Safer Social Networking

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Information Security and Privacy Office

City of Phoenix

Agenda

- Social networking risks
  - Things you can’t control
    - Malware, privacy policies
  - Things you can control
    - TMI and over sharing
    - Reputation and lifestyle, personal safety, burglary risk
- Protection strategies

Pop Quiz

- Why do bad guys attack social networking sites, like Facebook and Twitter?

Pop Quiz

- Why do bad guys attack social networking sites?
- That's where the people are!
  - Facebook: 1.15 billion users
  - Twitter: 500 million total users
  - LinkedIn: 238 million users
  - Instagram: 130 million users
  - Pinterest: 70 million users
  - Snapchat: 5 million

Pop Quiz

- What do bad guys want?

What Do Bad Guys Want?

- Money
  - From ID theft / fraud
  - From sending spam
  - From selling ads or info about you to marketers

What Do Bad Guys Need?

- For ID theft / fraud
  - Your personal info
  - Your account credentials
  - Your money (by tricking you into giving)
- For sending spam
  - Your email account / credentials
  - Control of your PC
- For ads and marketing
  - Info about you – demographics, likes, hobbies, friends, location

How Do Bad Guys Get It?

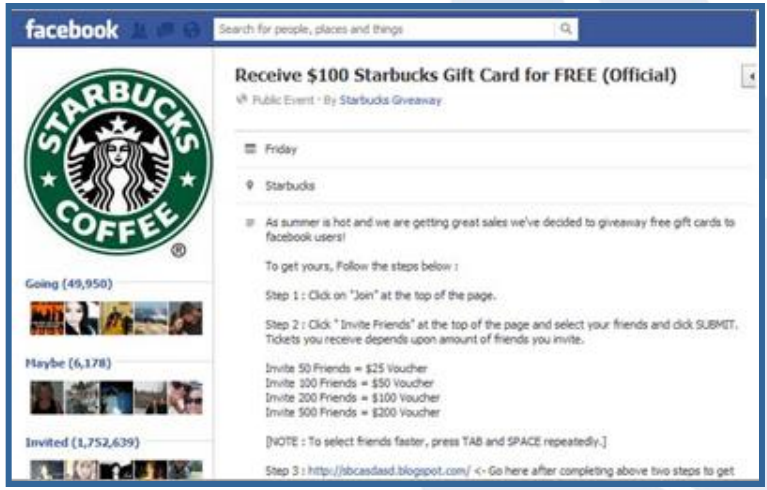
- Your personal info and/or account credentials
  - Phishing scams
    - We lost your password, please give it to us
  - Keystroke loggers
  - Hack attack / password crack / password guess
- Control of your PC
  - Virus / worm / malware
- Your money
  - Scam
    - I'm stuck in Canada, please wire money
    - I'm a Nigerian prince, help me get money out of my country
    - I've encrypted your computer, wire me money
- Info about you
  - Spyware
  - Info you provide (posts, mail lists, location)
  - Info collected (sites visited, items purchased)

Common Social Media Scams

- Free giveaways, like for a new iPhone
  - But you have to give up personal info or download a program/app
  - Goal: ID theft or infect your device
- Viral videos
  - But you have to install a new video player
  - Goal: infect your device
- Keep current on Facebook scams, check out ***facecrooks.com***

Anatomy of a Pinterest Scam

- Bad guys create an ad for a freebie and post it all over Pinterest
- You click on the link
  - You're asked to re-pin the photo (and spread the scam)
  - You must enter personal details or sign up for a service



- Don't fall for too-good-to-be true offers
- Don't blindly trust requests for personal info
- Be wary of "fun" surveys
  - They're often gathering info about you to sell to marketers or to guess your passwords

Twitter Hack – February 2013

"We detected unusual access patterns that led to us identifying unauthorized access attempts to Twitter user data. We discovered one live attack and were able to shut it down in process moments later. However, our investigation has thus far indicated that the attackers may have had access to limited user information – usernames, email addresses, session tokens and encrypted/salted versions of passwords – for approximately 250,000 users."

- Lessons:
  - Use long, strong passwords – at least 10 mixed characters
  - Use different passwords for different things
    - Banking, social media, email, work…

How Are Social Nets Using Your Info?

Privacy Policies and Terms of Use

- Sites must post their privacy policy and terms of service
- In privacy policies, look for
  - What information about you is collected
  - How is it used
  - With whom is it shared
- In terms of service, look for
  - Conditions for using site / app / software
  - Ownership of any content you post / submit

- FYI… Researchers say Google's latest terms and conditions are more difficult to understand than Anglo-Saxon saga Beowulf

Quiz:
Would you use this IM service?

From an instant messaging site

Terms of Use / Privacy Policy:

[…] By using our service/website you hereby fully authorize [redux] to send messages of a commercial nature via Instant Messages and E-Mails on behalf of third parties via the information you provide U.S.. This is not a "phishing" site that attempts to "trick" you into revealing personal information. Everything we do with your information is disclosed here. If you are under eighteen (18), you MUST obtain permission from a parent or guardian before using our website/service.

[…] We may temporarily access your [IM] account to do a combination of the following:

1. Send Instant Messages to your friends promoting this site.
2. Introduce new entertaining sites to your friends via Instant Messages.

Too Many Permissions

- Samsung and Jay-Z created an app that lets users hear Magna Carta Holy Grail three days before its release
- Apps wants the following permissions
  - To modify and delete contents stored on your phone
  - To prevent the phone from sleeping
  - To view a list of all running apps and accounts set up on the phone
  - For your location, via the GPS
  - For full network access
  - To see who you're talking to on the phone
  - To run at startup and to test access to protected storage
  - To control the phone's vibration
- The app sends/posts to your contacts every time you listen to a song
  - You must log into your Twitter or Facebook account before listening

Facebook Privacy Policy – Ilene's Personal ***Opinions***

- Facebook's privacy policies are confusing
  - But better than they used to be
- Facebook shares info about you with its partners
- Facebook has gotten into trouble over its privacy policies
- You cannot control privacy policies – but you can control what info you provide
  - Just consider everything you post available to the world

Data Use Policy

Date of Last Revision: December 11, 2012

Information we receive and how it is used
- Information we receive about you
- Public information
- Usernames and User IDs
- How we use the information we receive
- Deleting and deactivating your account

Sharing and finding you on Facebook
- Control each time you post
- Control over your timeline
- Finding you on Facebook
- Access on phones and other devices
- Activity log
- What your friends and others share about you
- Groups
- Pages

Other websites and applications
- About Facebook Platform
- Controlling what information you share with applications
- Controlling what is shared when the people you share with use applications
- Logging in to another site using Facebook
- About social plugins
- About instant personalization
- Public search engines

How advertising and Sponsored Stories work
- Personalized ads
- Ads + social context
- Sponsored stories
- Facebook content

Cookies, pixels and other similar technologies
Some other things you need to know

Facebook Can Use You in Ads

- Facebook says that it can freely use a your name, photo, comments, and other information in ads
  - As long as it shows the ad only to people who already have rights to see the underlying information
- Example: if you compliment Starbucks' pumpkin spice latte in a post that can be viewed by your Facebook friends, the coffee company can pay Facebook to broadcast that comment to all of your friends to improve the chances that they see it
  - Called a sponsored story
  - It's valuable to advertisers because it looks like a product endorsement from a trusted friend rather than a traditional ad

More Recent Facebook Privacy Policy Changes

- People can search for any existing users on Facebook, including those who had disabled this search option in their Facebook privacy settings
  - “Your name, gender, username, user ID (account number), profile picture, cover photo and networks (if you choose to add these) are available to anyone since they are essential to helping you connect with your friends and family”
- Teenagers can post status updates, videos and images that can be seen by anyone, not just their friends or people who know their friends
- By default, new accounts for teenagers will be set up to share information only with friends, not friends of friends as before (good!)

Facebook Privacy

- Wall Street Journal has a good article describing Facebook privacy settings
  - http://online.wsj.com/article/SB10001424127887324880504578300312528424302.html
- Instructions for locking down your Facebook privacy settings
  - http://facecrooks.com/Internet-Safety-Privacy/how-to-lockdown-your-facebook-account-for-maximum-privacy-and-security.html
  - http://gizmodo.com/5986399/how-to-lock-down-your-facebook-privacy-before-graph-search-strikes
  - http://www.csoonline.com/slideshow/detail/123265/Six-steps-to-better-Facebook-privacy-management?source=CSONLE_nlt_update_2013-10-13

Facebook “Likes” Reveal More than You Think

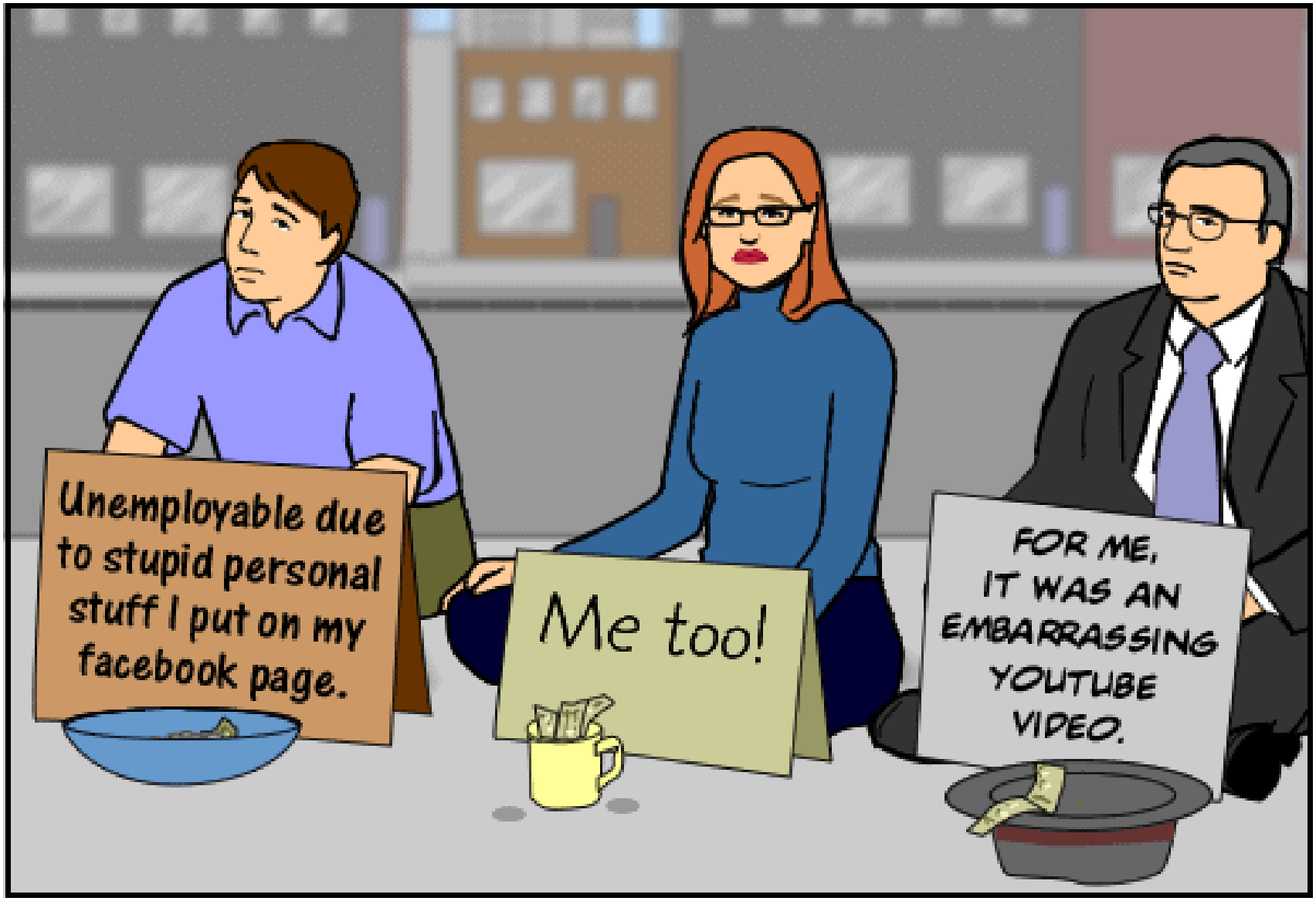
- 2013: Cambridge University analyzed “likes” of more than 58,000 Facebook users (study volunteers)
- They were able to “automatically and accurately estimate a wide range of personal attributes that people would typically assume to be private”
  - Race (African Americans vs. Caucasians), 95% of cases
  - Gender, 93% of cases
  - Sexual orientation for males (88%) and females (75%)
  - Political party (Democrat vs. Republican), 85% of cases
  - Religion (Christian vs. Muslim), 82% of cases
  - Substance use 73% of the time
  - Relationship status 65% of the time

Sites Teens Use Instead of Facebook

- Snapchat
  - Users send “Snaps” — photos or videos — that last between 1 and 10 seconds as set by the sender
- Pheed
  - Users create and share videos, photos and voice tracks, plus make live broadcasts and share posts of 420 characters or less
- PicsArt
  - Users edit photos, draw, and share art
- Tumblr
  - Users blog and post photos and videos
- Vine
  - Users share videos that are six seconds or less

Things You Can Control

The Joy of Tech™ by Nitrozac & Snaggy



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Signs of the social networking times.

Think Before You Post

- Millersville University refused to give Stacy Snyder a teaching credential
  - Stacy was weeks away from graduating
- School officials saw Stacy's photo on MySpace
  - Labeled "drunken pirate"
  - School accused her of promoting underage drinking

Reputation and Lifestyle

- CA company, Social Intelligence, searches social networks to help companies decide if they want to hire you
  - Systematically trolls social networks for evidence of bad character
  - Looks for racy photos, comments about drugs and alcohol…
- Evaluates you in categories
  - Poor judgment, gangs, drugs and drug lingo, demonstrating potentially violent behavior…

SOCIAL MEDIA SCREENING AND RESEARCH.

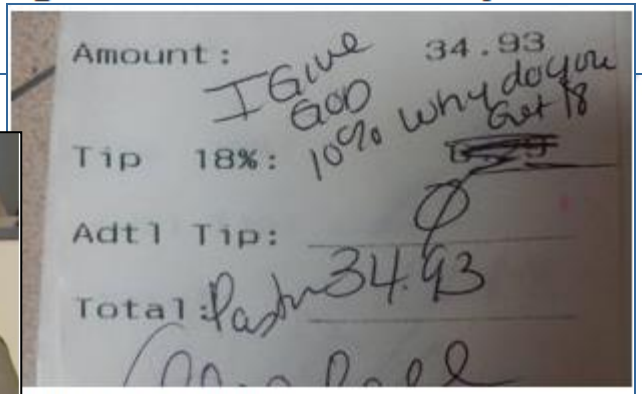
Think Before You Post

- On Facebook, wife learns of husband's 2nd wedding

- Police charge deadbeat dad with 3 felony counts after seeing Facebook picture of him "rolling in money"

Fired for Posting on Social Media

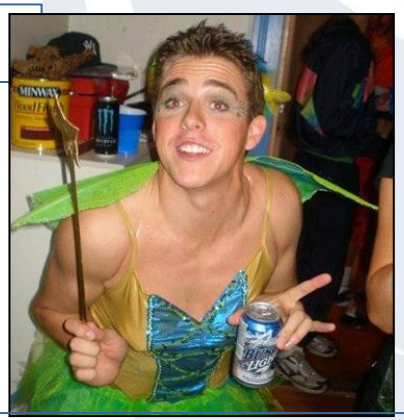
Applebee's defends firing of waitress who posted pastor's 'God' receipt



Reddit via Consumerist)

Temp Worker Calls CEO a "Complete Tool"

WI dispatcher "addicted to vicodin, adderall, quality marijuana, MD 20/20 grape and absinthe"

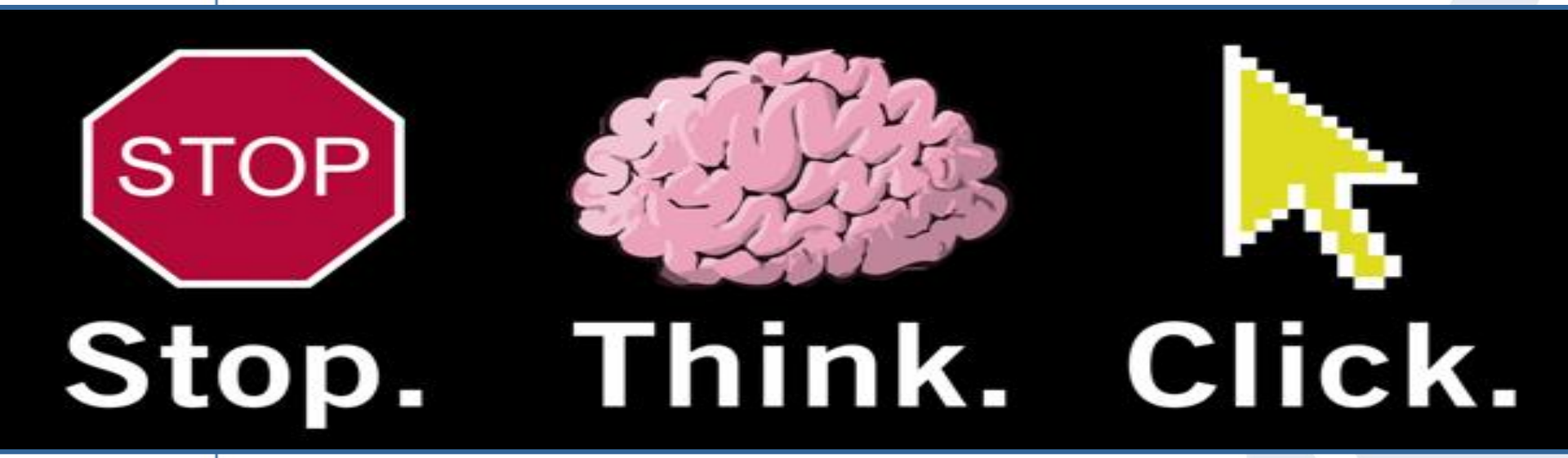


Bank intern's "family emergency"

Even “Smart” People Do Dumb Things on Facebook

- A Cuyahoga County, OH prosecutor posed as an accused killer’s girlfriend on a Facebook chat with the alibi witnesses and tried to persuade them to change their testimony
- He admitted doing it and said he did nothing wrong
  - “Law enforcement, including prosecutors, have long engaged in the practice of using a ruse to obtain the truth.”
- He was fired for unethical behavior
  - “By creating false evidence, lying to witnesses as well as another prosecutor, [prosecutor] has damaged the prosecution’s chances in a murder case where a totally innocent man was killed at his work.”

Think Before You Post



Pop Quiz

- What key piece of info do these folks want to know about you?
  - Stalkers
  - Potential dates
  - Bullies
  - Curious
  - Predators
  - Muggers
  - Marketers

Pop Quiz

Location

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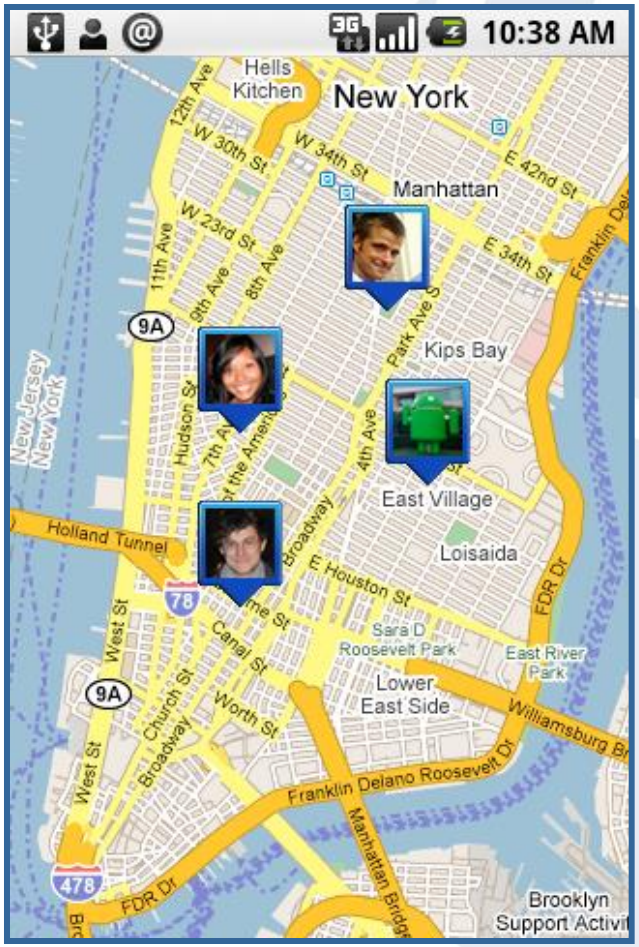
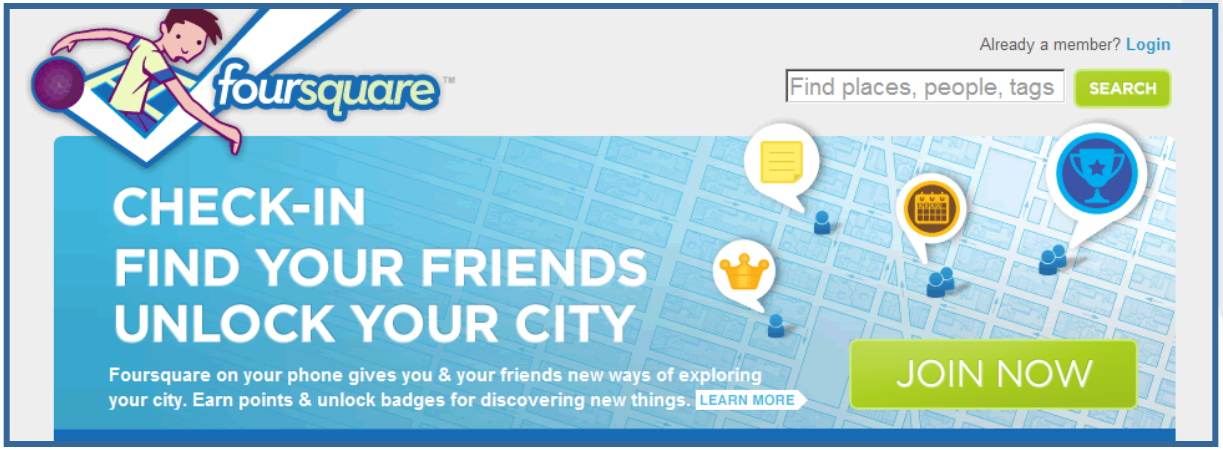


So, where are you?

- I’m on vacation!
- This concert’s amazing!



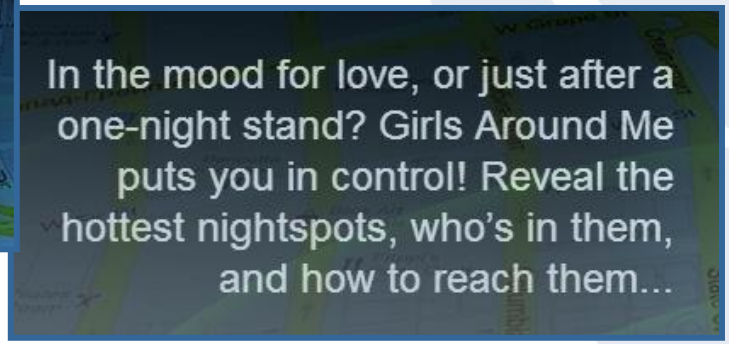
So, where aren't you?

Yes – It Really Happens

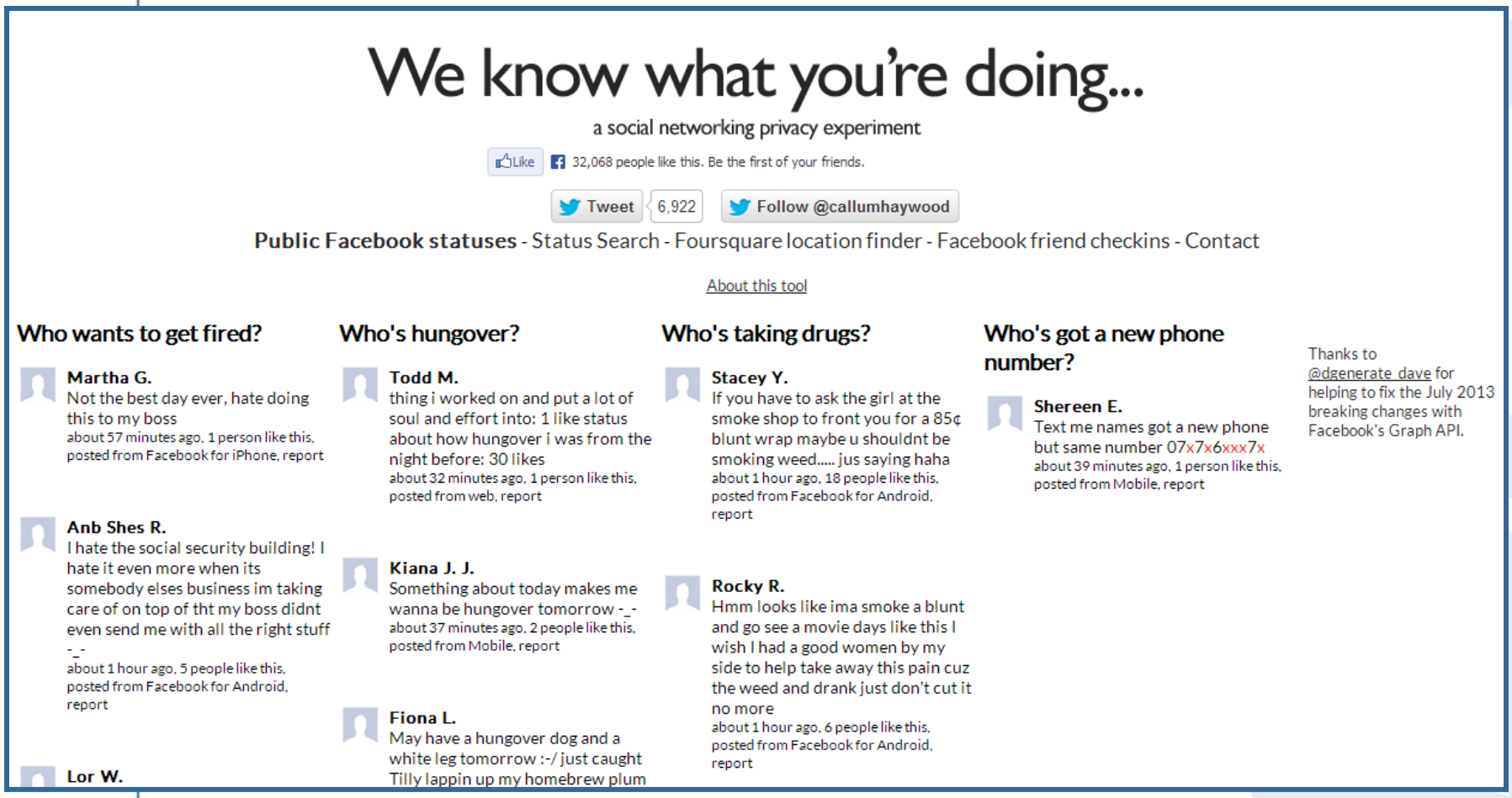
- August 2010, Nashua, NH: 50 home burglaries
- Suspects used social networking sites to identify victims who posted online that they would not be home at a certain time
- Police recovered between $100,000 and $200,000 worth of stolen property

Girls Around Me App

- "… scans your surroundings and helps you find out where girls or guys are hanging out
  - Browse photos of lovely local ladies and tap their thumbnail to find out more about them"
- Uses publicly available information retrieved from the Foursquare and Facebook



So why are privacy settings important?



We know what you're doing...

a social networking privacy experiment

Like 32,068 people like this. Be the first of your friends.

Tweet 6,922 Follow @callumhaywood

Public Facebook statuses - Status Search - Foursquare location finder - Facebook friend checkins - Contact

About this tool

Who wants to get fired?

Martha G.
Not the best day ever, hate doing this to my boss
about 57 minutes ago, 1 person like this, posted from Facebook for iPhone, report

Anb Shes R.
I hate the social security building! I hate it even more when its somebody elses business im taking care of on top of tht my boss didnt even send me with all the right stuff -_-
about 1 hour ago, 5 people like this, posted from Facebook for Android, report

Lor W.

Who's hungover?

Todd M.
thing i worked on and put a lot of soul and effort into: 1 like status about how hungover i was from the night before: 30 likes
about 32 minutes ago, 1 person like this, posted from web, report

Kiana J. J.
Something about today makes me wanna be hungover tomorrow -_-
about 37 minutes ago, 2 people like this, posted from Mobile, report

Fiona L.
May have a hungover dog and a white leg tomorrow :-/ just caught Tilly lappin up my homebrew plum

Who's taking drugs?

Stacey Y.
If you have to ask the girl at the smoke shop to front you for a 85¢ blunt wrap maybe u shouldnt be smoking weed..... jus saying haha
about 1 hour ago, 18 people like this, posted from Facebook for Android, report

Rocky R.
Hmm looks like ima smoke a blunt and go see a movie days like this I wish I had a good women by my side to help take away this pain cuz the weed and drank just don't cut it no more
about 1 hour ago, 6 people like this, posted from Facebook for Android, report

Who's got a new phone number?

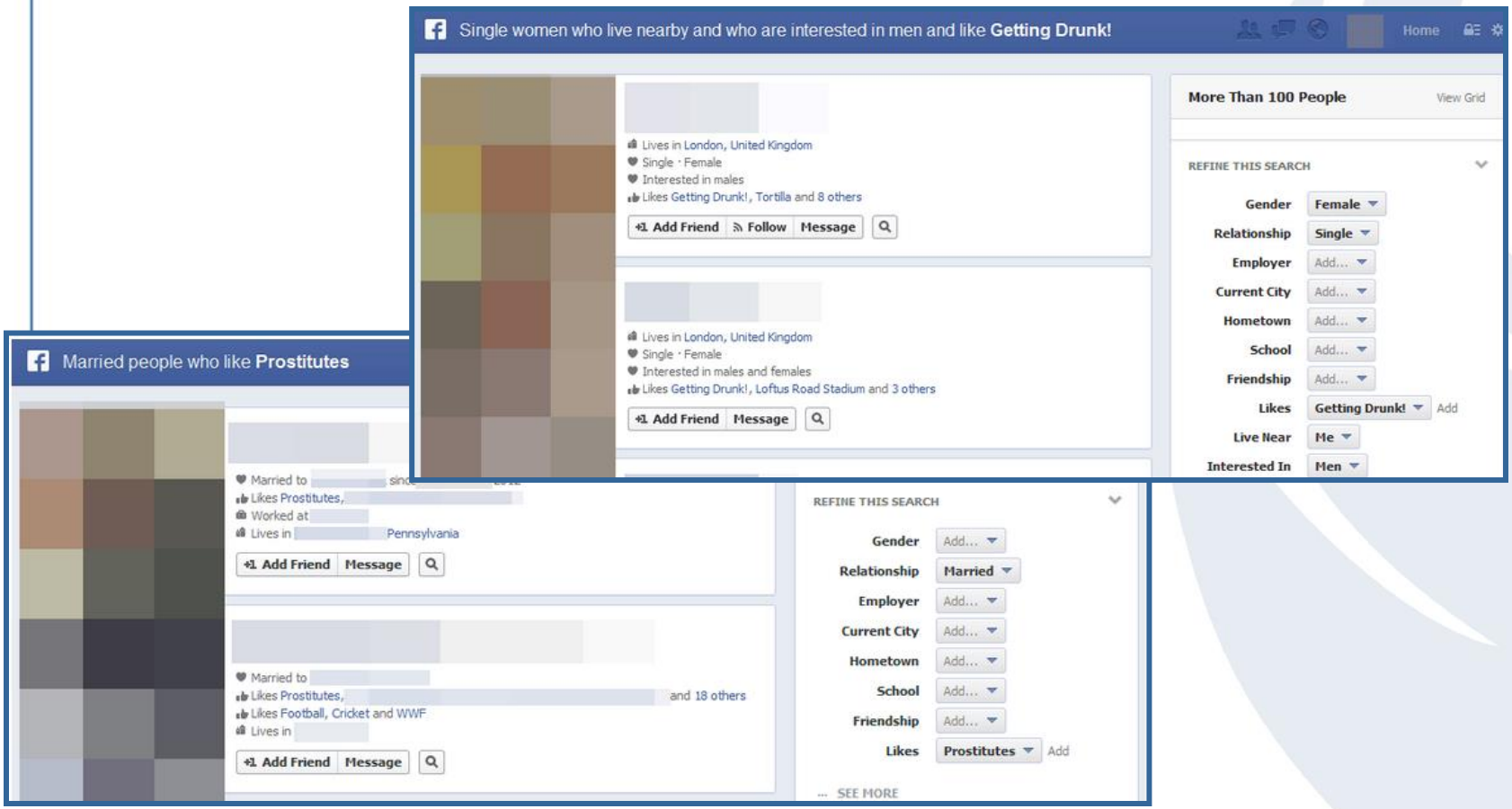
Shereen E.
Text me names got a new phone but same number 07x7x6xxx7x
about 39 minutes ago, 1 person like this, posted from Mobile, report

Thanks to @dgenerate_dave for helping to fix the July 2013 breaking changes with Facebook's Graph API.

- www.weknowwhatyouredoing.com

So why are privacy settings important?

- Facebook's new graph search easily uncovers, um, a lot



Think Before You Post

- Teen Alexa takes a picture of her brother as he sits on the family jet, devouring a Ritz-worthy buffet on their way to Fiji
  - She posts it on Instagram and points to it via her Twitter account
- On the same Twitter account, Alexa happily details her every move
  - The exact days she would arrive in, say, New York
  - Where she was shopping
  - High school graduation dinner invitation that foretold where (time, date, location) her dad and his wife would be in a couple of weeks' time
- Dad is Michael Dell, head of Dell Computers
- He pays about $2.7 million a year for the security protection of his family
  - They shut down Alexa's Twitter account

Think Before You Post

Social Media Can Be Used for Good

- In the Steubenville, Ohio rape case, witnesses and even the rapists themselves all posted details and accounts of the rape on Twitter and Facebook
- That's how the convicted teenagers that committed the rape got caught
- Because of Twitter, Instagram, Facebook and other media, there is written and visual proof of the actual rape and the blacked out condition of the rape victim
  - But this record is going to live online forever

Real Teens – Real Harassment

- Jasmine: Most of my Facebook friends are strangers. I get eight requests a day and pretty much just add anyone who asks. I get messages from strangers all the time and always have a chat with them, until they say something weird or pervy and then they get deleted.
- Emily: I get propositioned by strangers all the time on Facebook. A man I know through someone else, in his 30s, tried to befriend me and sent me obscene messages. He wanted to meet me. Mum went ballistic and made me block him and then she confronted him. Men also send explicit pictures but Mum blocks them straight away.

Jasmine, aged 14

4,204 friends

3,897 are strangers

121 male strangers over 30

7 have asked to meet

30 have bullied her

Emily, aged 15

642 friends

80 are strangers

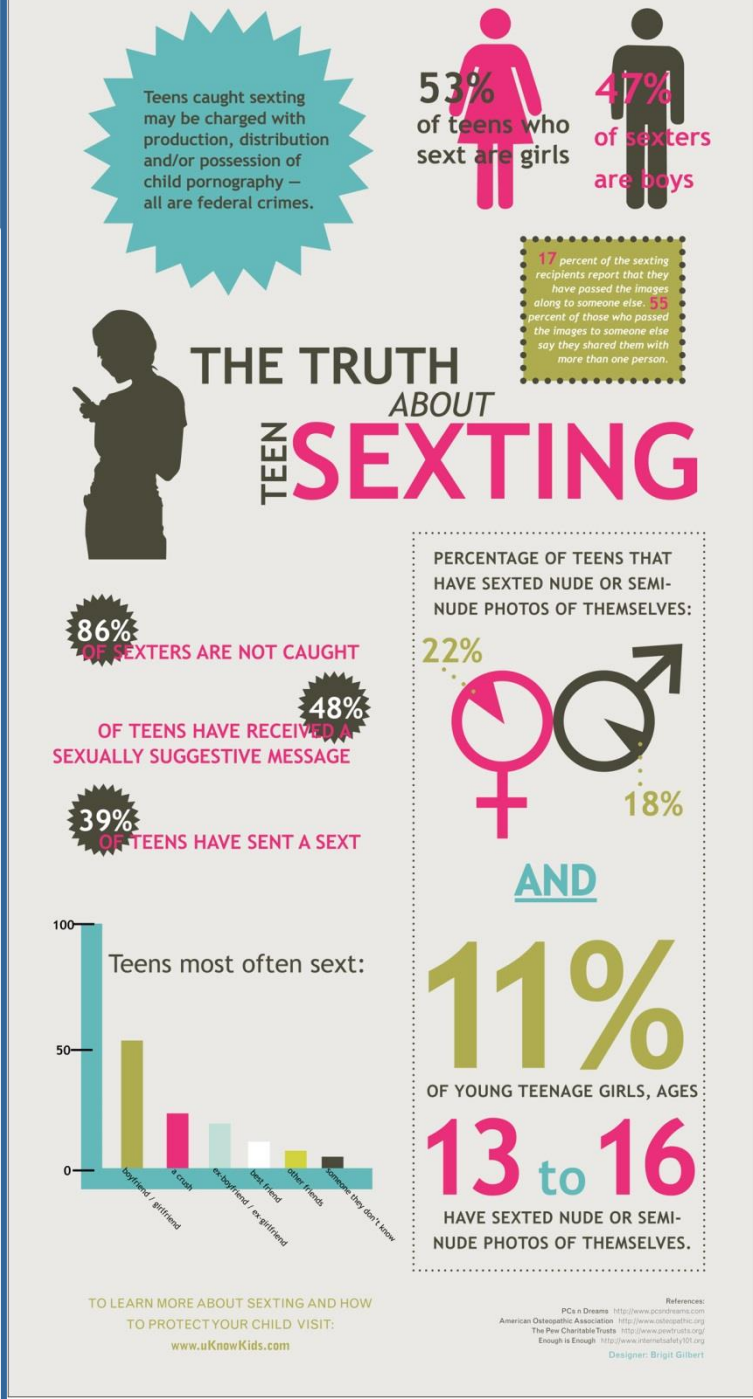
70 male strangers over 30

30 have asked to meet

50 have bullied her

Sexting

- Sexting: Texting a racy photo of yourself (or just a body part) from your cell phone to another phone, emailing it to a friend, or posting it to your online profile page



Sexting: It's not just for kids

Anthony Weiner

Tiger Woods

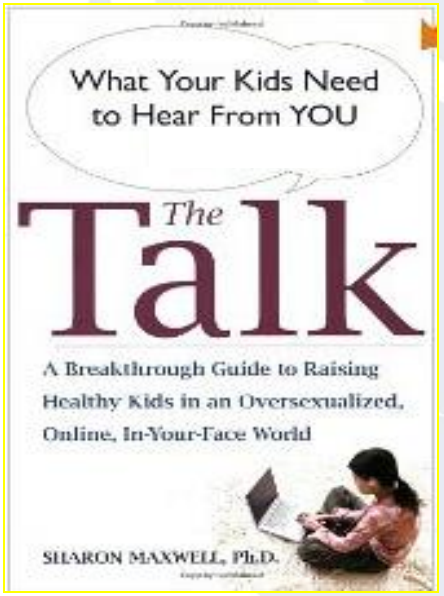
Brett Favre

I'll Just Use Snapchat…

- Snapchat lets a user send a text, photo or video that purportedly self-destructs within 10 seconds of being opened
  - One of the most-downloaded free iPhone apps
- Its messages aren't guaranteed to disappear
  - Anyone receiving a text or photo can within 10 seconds capture a "screenshot"

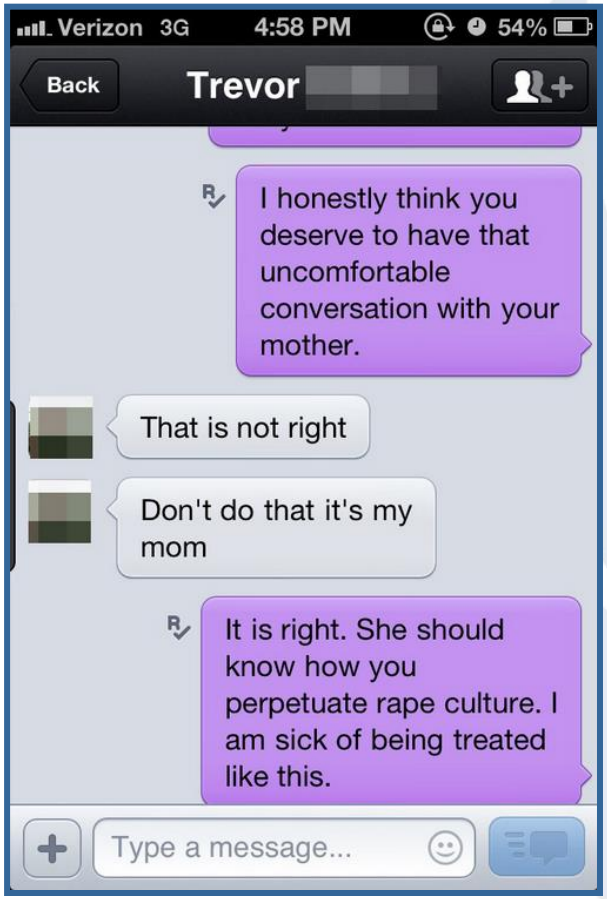
Have “The Talk” with Kids (and Spouse!)

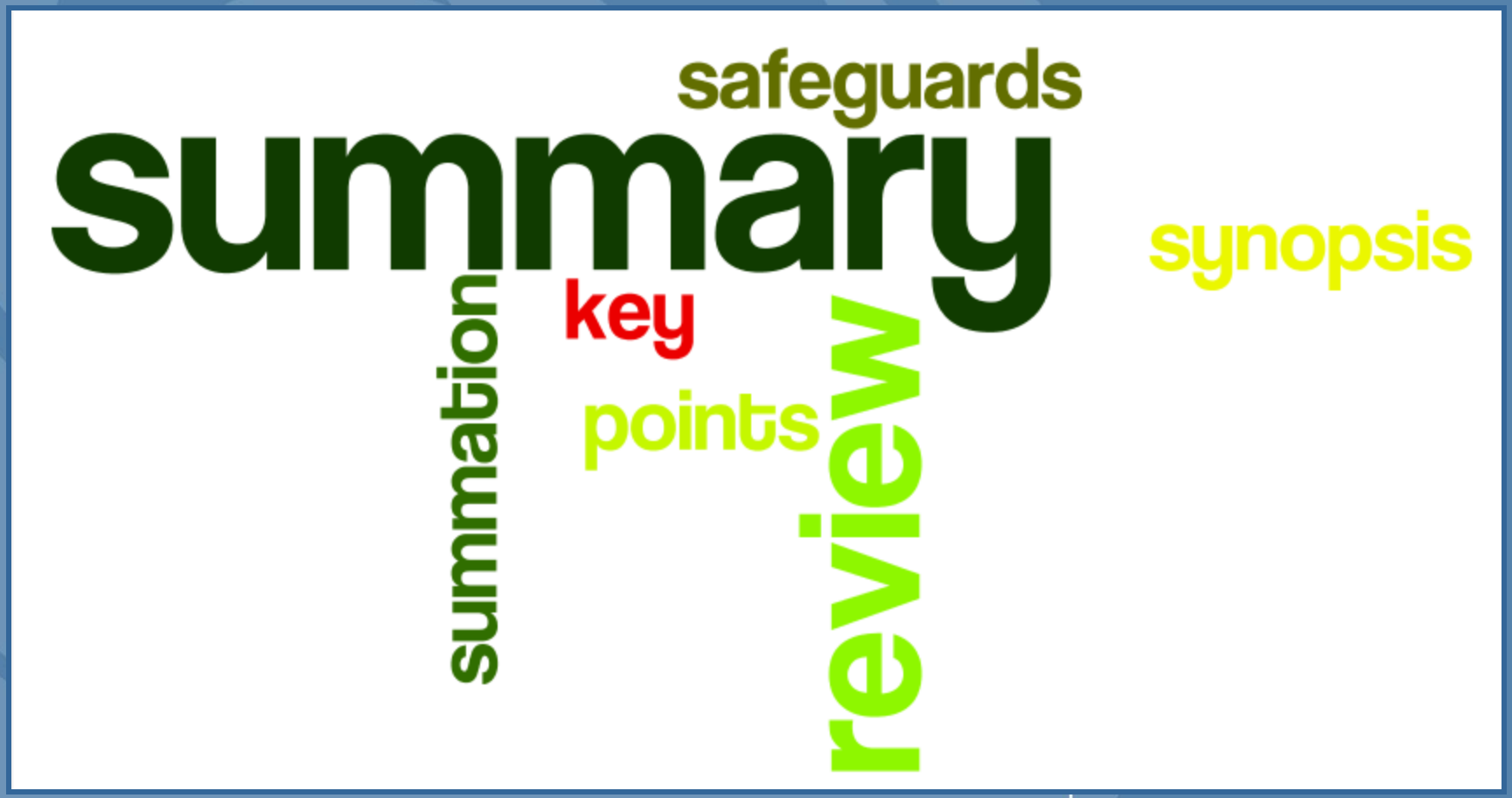
- **Old: Sex Education; New: The Technology Talk**
  - Make it a conversation, not a lecture
- Key points
  - Online actions have real-world consequences
  - Be careful when posting – you can’t take it back
    - They can’t hide behind what they post
  - Trust their gut if they’re suspicious
    - Predators are out there
  - Some info should stay private
    - Full name, address, picture, location…
  - Never meet an online contact alone and without your knowledge



Here's One Way to Stop Unwanted Pics

- Woman on dating site sends unsolicited picture to sender's mom




safeguards
summary
synopsis
summation
key
points
review

Protect Your Safety

- Practice a little self-censorship
- Keep daily routines, locations, and whereabouts to a minimum
  - Don’t “check in” everywhere you go
- If you go on a trip, reveal everything you want after your travels
- Talk to your family about good online safety and security habits, including protecting their personal information and their reputation
  - Know what sites your family visits online

Protect Your Family

- Put the family PC in the middle of the living room

Protect Your Privacy and Reputation

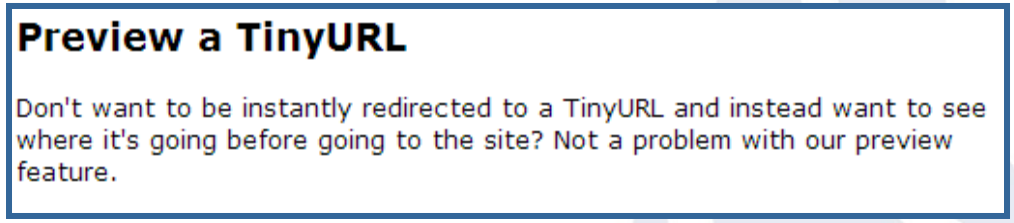
- Pick the strongest privacy settings
  - Verify regularly that they haven't changed
- Always assume that anything posted can be seen by friends, family (your mom!), employers, government agencies, health insurance companies, and law enforcement
  - Even sending private messages using a social networking site
- Plug your name into a search engine and make sure what comes up is information you want to share with the world

Pick Your Friends

- Don’t blindly accept friend requests
  - “Friends” can often see more info than everybody (public)
- Only link to people you actually know
  - Like on LinkedIn
- Remember, not everyone who can see your online information has your best interests in mind
  - Predators, thieves, con men…
- Don’t post potentially sensitive information about other people
  - Understand and respect your friends’ privacy preferences

Protect Your Computer

- Don’t download tools or software updates when prompted to do so after clicking a link from a social networking site
  - Go to the software vendor’s site using a known URL
- Preview shortened URLs
- Don’t click on links that promise shocking or embarrassing videos
- Review the list of apps and sites that you granted access to your social networking accounts
  - Deauthorize services you no longer use
- Keep antivirus and security patches up-to-date



Protect Your Accounts: Passwords

- 75% individuals use same password for social networking and email

- What's the risk?
  - Social networking sites are notorious for being hacked (passwords stolen)
- Use one password only for social networking
  - Don't use Facebook to sign in to other websites / services
- Make it long and strong
  - 10+ characters, mixed alpha, numbers, special characters
- Learn more: see Password Cracking 101 and Password Management 201, phoenix.gov/infosec Resources page

Protect Your Accounts: Choose Strong Security Questions

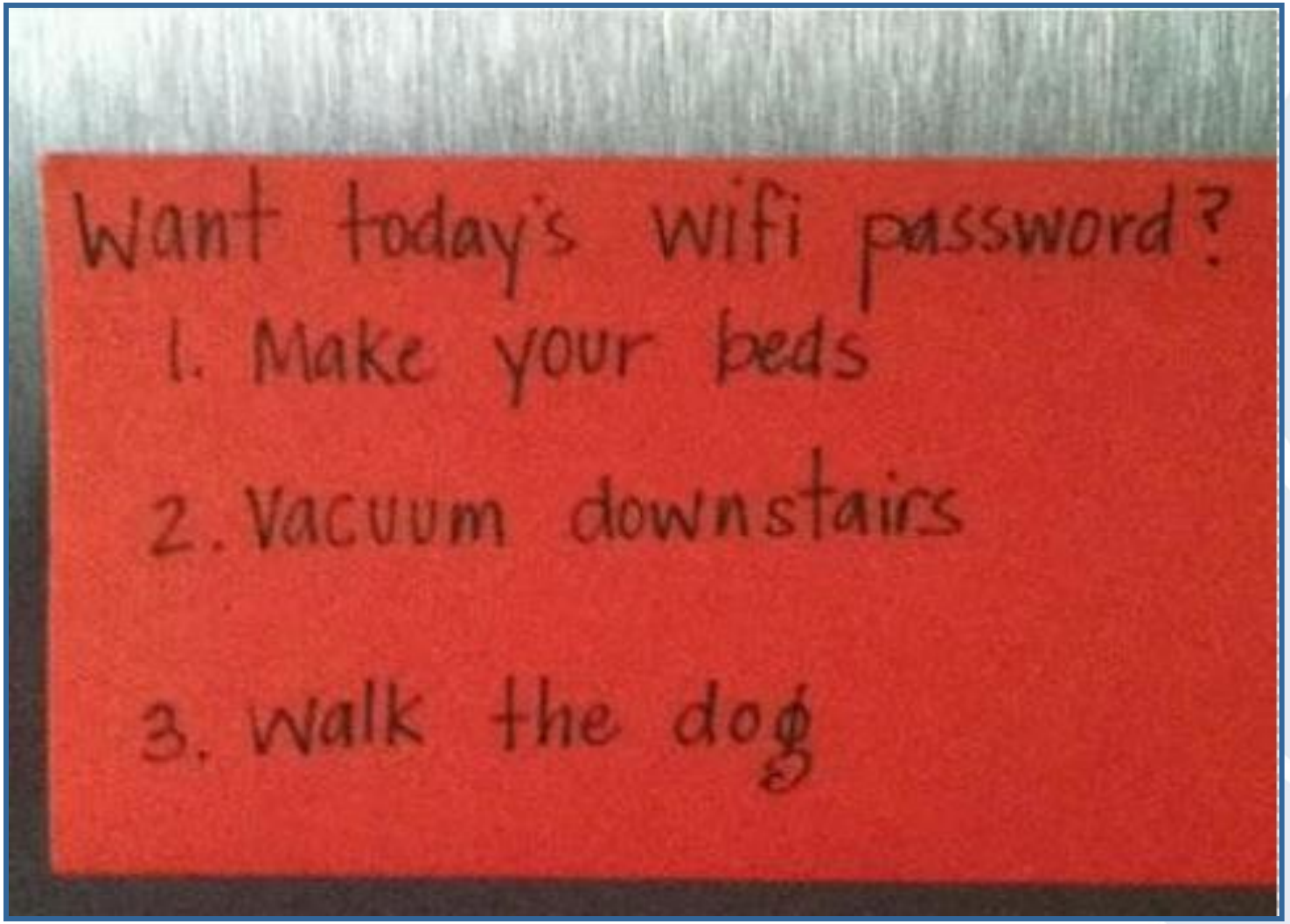
- 2012: Mitt Romney's free email account was hacked
- 2008: Sarah Palin's free email account was hacked
  - The hackers guessed the answers to security questions to change the accounts' passwords
- Don't post info that could be used to guess your password-reset security questions
  - Favorite pet, old schools, old addresses or neighborhoods, where you were born, parents' names, first car…

Protect Your Company: Follow Your Company's Policy

- Criminals and competitors can use sensitive info you post against your company

- Example: Competitor uses info you post about work to embarrass your company, employees, or products
- Example: Bad guy uses information you post to craft phishing emails that contain authentic details about your company
  - Coworkers are more likely to think emails are legit and click on links or open attachments
- Example: Tech Support posts a question on a techie blog and describes your computing environment in great detail
  - Hacker now knows which exploits to use to attack

Great Moments in Parenting

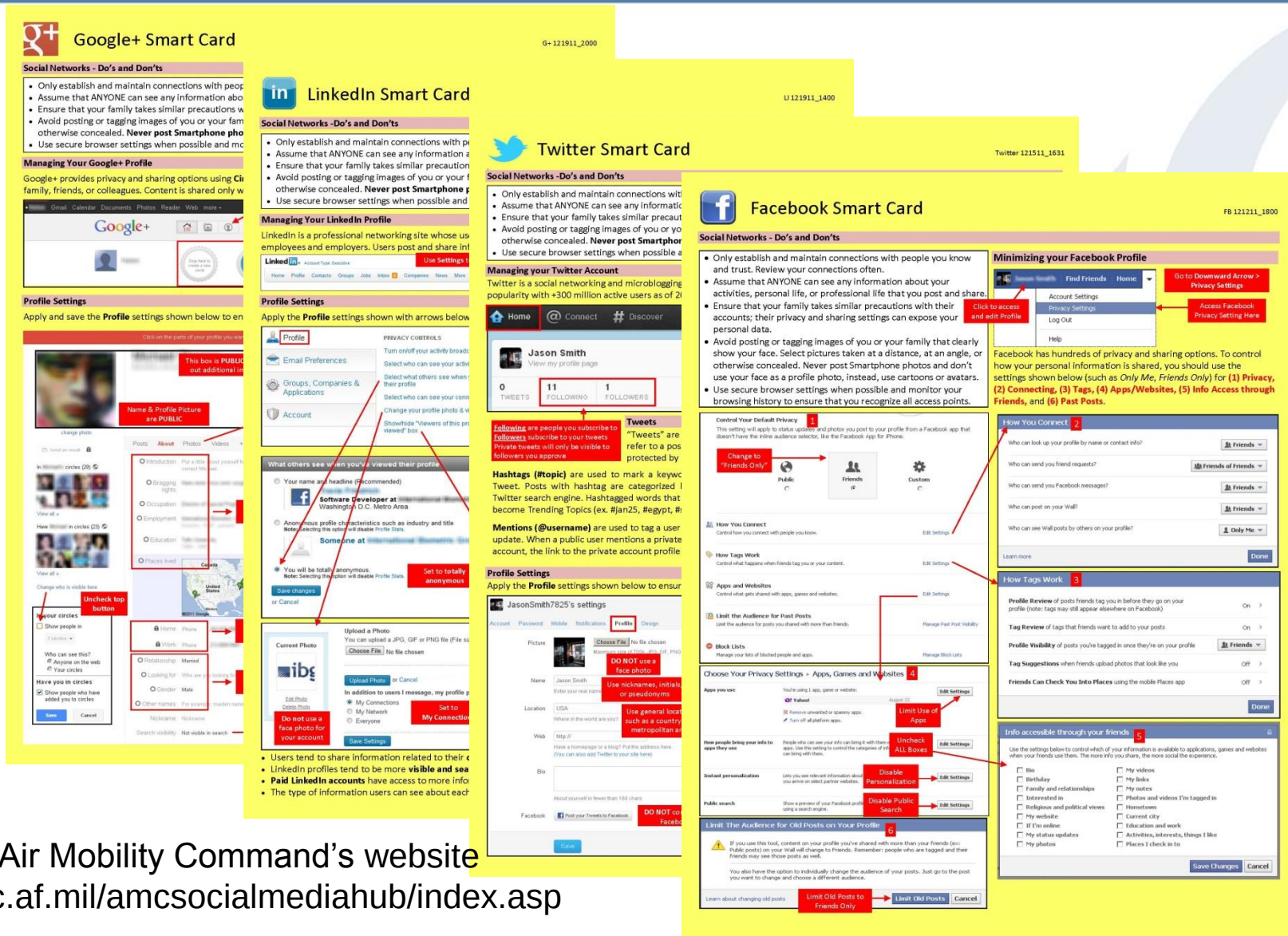


Thank You!

- For more information, please visit phoenix.gov/infosec

More Cowbell
(Supplemental Info)

Social Media Smartcards



Available from Air Mobility Command's website
http://www.amc.af.mil/amcsocialmediahub/index.asp

Highlights of Facebook's Proposed Privacy Changes

- Your information may show up along ads for companies that you have "liked"
- You can opt out of your information appearing in social ads, though you can't opt out of your name being attached to Sponsored Stories in your friends' news feeds
  - The only way to avoid that is to not like or share any content from a brand page
- Your name and picture will not appear next to ads to strangers
  - Only your Facebook friends can see that info
- Users won't be compensated for allowing their image to be co-opted by advertisers

Facebook Delays Controversial Privacy Policy Change

- Facebook said it would hold off proposed revisions to Facebook's privacy policy until week of 9/16/2013
- Policy states that Facebook users automatically consent to having their likenesses used by Facebook – unless members say otherwise
- Privacy advocates allege that the new document still violates the agreement by letting Facebook use personal information in ads without sufficient explicit consent from members

Fake Contact Requests

- October 2010 – LinkedIn fake contact requests
  - Email appears to be a contact request sent from LinkedIn – “click to view the request”
  - Users who click on the link are routed to an intermediary website with the notification “Please wait ... 4 seconds”
  - Then users are redirected to Google
  - Malware Bugat is downloaded to PC in the 4 seconds
    - Bugat harvests info during online banking sessions

Why Have a Fake Profile?

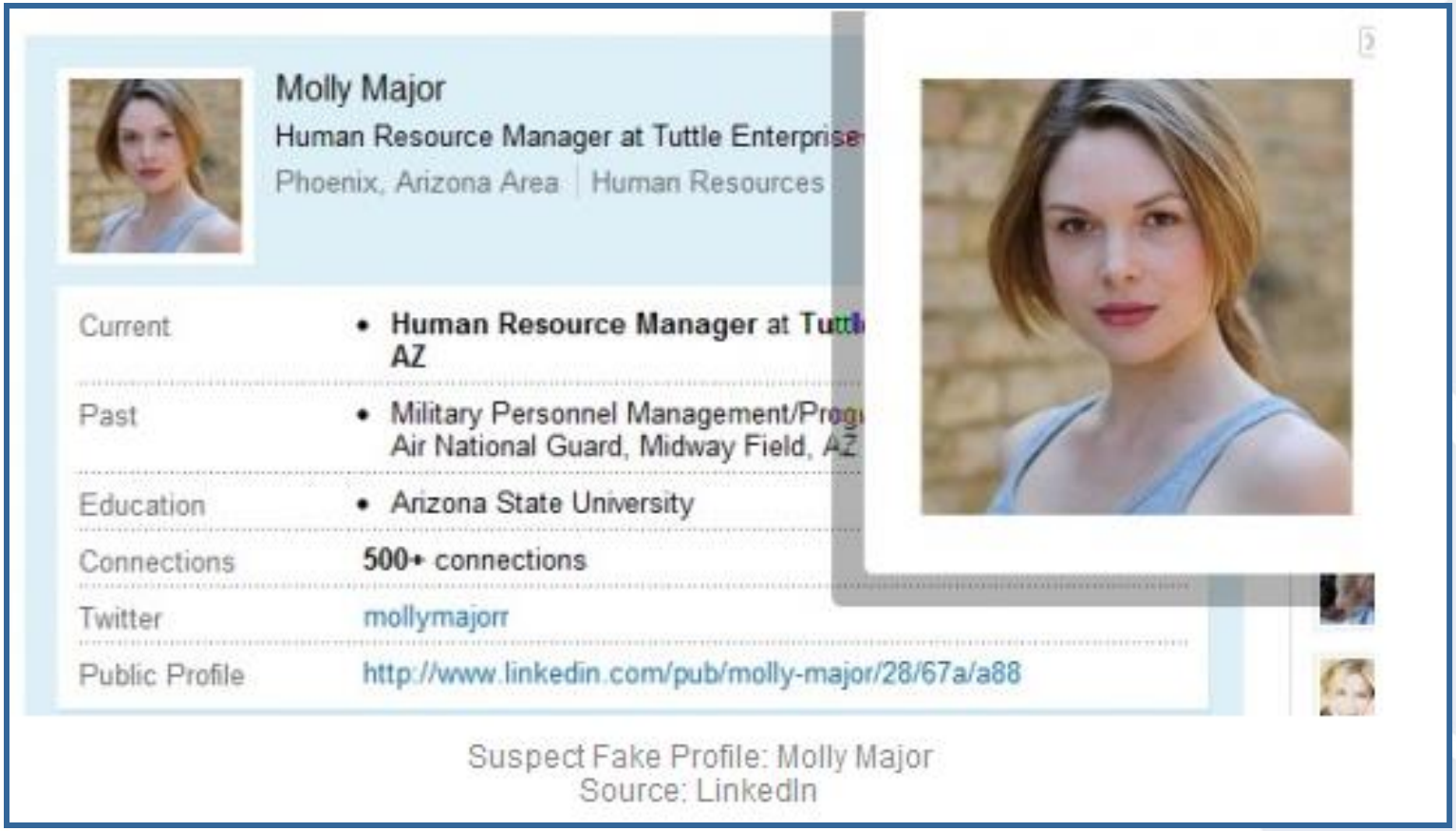
- Hide your true identity
- Present a more enticing image
  - “Prettier” people are more popular
- Appear more legitimate or more qualified
- Gather up connections / followers to appear more important
- Gain access to closed forums and/or post misinformation
  - To lurk to learn information
  - To post offensive or wrong information
    - Example: Pretending to be a Pepsi employee and posting “shocking facts about Pepsi ingredients”
- Gather email addresses for spam lists

How to Spot a Fake Profile

- Name doesn't seem "right"
  - Name of a comic or fictional character
  - Example: John Smith from Italy
- Picture looks "wrong"
  - Too professional or informal for profile description
  - Background incongruous with profile description
    - Example: John Smith from Italy's picture shows car in background with AZ license plate
  - Celebrity or stock photo
    - Contains photo company watermark or metadata
    - TinEye and Google offer reverse image search
- Credentials are generic and/or cannot be verified
  - Too good to be true
  - Dates don't add up
    - Example: John Smith graduated in 2004 but has 22 years of experience

Pop Quiz

- Real profile or fake?



Suspect Fake Profile: Molly Major
Source: LinkedIn

Fake!

- Spam-y name with alliteration
  - At least it's properly capitalized
- The picture was "one of 30 most beautiful women found on Flickr"
  - (Link no longer active)
- There is no Air National Guard deployed at "Midway Field, AZ"
  - According to Arizona Air National Guard website, there is no "Midway Field" at all
- There is no company called Tuttle Enterprises in or near Phoenix, AZ
  - There's one in Sarasota, FL

CIA's Facebook Program

- CIA's "Facebook" program dramatically cut agency's costs
  - http://www.youtube.com/watch?v=ZJ380SHZvYU

More Bad Guy Examples

- Man living in Key Largo, FL posted a picture of his custom, handcrafted fishing poles on Facebook for all his friends to see
  - He even included a great picture of the new hanging racks in his garage where he stored them
  - Thief stole them later that night while he slept upstairs
- Man advertised the great New York vacation his family was taking
  - They came back to an empty house
  - Even the food and the garbage cans were gone

#Draining…

- Take a break from social networking

> I am so sick of La. And sick of the lies that come with it. I didn't call off my wedding. Taking a break from social media. #draining
>
> — Miley Ray Cyrus (@MileyCyrus) March 6, 2013

Remember – Don’t be a Troll

Online Threats

- 30,000 URLs (websites) are infected every day
  - 80% of those infected sites are legitimate
- 85% percent of all malware, including viruses, worms, spyware, adware and Trojans, comes from the web
- Drive-by downloads have become the top web threat
- Update your antivirus, operating system, and browser

Source: SophosLabs

Resources

- Wired Safety
  - http://www.wiredsafety.org/index.html
- FTC's OnGuard Online
  - http://www.onguardonline.gov/
- Kamaron Institute Cyber Bullying Solutions
  - http://kamaron.org/Bullying-Solutions
- Microsoft's Page on Online Predators (with link to Parental Controls)
  - http://www.microsoft.com/protect/parents/social/predators.aspx
- PC Magazine's review of parental control software
  - http://www.pcmag.com/article2/0,2817,2346997,00.asp
- Electronic Privacy Information Center (EPIC)
  - http://epic.org/