston 133 Federal St LL Boston, MA 02113	Email: info@brickboston.com
	Distance: 3.27 Miles
	Contact: (Refused Name)

UNLIKE

REPLY

SHARE

...

You and [redacted] like this

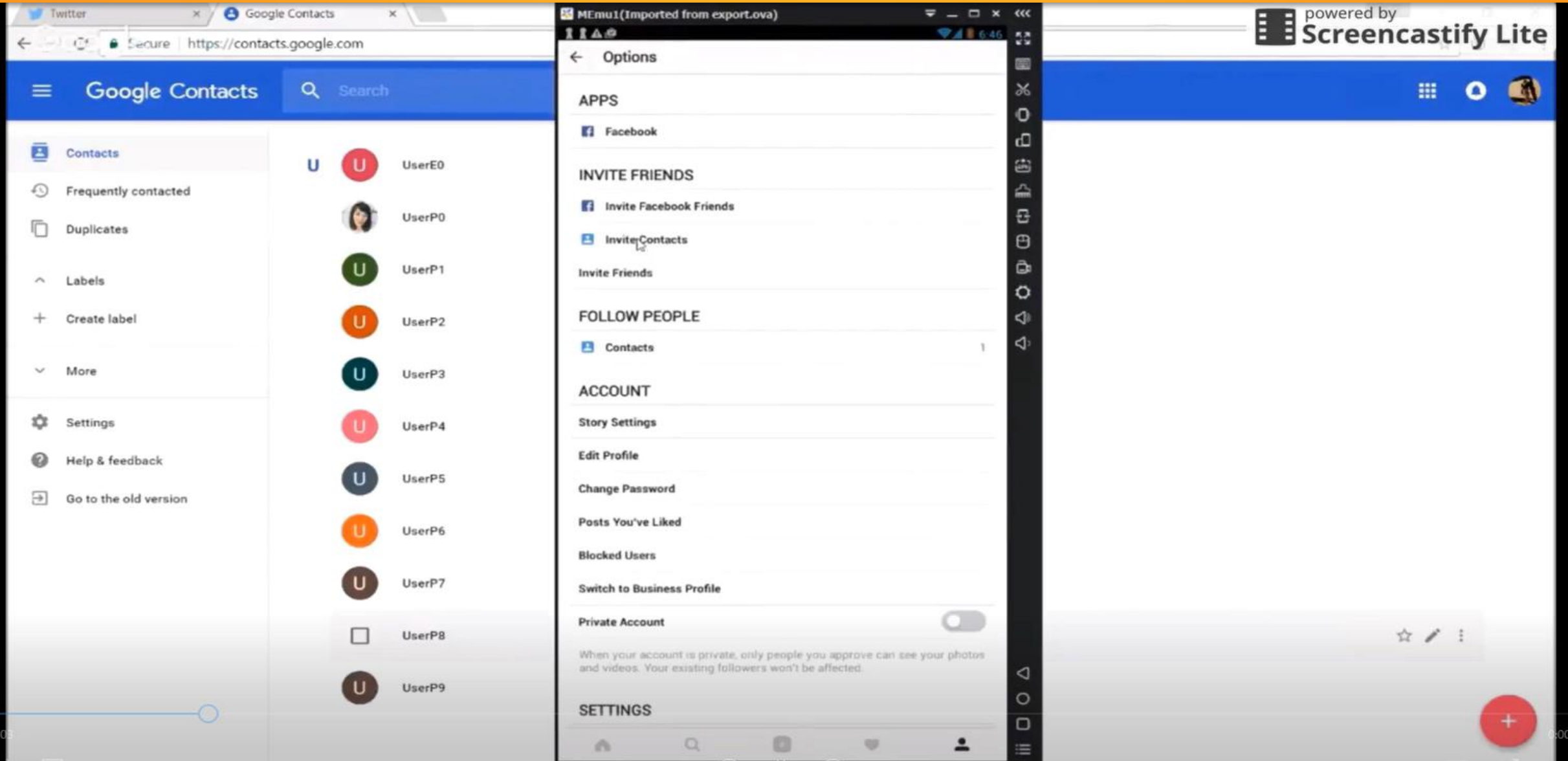
#Bradys5251983



Megan Devonshire – March 1 at 8:08am

Try the RPM Fitness, to [redacted] MA.

Automated Collection



The screenshot displays a screen recording of a mobile application interface. The top status bar shows the time as 6:46. The interface is divided into three main sections:

- Left Panel (Google Contacts):** A sidebar with a menu including "Contacts", "Frequently contacted", "Duplicates", "Labels", "Create label", "More", "Settings", "Help & feedback", and "Go to the old version". The main area lists contacts: UserE0, UserP0, UserP1, UserP2, UserP3, UserP4, UserP5, UserP6, UserP7, UserP8, and UserP9.
- Center Panel (Options):** A menu titled "Options" with sections: "APPS" (Facebook), "INVITE FRIENDS" (Invite Facebook Friends, Invite Contacts), "FOLLOW PEOPLE" (Contacts), "ACCOUNT" (Story Settings, Edit Profile, Change Password, Posts You've Liked, Blocked Users, Switch to Business Profile, Private Account), and "SETTINGS".
- Right Panel (Facebook):** A Facebook profile page with a blue header, a grid of posts, and a red circular button with a white plus sign at the bottom right.

The screen recording is powered by "ScreenCastify Lite" and includes a timeline at the bottom with a duration of 0:00:25.

Automated Collection

Adam Roper

Secure | https://www.facebook.com/adam.roper.3152

Apps | Digistream Case Man | inv | ★ Bookmarks | TLOxp - Login | Accurint | DigiStream | Employee | 2014/2015 Intel Track | Intel Division Turnar | Intel Liaison Tracking | Facebook | Twitter | myspace | Other bookmarks

Adam Roper

Stephen Home Find Friends

NATIONAL CHAMPIONS

 **Adam Roper** [Add Friend](#) [Message](#)

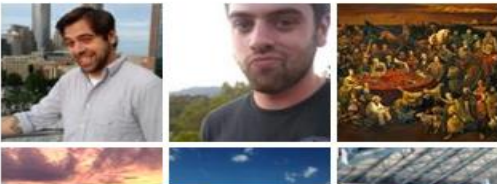
[Timeline](#) [About](#) [Friends](#) [Photos](#) [More](#)

DO YOU KNOW ADAM?

To see what he shares with friends, send him a friend request. [Add Friend](#)

Search Adam Roper's posts

[Photos](#)



 **Adam Roper** updated his cover photo.
April 4 · 

NATIONAL CHAMPIONS



Turn on chat to see who's available.

Search

4:21 PM

Facts On Outgoing Facebook Content:

On an Average Day...



26% "Like" another user's content

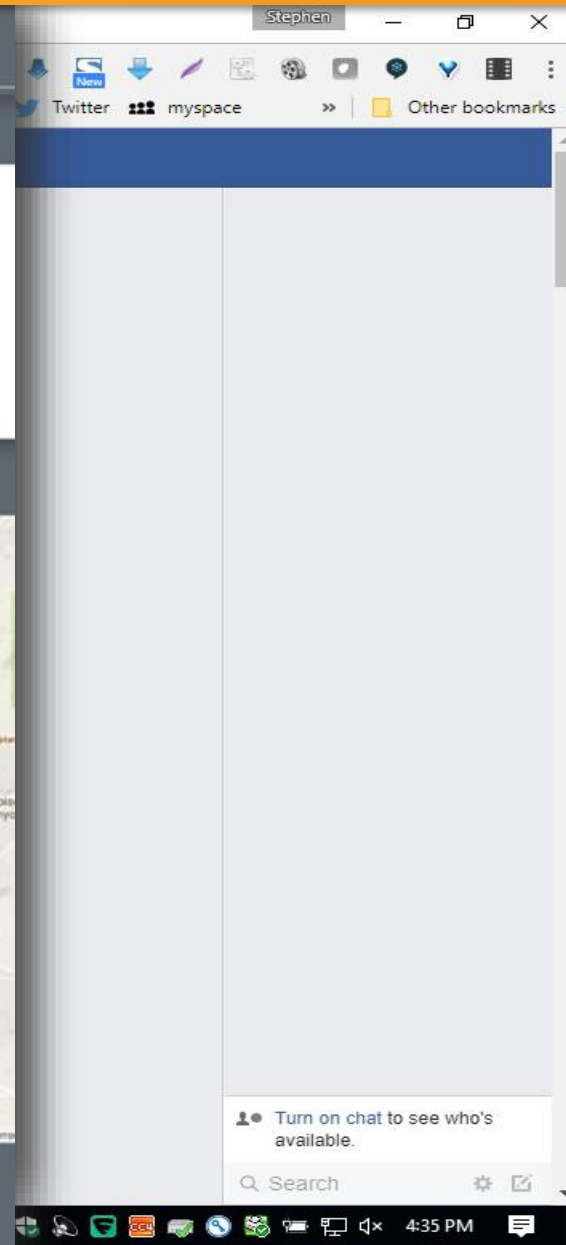
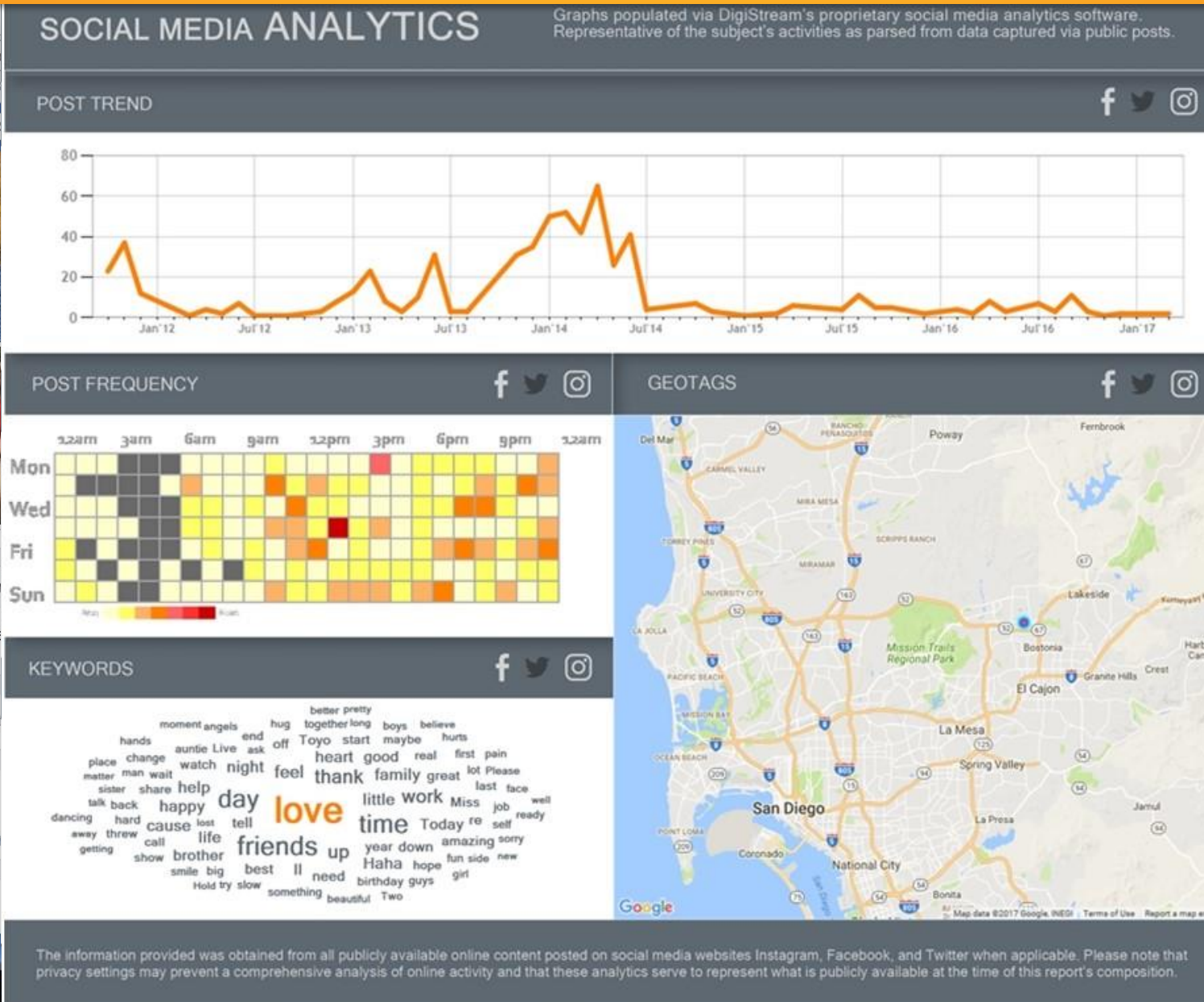


22% comment on another's post or status



20% comment on another user's photos

DigiStream
INVESTIGATIONS



Recorded Statement + CCTV Retrieval

6/3/2013 9:22:18 AM



**Human
Intelligence
(Hi)**

**Social Media
(Sm)**

**Habits &
Routines
(Hr)**

**All-Source
Exchange
(Ae)**

**Automated
Analysis
(Aa)**

**Chronological
Resolution
(Cr)**

**Manned
Surveillance
(Ms)**

**Facility
Sweep
(Fs)**

**Statement
Resolution
(Sr)**

**Property
Records
(Pr)**

**Geosocial
Media
(Gm)**

**Contact
Records
(Co)**

**Automated
Collection
(Ac)**

**Identity
Resolution
(Ir)**

**Scene
Inspection
(+CCTV)
(Si)**

**Social
Monitoring
Updates
(Sm)**

**Preservation
(Pr)**

**OSINT
Methodology
(Om)**

**Criminal
Records
(Cd)**

**Civil
Records
(Cv)**

**Unmanned
Surveillance
(Us)**

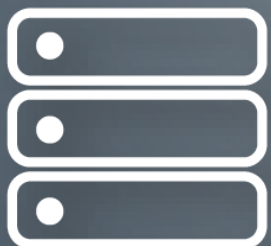
**Intelipedia
(Ip)**

**Geographic
Resolution
(Gr)**

**Recorded
Statement
(Rs)**

**Witness
Development
(Wd)**

**Metadata
(Md)**



**THANK YOU
ANY QUESTIONS?**

