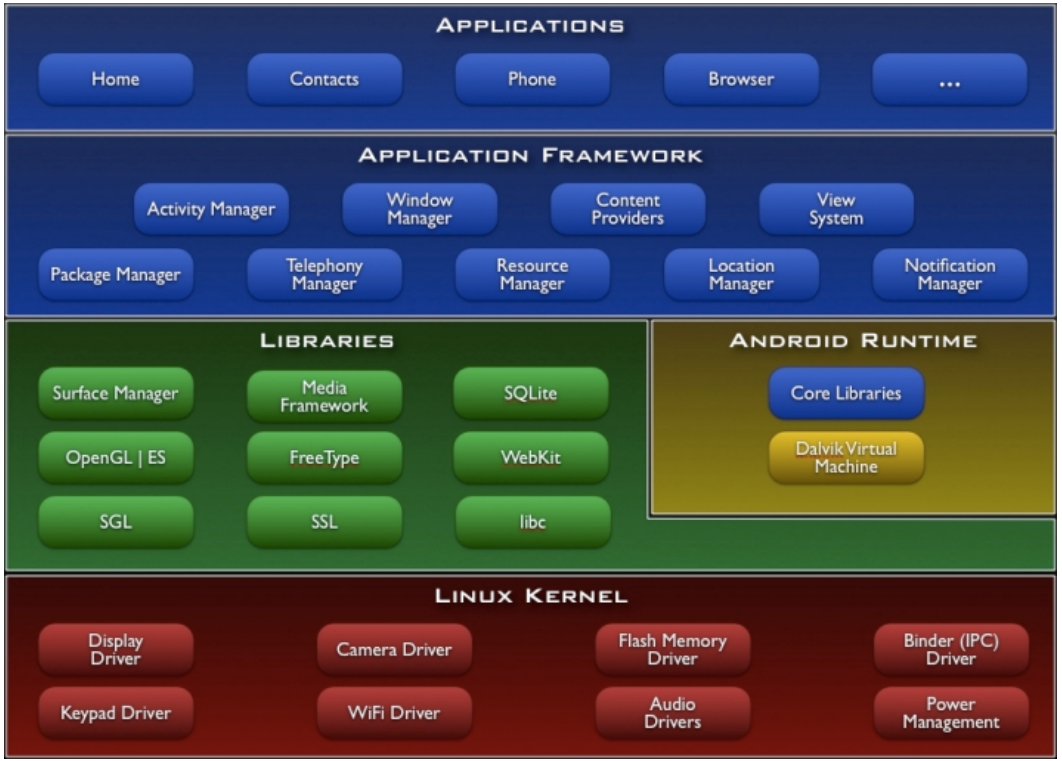
Android System, Activities and Intents

What is Android?

- An operating system aimed toward mobile devices.
- A software stack for developing and using Android apps

The Android System



Android Applications Overview

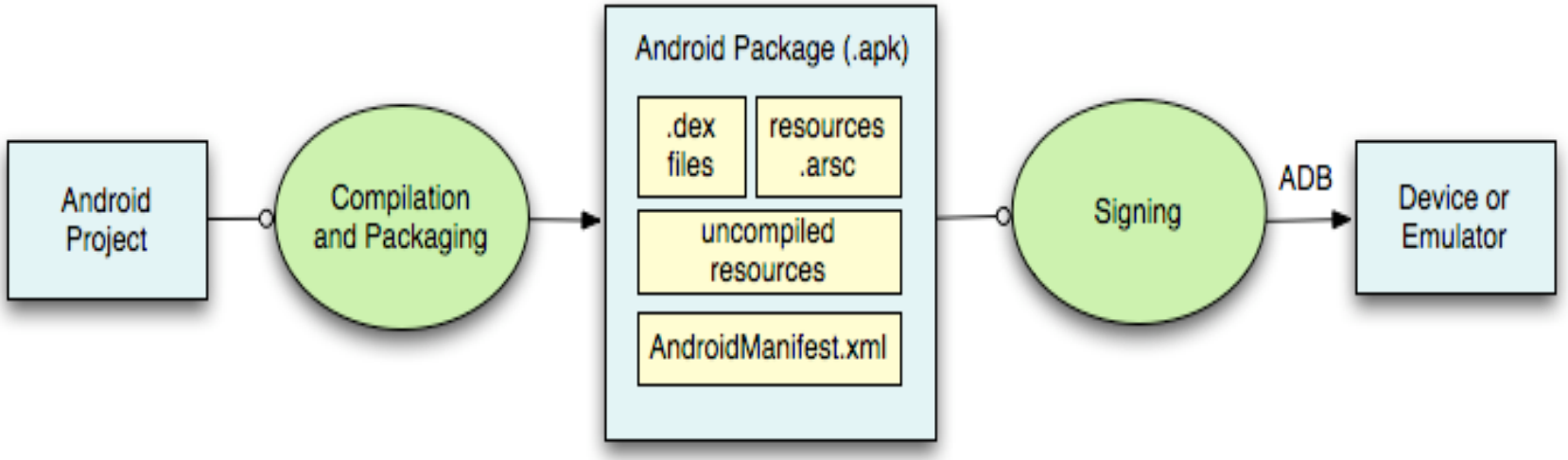
An Android app is a combination of the following four components:

- Activities: Single focused activity; user-facing component
- Services: run in background w/o UI
    - Long-running operations
    - Support interaction with remote processes

- Broadcast Receivers
  - Listen for and responds to events
  - Subscriber in publish/subscribe pattern
  - Events are represented by the Intent class and broadcast to the system
  - Broadcast receivers respond to events (intents) to which they are subscribed

- Content Providers
  - Store and share data across applications
  - Handles inter-process communication

Build Process



Activities

- A single focused thing a user can do
- Has an associated UI
- Are created, used, and destroyed in a lifecycle
  - Android provides ‘hooks’ into the lifecycle by overriding methods of the Activity class. This is where you tell Android what to do in your app.

Activity LifeCycle

onCreate()

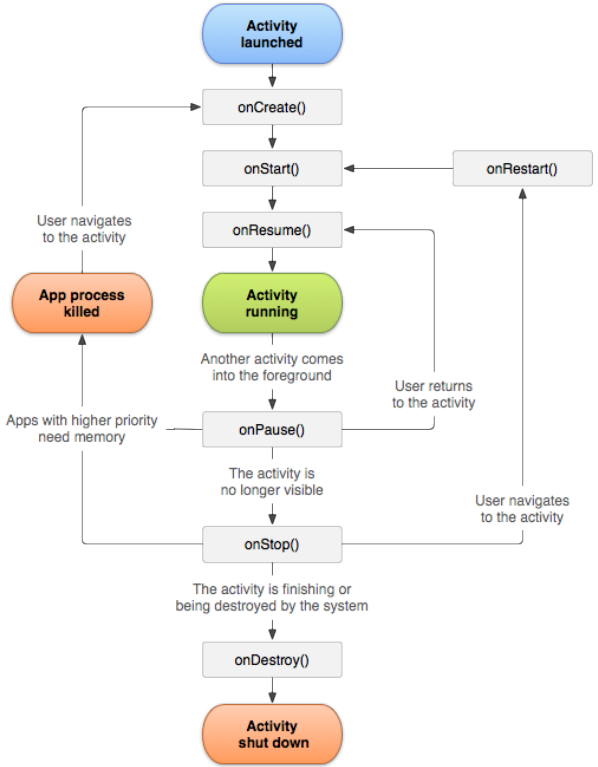
onStart()

onResume()

onPause()

onStop()

onDestroy()



Intents

Data structure that represents:

- Operation to be performed
  - Explicit intent

```
Intent intent = new Intent(this, OtherActivity.class);
startActivity(intent);
```

  - Implicit intent: send a phone call

```
Uri number = Uri.parse("tel:5551234");
Intent callIntent = new Intent(Intent.ACTION_DIAL, number);
startActivity(callIntent);
```

- Event that has occurred
  - Used with Broadcast Receivers