Security Issues for Mobile Devices

Division of Effort

- What goes on the server?

- What goes on the device?

- How do you decide?

How Secure is the Device?

- Against which attackers is the device secure?

- Random web sites and mail sites?

- The owner?

- Someone who has stolen it?

- Governments and law enforcement? Which ones? Remote or local access?

This affects the decision of how much a server site can trust the device.

Human Factors

- Poor keyboard

- Phones usually with *the* owner—except when they're lost

- Used in public? (Is a surveillance camera watching you when you type your PIN or password?)

Updates

- How is the device updated?

- How often is it updated?

- How long is the device supported?

Apple   Apple controls the updates, pushes them out when they need to, supports old devices for at least four years; most people update

Android   Google, the phone manufacturer, and the carrier are all on the update path. It takes a long time for updates to be available, and most phones are not updatable.

Lost Devices

- How do you track lost devices?

- What are the privacy implications?

- Do you permit remote wipe?

- What information is protected against the finder?

- Can you/should you turn on the camera and mic remotely? What are the privacy implications?

- How do you discourage or prevent resale by a thief?

Protecting Apps Against Each Other

- Can apps steal information from other apps?

- How can certain apps cooperate? How does the user know and consent? Note the risk to security (e.g., stored passwords) and privacy.

Fraudulent Apps

- App stores have made finding and distributing software very easy

- But—there have been deliberately deceptive apps that fool users

- More of a problem for Android, because there are non-Google app stores; these often have less vetting

☞ Especially a problem in China

Permissions

- How are application permissions managed?

- Not read/write/execute as much as access to things like the camera, microphone, location, network, contact list, etc.

- iOS: Especially sensitive ones: ask the user

- Android: Long list displayed at installation time—do people read it?