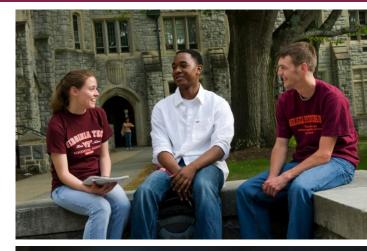
Cybersecurity & Safety for Parents

Randy Marchany
VT IT Security Office & Lab



Some Examples

- https://www.youtube.com/wa tch?v=opRMrEfAlil
- https://www.youtube.com/wa tch?v=UhhYSrUHnao
 - Social media data privacy Awareness video
- https://www.youtube.com/wa tch?v=F7pYHN9iC9I
 - Mind reader







Your Apps Are Watching You

- Smartphones keep a lot of info about you
 - Phone numbers
 - Txt messages
 - Pics
 - Owner's name
 - Unique ID # (can't be disabled)
- Wall St. Journal article describes some of these "threats"



Your Apps Are Watching You

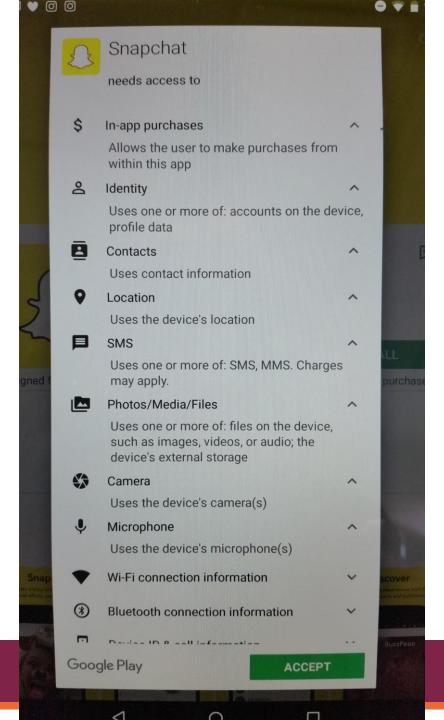
- 101 iPhone, Android apps examined
 - 56 transmitted phone's unique ID# to other companies w/o user awareness or consent
 - 47 transmitted phone's location
 - 5 sent age, gender, other personal details to outsiders
- Tracking companies build detailed dossiers
- iPhone apps transmitted more data than Android apps



Your Apps Are Watching You

- Example: iPhone App TextPlus 4
 - Send phone ID # to 8 ad companies, phone's zip code, user's age, gender to 2 of them
- Pandora (iPhone, Android)
 - Send age, gender, location, phone ID# to ad networks.
- Paper Toss (iPhone, Android)
 - Send phone ID# to 5 ad companies







E-Book Reading Up On You?

- E-books, Kindles, iPads, Nooks, can transmit info back to the manufacturer
 - How fast you read (turn the page)
 - Do you skip to the end? ☺
 - Where you read the book? Geolocation!



What's a Phone ID?

- Unique ID number assigned to every phone
 - iPhone Unique Device Identifier (UDID)
 - Android various names
 - Set by phone makers, carriers or OS makers
 - Can't be blocked or deleted
- Best tracking tool for ad companies
 - Watch what you download, how often you use them, how much time you spend on them. Some aggregate individual data



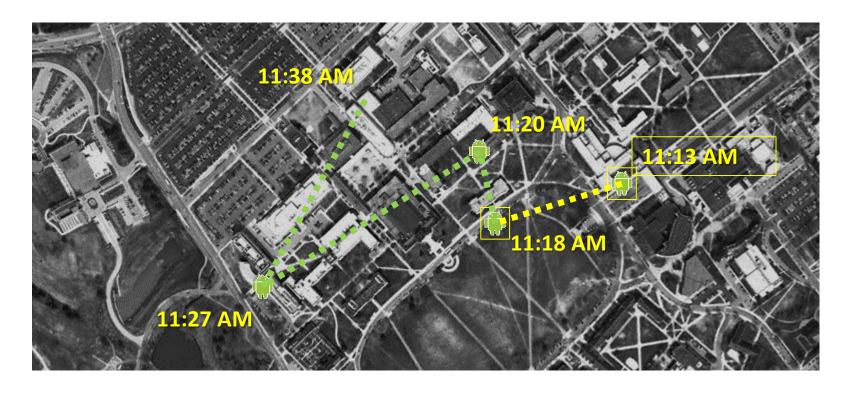


The Internet is NOT anonymous

We Did an experiment tracking someone on the net



Tracking Smartphones



Simple tracking a smartphone throughout campus

2 ways of looking at it

- https://www.commonsensemedia.org/socialmedia
 - Nice reference site
- https://38pitches.wordpress.com/2015/03/01/ the-world-we-live-in-man-has-it-changed/
 - Curt Schilling tracking down the trolls



The Net Is NOT Anonymous

What you say on the net stays on the net

Who said it can be tracked

Anonymity invites boorish behavior

Strip away this cloak

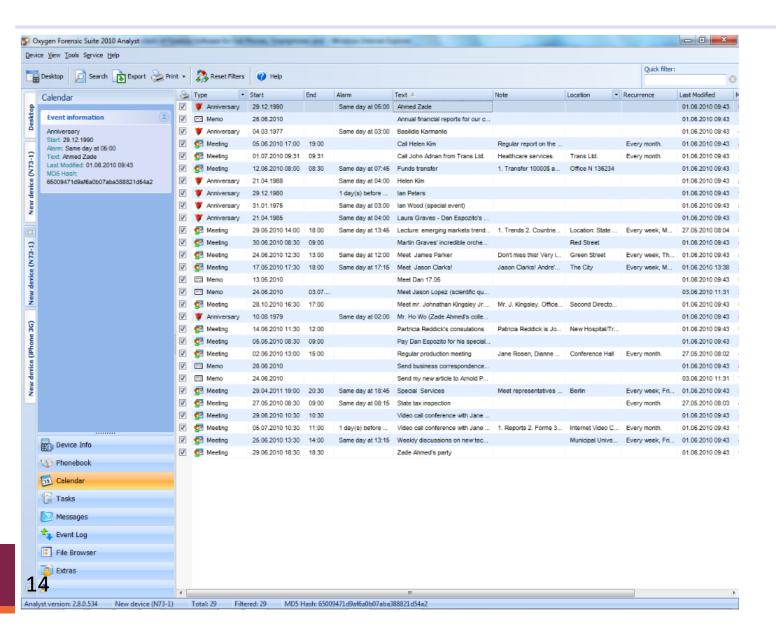


Some Examples

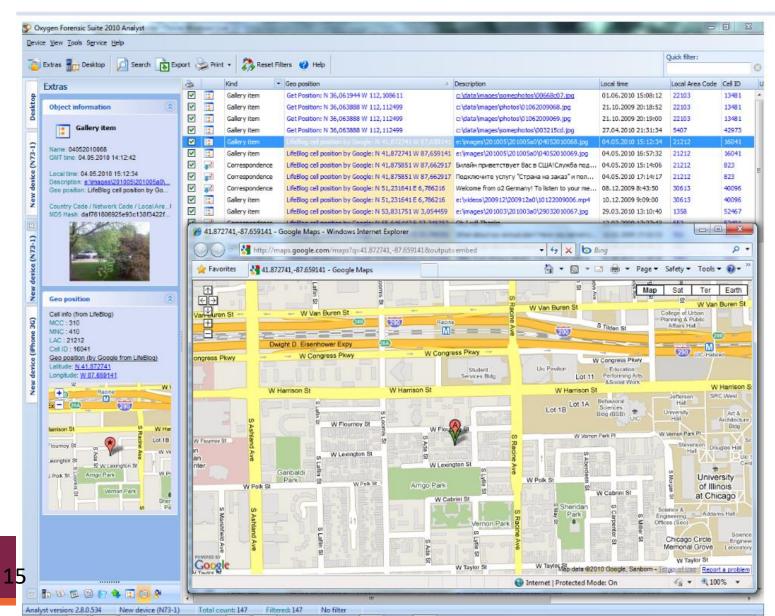
- Mobile Forensics
- Location Tracking
- Identity publication
- Actions bring consequences



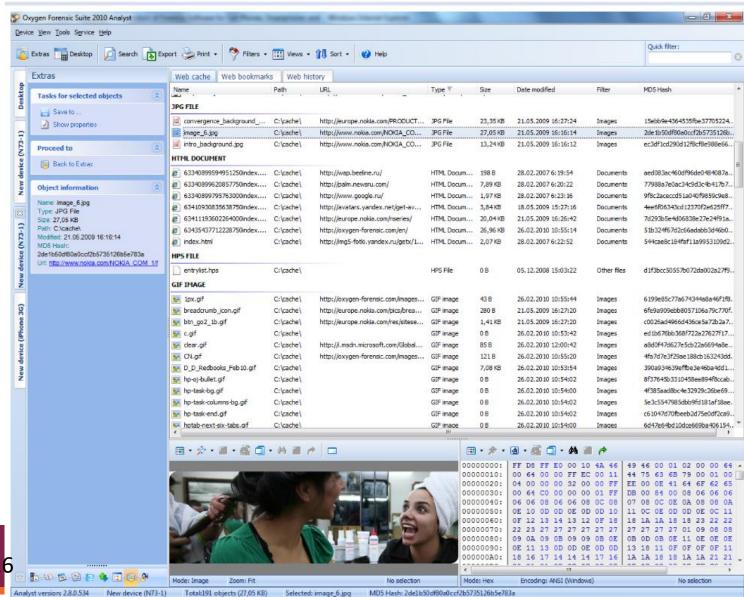
Calendar & tasks



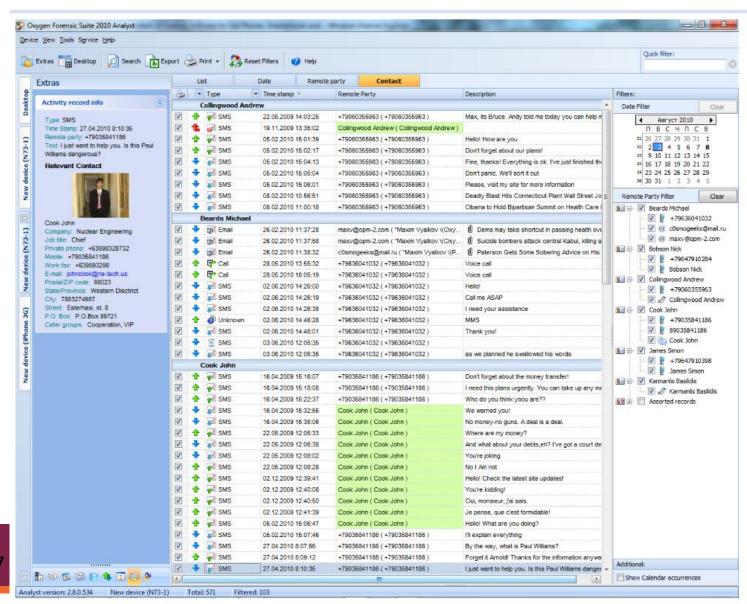
geopositioning



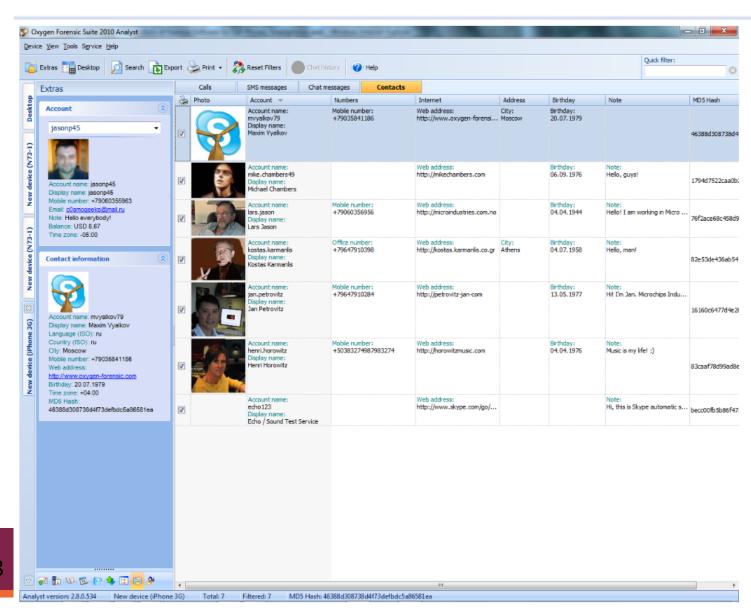
Web cache



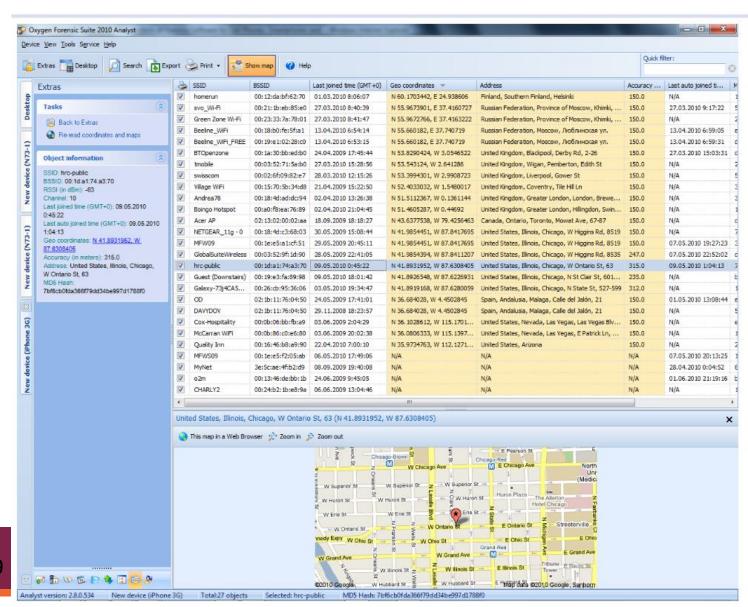
Phone history



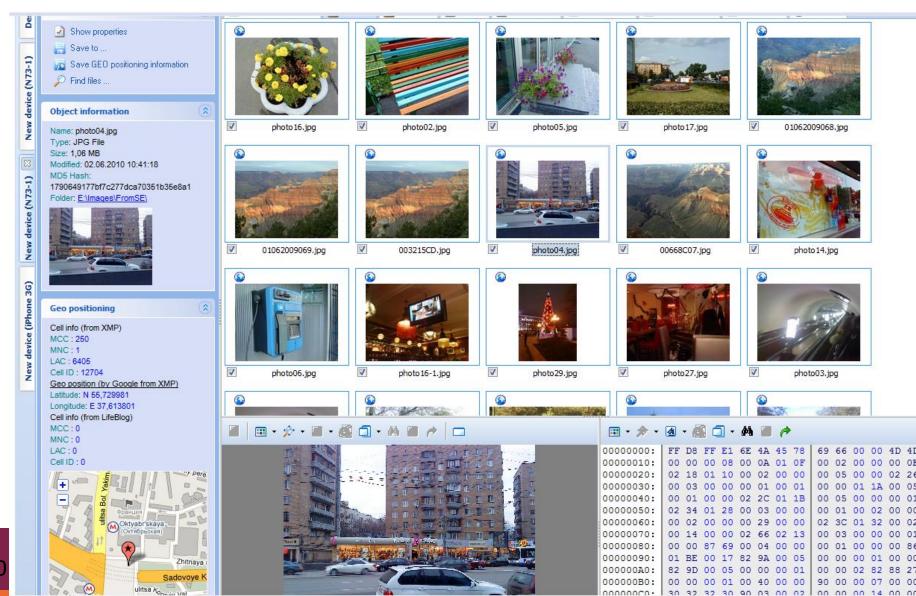
Skype analyzer



Wifi analyzer



filebrowser



messages

Messages

Oxygen	Forensic	Suite 2 -	1.5.0.2
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Direction Time stamp /		Remote party	Description	
MD5 Hash			Message	
Incoming	16.05.2008 13:08:49			
Inbox	N/A	+79262479174	Ok ill he there in E min	
F1CCF322F6F98DE	BFDECF1AA57E65762D	1	Ok,i'll be there in 5 min.	
Incoming	16.05.2008 13:05:24	+79035841186		
Inbox	N/A		Formidable!	
27333E2D5DB7A3A656759150FB5B04D6			Formidablei	
Incoming	18.07.2007 11:32:30	+79052729910		
Inbox	N/A		Lli kak ta balna marzka sia Sau wydliadit	
D966A88EB41E4D78897F8E9BFA67DF20			Uj kak-to bolno merzko sie 6ou vygljadit.	
Incoming	17.07.2007 23:49:42	+79052729910		
Inbox	N/A		To na zapade, a to u nas. Raznye javlenija. Ibo otblesk na nih	
64E33AF06AC21591AEF858E6F0B56441			istorija na6ej i ih civilizacii brosaet raznyj.	
Incoming	17.07.2007 23:40:20	+79052729910		
Inbox	N/A		A-aa! Da, nas4et gay-paradov ja stala podozrevat - slog	
0F4BDC2E6F61204723A0417D9FF86681			znakomyj.	
Incoming	16.09.2005 14:46:48			
Inbox	N/A		Please, ask John to meet me in the airport. My plane arrives at	
B67F2D5516C6947A05878F54D41B27F9		+1340	9 PM on Saturday.	
			Otpravitel':81.195.194.203	
Incoming	16.09.2005 14:45:35		Option 5 1. 100. 10 1.200	
Inbox	N/A		There are only one day before we'll be together again. Hope,	
F16308EA61C699577FE85BCACD8C664B		+1340	you didn't forget your sailor. I didn't. I miss you every minute.	
			Otpravitel':81.195.194.203	
Incoming	16.09.2005 14:44:49			
Inbox	N/A	+1340	The trip to the Pirate Bay was marvellous. I found a great gift for	
E5FC1DA1BC9E3021F7C091005488D2E8			you in a store on a real pirat frigate. I'm sure, you'll like it! Otpravitel':81.195.194.203	

How Do I Protect my info?

- Don't post personal info online
- Use social media privacy setting
- Be wary of others
- Search for yourself
- Review privacy settings regularly
- Understand what a #hashtag is



Own your online presence!

- No private info in social media
- Who can see @Instagram photo with the #hashtag
- Use Google reverse image search to check out a LinkedIn request
- Never assume privacy in social networks.
- Is that really your friend sending you notes?



What to tell your kids

- Be nice, no harassment
- Think twice before hitting Enter
- WWGS? What Would Grandma Say?
- Use Privacy Settings
- Don't Friend strangers. Verify who they are first!



How long does it stay

- What goes on the net, stays on the net
- My earliest post 1984!
- Share only what you're comfortable sharing



Keep the Computer in a Central Location

It's much easier to keep tabs on any online activity when the computer is located in a high-traffic zone than if your child is using a computer in the privacy of her own room. Place the computer in a central location like your kitchen or family room so that everything is out in the open.

Urge Your Kids to Avoid Questionnaires, Free Giveaways and Contests

A pop-up ad appears and tells kids they can win a free iPad by simply clicking the link. Anyone would be tempted by this kind of offer, but kids are particularly susceptible, so it's important to warn kids against falling for this kind of Internet trick.



Monitor the Pictures Your Child Posts Online

In an ideal world, your child would never post a photo of herself online, but that might not be entirely realistic. If she wants to share photos with her friends via email or a social networking site, be sure you know exactly which pictures are being posted. Make sure the content of the photo is completely innocuous and that no identifiable locales in the background are noticeable.

http://www.parenting.com/gallery/social-media-monitoring-kids



REFERENCES

- The American Academy of Pediatrics (AAP) recently released findings from a comprehensive study on the impact social media has on kids and families. Although there are real benefits to kids using sites like Facebook, including increased communication, access to information and help in developing a sense of self, there can be serious downsides to all this online sharing too
- Popular programs such as <u>Net Nanny</u> and <u>PureSight PC</u> let you monitor social media sites, block chats, filter content and much more. You can even monitor your child's cell phone with a software program like <u>My</u> <u>Mobile Watchdog</u>.
- If your kids are old enough to be using the computer on their own, they are old enough to understand that there are rules they need to abide by. Breaking them should not have a lesser consequence than if they broke a rule in the offline world.



References

- http://er.educause.edu/blogs/2016/11/august-2017-are-you-practicing-safe-social-networking
- https://kidshealth.org/en/parents/social-mediasmarts.html
- http://er.educause.edu/blogs/2016/11/august-2017-are-you-practicing-safe-social-networking





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Slide 1 Subject Header

- Content to follow
- Testing the slide show
 - Sub-sections

