



Crime Analysis: Use of Social Media for Investigative Purposes

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Abstract

Social media is becoming a significant part of life for many people. As information becomes increasingly available online, crime analysts are discovering its implications for law enforcement. As the use of social media expands and new tools are developed, crime analysis will adapt and benefit from these opportunities. There are also many different social media mining and monitoring tools available to assist in investigations or self-initiated searches.

What is Crime Analysis?

- Use of analytical techniques to identify crime trends, patterns and long-term problems
- Assists police in apprehending criminals, reducing and preventing crime, and evaluating current initiatives
- Provides information to help police department be more effective in controlling crime
- Gains access to information about crime and people involved by looking at social media
- Any information posted on social media has the potential to be used in criminal investigations
- Social media mining and monitoring software can be used to more efficiently discover social media intelligence

Research Question

How do New York State crime analysts use social media for investigative purposes?

Methodology

- Semi-structured phone interviews with New York State crime analysts

- Six participating centers (indicated on map with dots)

*Jefferson, St. Lawrence, Franklin, Clinton, and Essex Counties are all covered by the North Country analysis center



- Eight common questions:

1. Do you use Facebook for crime analysis and if so, how?
2. Community members are encouraged to provide tips regarding surveillance photos and videos of wanted criminals on Facebook. Do you have a role in this or processing the tips provided? If you are, how are you involved?
3. Do you monitor live-streaming social media? If so, how?
4. Are you using any programs to mine through posts from multiple social media platforms and if you are, do the programs make searching for information more efficient?
5. Are there any other social media platforms that you use?
6. What is the social media platform you use the most?
7. Do you have any success stories that directly relate to the use of social media?
8. Are you using social media mostly as a reactive tool or are you doing proactive work with it?

Social Media Platforms



Facebook

- Most popular platform
- Posts
 - See what people are doing and who is commenting
 - Usernames to other social media accounts may be found (ACAC, phone interview, February 22, 2016)
 - Topics involving opposing gang members are of interest – higher potential for conflict
 - See who may have been involved after an event has occurred (MCAC, phone interview, February 29, 2016)
- Pictures
 - See who and what is in a picture – people they hang out with, locations they frequent, vehicles they are associated with (MCAC, phone interview, February 29, 2016)
 - Gang activity - guns or gang signs
- Facebook Live
 - Allows users to see activity as it is happening
 - Videos can be posted to profile after livestream has concluded and saved as evidence



Twitter

- Search profiles after an incident has occurred (ACAC, phone interview, February 22, 2016)
- Usernames are rarely a real name – they may be found on Facebook



Instagram

- Look for pictures of criminal behavior (BCAC, phone interview, February 24, 2016)
- Look at background, vehicles in picture, and people in picture (ACAC, phone interview, February 22, 2016)



Snapchat

- Usernames may be obtained from Facebook
- View content posted to the My Story profile
- Look for criminal behavior (ECAC, phone interview, February 24, 2016) or locations in the pictures (ACAC, phone interview, February 22, 2016)



YouTube

- Look for videos of criminal behavior or videos of criminals talking about a crime (OCAC, phone interview, February 29, 2016)

Social Media Software Tools

Social media intelligence can become more efficient through the use of social media mining and monitoring software tools. Social media mining tools have advanced search capabilities that allow the user to discover public posts about specific topics in a boundary they have defined. Monitoring tools have more limited search options and are more focused on scanning posts within a defined boundary for designated words of interest.

Common Features

Software Tool	Features											
	Geo lense/ Geofence	Keyword Search	Global Keyword Search	Recording	Map Layers	Alerts	Sentiment Analysis	Language Translation	Mobile Application	Charts	Individual Tracking	Social Connections
Babel Street	✓	✓	✓			✓	✓	200 languages		✓		
Digital Stakeout	✓	✓		✓		✓		90 languages		✓		
Emotive						✓	✓		✓			
Go 360	✓	✓		✓	✓	✓		45+ languages	✓			
Media Sonar	✓	✓		✓		✓	✓		✓		✓	✓
Navigator		✓				✓				✓	✓	✓
Signal		✓				✓						
Snapstrends	✓	✓	✓		✓	✓	✓	90+ languages		✓	✓	✓
Social Sentinel	✓	✓				✓		100+ languages	✓			

- **Geo lenses/geofences** around a boundary to pull all public social media from within
- **Recording feature** to set a start and stop time for the collection of posts
- **Map layers** such as traffic and weather information
- **Sentiment analysis** assigns emotions to a post based on the words in it

Additional Features



- Has an email search option that locates all accounts associated with an email and reports a summary of their activity (ACAC, personal communication, 2016)



- Has a named entity extraction feature stores names of people, places, and things from posts ("Real-time threat intelligence," 2016)



- Maps sentiment according to the eight basic emotions: anger, disgust, fear, happiness, sadness, surprise, shame, and confusion ("Emotive," 2016)



- Has an image recognition tool that assigns tags to a picture based on objects it recognizes (NCAC, personal communication, 2016)



- Has a profile overlap feature that shows persons of interest that posted a monitored keyword (K. Toruno, webinar, March 9, 2016)



- Has a Local+ feature that combines extensive alert word library with local context ("Social media intelligence solution," 2016)

Conclusions

- Facebook is the most frequently used social media platform because there are less limitations and more information is available in terms of written posts, photos, videos, and events.
- Every center that uses social media for crime analysis has to follow a policy.
- Social media is mostly used reactively after an incident has occurred.
- Social media mining and monitoring tools require a lot of resources to follow because of vast amount of information that can be pulled.
- All mining and monitoring software pull public data.
- Software companies continue to add new features to remain competitive.

References

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