

# Android App Security

CS 4920 Information Security Presentation

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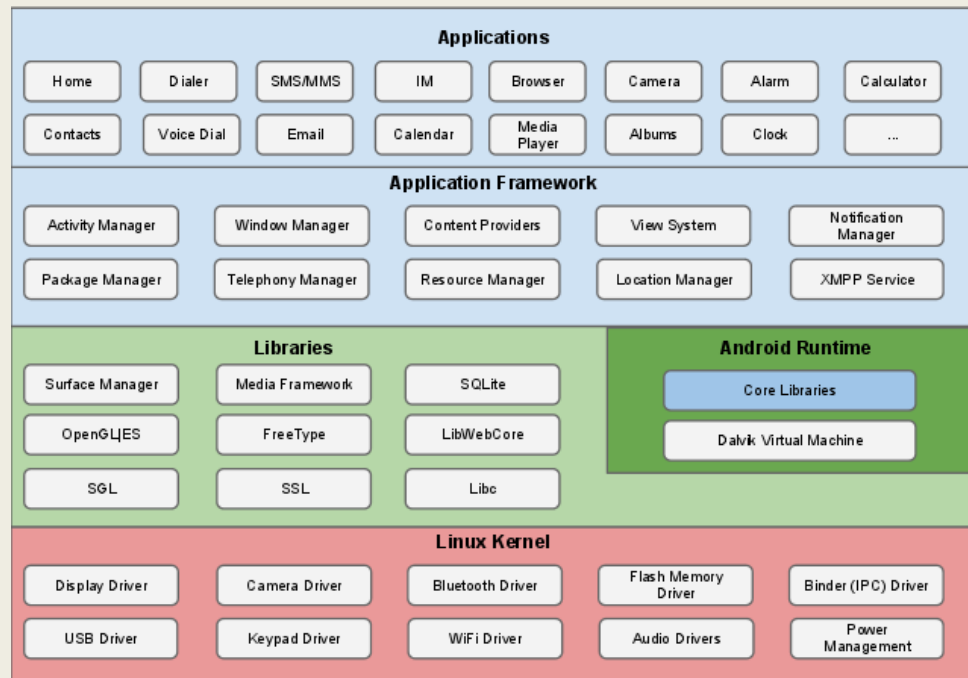
# Types of Applications

- Communication
- Finance
- Games
- Business
- Shopping
- Productivity
- Tools
- Photography

**Whats built in????**

# Multi-Layered Security

- Re-purposing traditional OS security controls
- Security at the OS level
- Mandatory application sandboxes
- Secure interprocess communication
- Application-defined and user-granted permissions



# Goals of Android Security



Provide Security for

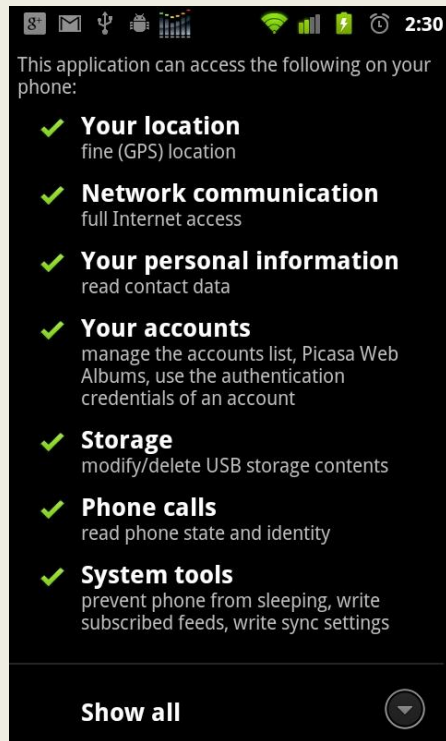
- Pre-Installed applications
- User-Installed applications
- User's personal data
- Built into the OS
- Developer friendly
- User friendly

# Android Security Program

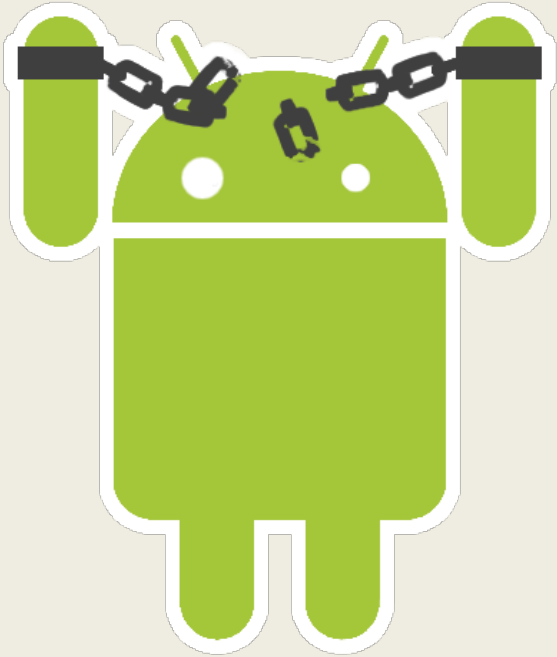
- Security was a BIG goal for Android
  - Design review
  - Penetration testing and code review
  - Open-Source
  - Incident responses

# Android Permission Model

- Used for accessing protected APIs
- Prompted before install to prevent over-prompting
- Doesn't continually notify user
- Openness of what applications can access in your phone



# Device Rooting



- Can access any information on the device
  - Increasing Security Risk
- When rooting the device bootloader will clear existing user data to protect it
  - EXCEPTION: When using a flaw or bug in the kernel to root device.
- Great for developers

# Threats to Android

- Applications asking for not needed permissions
- Malware
- Fake Anti-Malware
- QR Codes





# Google's Response

- Virus are not like Independence Day
  - There are so many Android devices
- They are possible but not probable
- Don't let security companies scare you into buying overpriced security



# Questions?



## Resources

- Overview of Android Security
  - <http://source.android.com/devices/tech/security/#android-platform-security-architecture>
- Android Security Tips
  - <https://developer.android.com/training/articles/security-tips.html>
- Android Security FAQs
  - <https://developer.android.com/guide/faq/security.html>
- Android Security: Threat Level None?
  - <http://www.informationweek.com/mobile/android-security-threat-level-none/d/d-id/1101426>
- Top 10 Android Security Risks
  - <http://www.esecurityplanet.com/views/article.php/3928646/Top-10-Android-Security-Risks.htm>