

Social Media Security & Privacy

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Social media & Privacy

- Websites and applications that enable users to create and share CONTENT or to participate in social networking.
- Largest social media network and applications
 - Facebook - 1.79 billion monthly active users
 - Whatsapp - 800 million
 - Youtube - 1 billion
 - Twitter - 310 million
 - etc.

Facebook statistics

1400
MILLIONS

MONTHLY ACTIVE
USERS

890
MILLIONS

PEOPLE LOG INTO
FACEBOOK DAILY

300
PETABYTES

OF USER DATA

1.3
TRILLION

LIKES
SINCE 2004

4300
MILLIONS

LIKES
EVERY DAY

17
BILLION

LOCATION-TAGED
POSTS

10
BILLIONS

MESSAGES SENT
DAILY

350
MILLION

UPLOADED PHOTOS
DAILY

4.75
BILLION

SHARES
DAILY

NSA's Prism

- Edward Snowden leak
- Program created by NSA
- Extract data from servers of social media companies
- Metadata and contents are collected

TOP SECRET//SI//ORCON//NOFORN

Hotmail™
msn
YAHOO!

Google

skype

paltalk.com

YouTube

AOL e-mail &

PRISM

(TS//SI//NF) PRISM Collection Details

SECRET SOURCE OPERATOR

Current Providers

- Microsoft (Hotmail, etc.)
- Google
- Yahoo!
- Facebook
- PalTalk
- YouTube
- Skype
- AOL
- Apple

What Will You Receive in Collection (Surveillance and Stored Comms)?
It varies by provider. In general:

- E-mail
- Chat – video, voice
- Videos
- Photos
- Stored data
- VoIP
- File transfers
- Video Conferencing
- Notifications of target activity – logins, etc.
- Online Social Networking details
- **Special Requests**

Complete list and details on PRISM web page:
Go PRISMFAA

TOP SECRET//SI//ORCON//NOFORN

Are they allowed to collect data about us?

- Terms and conditions
 - “ By clicking Create an account , you agree to our Terms and confirm that you have read our DATA POLICY, including our COOKIE POLICY...”

What kinds of information do they collect?

Within facebook

- Things you do and information you provide.
- Things others do and information they provide.
- Your networks and connections.
- Information about payments.

Digital footprint

- Device information.
- Information from websites and apps that use our Services.
- Information from third-party partners.
- Facebook companies

Personal Information Protection and Electronic Documents Act (PIPEDA)

- Protects private information of users.
- Downside with disclosure of personal information
 - Loss of anonymity
 - Identity theft
 - Employment-related dangers
 - Multiple attacks on honour and reputation
 - Cyber bullying
 - Psychological and sexual violence
- Lack of industry standards for user privacy
- Compensation for free use of social media

"This is the age of big data where personal information is the currency that Canadians and others around the world freely give away." - Jennifer Stoddart, Former Privacy Commissioner of Canada

Uses of Personal Information

- Advertising
- Data is bought from third-party - Datalogix, Acxiom
- Consumer profiles sold to third party companies

Data Exchange Centers

- Political Influence - Cambridge Analytica

How Important is your Facebook Data

According to a study by Michal Kosinski (2012)

- 68 likes
 - To predict skin colour (95% accuracy)
 - Sexual Orientation (88% accuracy)
 - Affiliation to which party (85% accuracy)
 - Intelligence, Religion, Substance Abuse, and Parent's Marital status was also possible to know
- 70 likes to know more than a friend.
- 150 likes to know more than a parent.
- 300 likes to know more than a partner.

Types of Security Breaches...

Two Basic types:

❖ User Self-Inflicted/human error

- Forgot to logOut
- Clicking on pop ups and ads
- Connecting with a stranger
- Exposing too much information

❖ By some other person / machine

- Password attacks
- Malware
- Phishing
- Dedicated Denial Of Service (DDoS)

Privacy at Risk!!! How do you save yourself?

- Use Secure passwords
- Always read the Terms & Services
- Use 2 -step verification instead of giving away your personal information
- Think before posting content
- Dont click on random directed websites
- Trust “NO ONE”

Table 2. Major attacks, sub-attacks, and possible preventive policies [10]

Major domain of attacks [10]	Sub-attacks	Solution to handle the attacks
Social Networking Infrastructure attacks	TCP SYN Flood Attack, Smurf IP Attack, UDP Flood Attack, Ping of death, Tear Drop	-Use Anti-Virus and Anti-Malware Software. -Install appropriate Intrusion Detection System.
Malware Attacks	Crimeaware, Spyware, Adware, Browser Hijackers, Downloader, Tool Bars	-Use of Anti-Virus. -Do not go for unknown links, friends, applications, email attachments etc., -Disable Cookies, Sessions, ActiveX if unknown or no counter-measures available. -Examine the emails carefully. -Validate the source of the data. -Beware of ads with offers
Phishing Attacks	Deceptive phishing (emails), Malware-based phishing, Keyloggers, Search engine phishing	-Careful about having friends and sharing information. -Authenticate the user profile and share the data. -Try to completely understand the policies of having friends in the social networking sites.
Evil Twin Attacks	Social engineering attack	-Use complex passwords, avoid password re-usage. -Shred your email or documents properly. -Do not acknowledge the messages that are intended to hurt or threat.
Identity Theft Attacks	Dumpster diving	-Save and Archive the messages as evidences. -Take all threats seriously
Cyberbullying	Cyberbullying	-Do not share personal information with all users. -Need a well defined social networking policy. -Background security and privacy checks. -Properly make use of privacy settings options.
Physical Attacks	Impersonation, Harassment through messages	

Questions

- 1) What is RIOT software?
- 2) What is the Personal Information Protection and Electronic Documents Act(PIPEDA)?
- 3) Name the NSA program leaked to public designed to extract data from servers of social media companies.

Answers

- 1) A software which predicts behaviours and potential future actions based on user information on social websites
- 2) It provides a balance between privacy and the need of organizations to collect, use and disclose personal information.
- 3) Prism

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