



Institute on  
Protective Services

# **Electronic Communication and Social Media Investigations**



# Digital Evidence Trends

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- Electronic communication and social media use possess an increasingly valuable source of evidence.
- Currently there are over 1 billion users of social networking worldwide.
- Social media and networking became the primary form of electronic communication, surpassing email in 2009.

# Digital Natives

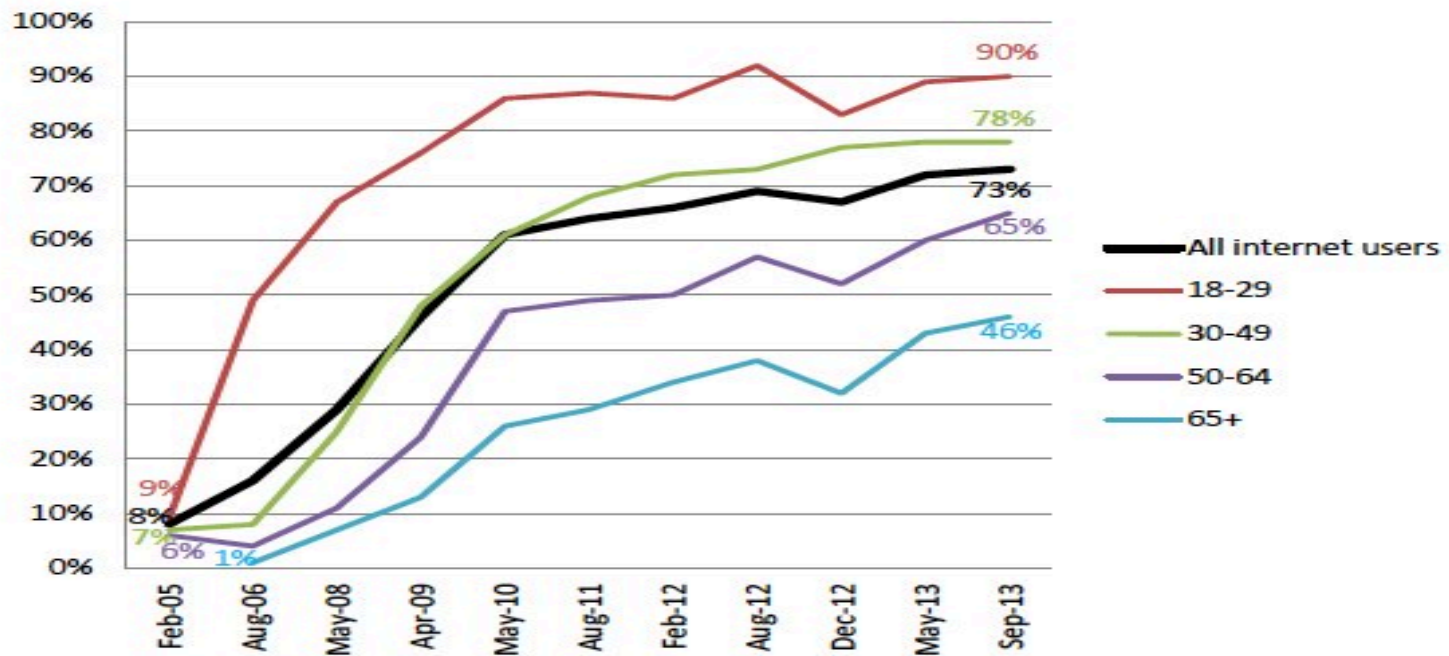
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- Marc Prensky coined the terms Digital Natives and Digital Immigrants when examining educational needs of students.
- Digital Natives have been born after 1980 and have spent most of their formative years learning and developing in a digital world.
- An understanding of the Digital Native concept can be applied to understanding differences in perspectives of ownership, privacy, and communication between Natives and Immigrants.

# Social Networking by Age

## Social networking site use by age group, 2005-2013

% of internet users in each age group who use social networking sites, over time



Source: Latest data from Pew Research Center's Internet Project Library Survey, July 18 – September 30, 2013. N=5,112 internet users ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on internet users is +/- 1.6 percentage points.

# Electronic Communication

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- Electronic communication evidence includes:
  - Voice mail
  - Instant Messaging
  - Email
  - Text messages

# Social Media

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- Social media is any web-based environment that allows users to easily create, publish and share content.
- Social media is defined by the user's control of the data.
- Social media is a user centred interactive information sharing.

# Social Media

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- Several types of social media currently exist:
  - Social Networks (Facebook, LinkedIn)
  - Media Sharing (YouTube, Instagram, Snapchat)
  - Activity Tracking (FourSquare)
  - Blogs and Microblogs (Twitter)
  - Social News (Digg, Reddit)
  - Discussion Forums and Review Sites (TripAdvisor, Yelp)
  - Wikis and Online Collaboration (Wikipedia)
  - Fund Raising (GoFundMe)

# Most Visited Sites in the United States

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#1 Google	#10 Reddit
#2 Facebook	#12 LinkedIn
#3 Amazon	#15 Imgur
#4 YouTube	#16 Pinterest
#5 Yahoo	#17 Tumblr
#6 Wikipedia	
#7 Ebay	
#8 Twitter	



# Social Networks

## Social Networks Used by US Internet Users, by Age, July 2014

% of respondents in each group

	14-17	18-34	35-54	Total
Facebook	63.7%	83.2%	74.1%	76.8%
YouTube	81.9%	77.6%	54.2%	66.4%
Twitter	31.0%	38.7%	28.3%	32.8%
Instagram	56.4%	37.2%	16.0%	28.5%
Google+	24.6%	25.0%	20.4%	22.7%
LinkedIn	1.5%	15.9%	20.0%	16.6%
Snapchat	36.8%	21.1%	4.2%	14.2%
Tumblr	23.8%	15.6%	5.7%	11.5%
Vine	31.8%	15.5%	3.5%	11.1%
WhatsApp	8.0%	9.8%	4.0%	6.8%
reddit	8.0%	8.5%	3.9%	6.2%
Flickr	3.6%	3.9%	6.9%	5.4%
Pinterest	3.6%	2.0%	0.6%	1.5%

Note: n=1,093 ages 14-54; use at least once a week

Source: NuVoodoo as cited in press release, Aug 28, 2014

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www.eMarketer.com

# Approach to Evidence

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- Best practice standards and case law are still being developed on the collection and use of electronic forms of evidence.
- Investigators must be prepared to accept evidence from electronic communication or social media that is provided during an investigation.
- Investigators should consult with their supervisor or legal counsel before actively pursuing evidence through electronic communication or social media.

# Collection of Text Messages

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- For text messaging, the Investigator should ask the person holding the evidence on their phone to take progressive screen shots of their text conversation chain from the start of the discussion of the incident through the current date.
- Screen shots should include date and time of each text entry.
- This must be done progressively in order to show the entirety of the messaging.
- Each screenshot should then be forwarded via email to the Investigator.

# Collection of Social Media

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- For social media sites such as Facebook, Twitter, etc., the Investigator should sit down at a computer with the person stating they are aware of the evidence.
- The Investigator should have the witness, log-in to the witness' account.

# Collection of Social Media

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- The Investigator should have the person identify any relevant entries on their wall and through messaging that potentially apply to the incident.
- The witness should then be instructed to take a screen shot (including the taskbar with the date and time showing) of the page containing relevant content.
- Each screenshot should then be forwarded via email to the Investigator.

# Collection of Social Media

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- On sites that allow comments, the field should be expanded to include all comments.
- In cases where the comments expand beyond a single screen view, multiple screen captures with overlap should be taken.

# Collection of Social Media

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- It is generally considered allowable and ethical for the evidence collection of publically available data.
- While most social media networks allow the user to determine their own privacy setting, users often choose to make a lot of information available to the public.
- The Investigator should utilize the same evidence capturing techniques as described above for information they find in the public domain.

# Collection of Social Media

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- It is not advised to attempt to gain access to non-public information through the Investigator attempting to gain direct access to that information during the course of the investigation, i.e. sending a “friend request” during the course of the investigation.
- Additionally, Investigators should not use the method of pretexting in the gathering of evidence. Pretexting is when the investigator misrepresents his/her identity for the purpose of obtaining information, i.e. using a false identify to send a “friend request”.



# Relevance and Authentication

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- Before you can introduce a *writing* into evidence, you have to make a preliminary showing of relevance to the issues to be decided in the action.
- This usually entails authenticating the *writing*.
- Authentication involves introducing evidence sufficient to sustain a finding that it is what it is being purported to be.

# Challenges to Authentication

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- Authentication can be a challenge with digital evidence as it can be difficult to establish that someone else did not:
  - Send the messages;
  - “Hack” the alleged author’s social media site;
  - Use the account when the alleged author left account unattended; or
  - Setup a fictitious account.

# Authentication Methods

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- The original author of a communication or posting can authenticate that a communication, post or comment was indeed made by them.
- If there was a witness who directly observed another individual send or submit the communication, that witness may also be able to authenticate the evidence.

# Authentication Methods

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- A witness may testify to how they discovered the evidence and why they believe the evidence can be attributed to the alleged author.
- Lastly, the investigator can seek to demonstrate the author through circumstantial evidence including:
  - Interviewing witnesses
  - Gathering corroborating detail of activities and timelines
  - Gathering corroborating details from other social media sites

# Law Enforcement Referrals

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- Different States have different laws that would allow for a referral to law enforcement to be made. For example, here in Pennsylvania, charges could include:
  - 18 Pa. Cons. Stat. § 7613 - Computer Theft
  - 18 Pa. Cons. Stat. § 7615 - Computer Trespass
  - 18 Pa. Cons. Stat. § 6312 - Online Child Pornography
  - 18 Pa. Cons. Stat. § 7611 - Unlawful Use of Computers and E-mail
  - 18 Pa. Cons. Stat. § 2709 – Harassment
  - 18 Pa. Cons. Stat. § 2709.1 –Stalking

# PS Investigator Use of Social Media

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- Safety focused
- Confidentiality of professional information
- Consideration of online relationships
- Response to unprofessional and unethical online behavior by other online professional colleagues

# We Are on Social Media Too

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- [Facebook.com/InstituteOnPS](https://www.facebook.com/InstituteOnPS)
- Twitter: @InstituteOnPS
- Chris Dubble: [dubble@temple.edu](mailto:dubble@temple.edu)