**206**

Android framework exists of 5 stack layers:

Linux kernel

Libraries + Android runtime

Application Framework

Applications

Android Applications run on the Dalvik Virtual Machine and developed in the Android Studio.

**209**

OWASP Top 10 Mobile – 2016

M1 – Improper Platform Usage

M2 – Insecure Data Storage

M3 – Insecure Communication

M4 – Insecure Authentication

M5 – Insufficient Cryptography

M6 – Insecure Authorization

M7 – Client Code Quality

M8 – Code Tampering

M9 – Reverse Engineering

M10 – Extraneous Functionality

**210**

Google uses an in-house automated antivirus system, called **Google Bouncer**, to remove malicious applications uploaded to the marketplace.

Works by simulating new applications behavior on Google’s cloud infrastructure. Searches for hidden/secret/malware/malicious behavior. Process also runs on Signature based detection once an application is uploaded.

**211**

Android Application (apk file) is a ZIP file, and unzipped contains (at least):

-assets/

-lib/

-META\_INF/

-res/

-AndroidManifest.cml

-classes.dex

-resources.arsc

APK holds:

* Activity (represents a single screen with a user interface)
* Service (android service is a component that is used to perform operations on the background (UI-less, i.e. music)
* Content Provider (Phone specific services, such as retrieval of sms’s or contactlist)
* Broadcast Receiver (Respond to broadcast messages of other applications, most: notifications (i.e. low battery, incoming call/sms)
* Intent (is an abstract description of an operation to be performed. Launches activities)