

Mobile Privacy and Identity

JCP EC F2F Meeting

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Goal

**LIMITING WHO CAN ACCESS
YOUR INFORMATION.**

Terms

- **Privacy** – the right (of an individual or organization) to be “left alone” (interference / government intrusion)
- **Data Protection** – the right of an individual to control dissemination and use of their personal information
- **Confidentiality** – the right (of an individual or organization) to keep a secret
- **Security** – umbrella terms for many concepts: confidentiality, availability, integrity, authenticity, non-repudiation, ...



The Tradeoff between Personalization and Privacy

- Personalization involves
 - Collection of profile and location information raising privacy concerns
- Studies¹ show
 - Consumers do not opt-in to online services when they do not trust merchants for their profiles.
 - Consumers are willing to tradeoff their information with trusted vendors for convenience.
 - Even among more privacy-concerned consumers.

¹ by Chellappa et al., Harn et al., and Spiekermann et al.



The Tradeoff between Personalization and Privacy (2)

- Change in the attitude of 3/4 of American consumers towards privacy from a **modest** to a **high intensity** matter
- Three segments of consumers
 - Fundamentalists
 - Unconcerned
 - Pragmatic
- The size of the pragmatic group is 125 Million.
- The challenge for businesses is to address the needs of this group
 - Provide convenience
 - Protect Privacy



Privacy issues of Location based Services

- Location of individuals must be considered a constituent of privacy data, because
 - By data matching of location data with user ID or device ID, the location of a specific person would be specified.
 - The location of a specific person may be regarded as private, except if such data has been opened to the public, it might be not private data.
- Real time privacy intrusion
 - Inter-access to location based services may cause real time privacy intrusion



Privacy issues of Location based Services (2)

- Misuse of Collected location data stored on servers
 - Misuse of such data would cause serious privacy issues, especially by data matching with other privacy data.
- Communication could be intercepted
 - Vulnerability included in such service systems may permit some types of illegal interception of data.
 - Specific location data of specific person may be involved in this communication.

Social Engineering

“Getting people to do things that they wouldn’t ordinarily do for a stranger”

- **The Art of Deception**, Kevin Mitnick
(earlier Sherlock Holmes)



Identity Theft

Using another's identity for ones benefit
(usually financial gain)

- Social security number
- Credit card account numbers
- Date of birth
- Driver's license
- Passport
- Mother's maiden name,...
- Addresses



Threats

- **Spyware** - computer software installed on a computer to intercept the user's activities on the computer, without the user's informed consent.
- **Phishing** - attempt to fraudulently acquire sensitive information by masquerading as a trustworthy entity.
- **Botnets** - collection of software robots (bots), which run autonomously and automatically on groups of remotely controlled zombie computers.



Incidents

- **T-Mobile Data Scandal** – T-Mobile reveal that potentially millions of customer records have been stolen and sold on by rogue employees.
- **iPhone/Pandora/Dictionary.com** – A proposed class-action lawsuit alleges that Apple and a handful of app makers are invading user privacy by accessing personal data from customers' smart phones without permission and sharing it with third-party advertisers.

Incidents (2)

• Carrier IQ

- Discovery by Android security researcher Trevor Eckhart that some Android, Nokia and BlackBerry smart phones, later also other vendors were identified contain **Carrier IQ**, a software that even tracks mobile users' keystrokes.
- Google CEO Eric Schmidt distanced his company from the scandal surrounding the Carrier IQ software in remarks at an internet freedom conference in **The Hague**. During his talk he called Carrier IQ a key-logger. “[I]t actually does keep your keystrokes,” he said, “and we certainly don’t work with them and don’t support it.”
- Apple, HTC, Samsung, Motorola, AT&T, Sprint, T-Mobile and Carrier IQ have been sued in a federal court by what the lawyers involved have deemed a “cell phone tracking software scandal.”
- As of Jan 10, 2012, Carrier IQ website reports nearly **142,000,000** installed devices!



The DarlQ Knight ?!



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**“YOU HAVE ZERO PRIVACY
ANYWAY. GET OVER IT.”**

(Scott McNealy, CEO, Sun Microsystems, 1999)

Let's talk

Q & A

