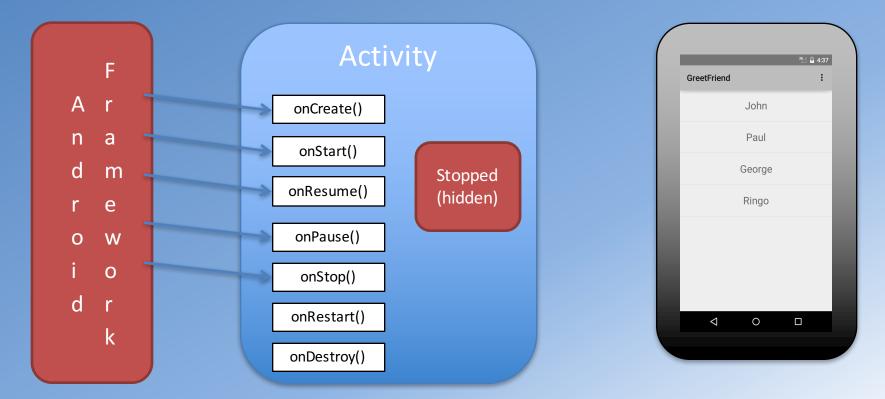# Android Activity Lifecycle

Component Lifecycle

- Component lifecycle
  - From the beginning when Android instantiates a component to respond to intents through to the end when the instance is destroyed
  - In between, the component may sometimes be active or inactive
  - Activities may be visible to the user or invisible

Component Lifecycles

- Activity Lifecycle
  - Three states
    - Resumed, paused and stopped
  - The system can drop a paused or stopped activity from memory either by:
    - asking it to finish (calling its finish() method)
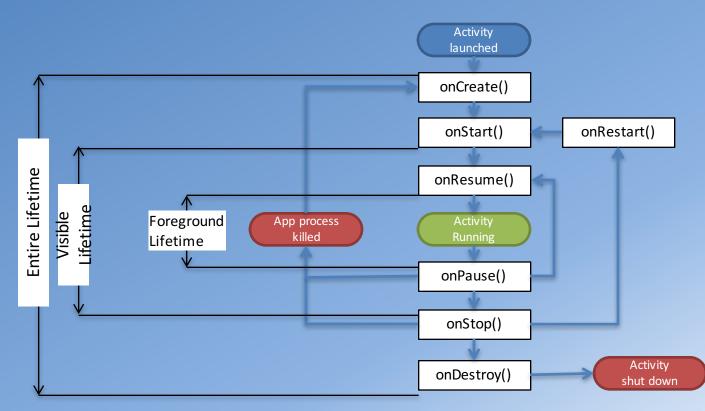   - simply killing its process.

Resumed
- Activity in the foreground of the screen (at the top of the activity stack for the current task)

Paused
- Activity has lost focus but is still visible to the user

Stopped
- Activity is completely obscured by another activity
- It still retains all state and member information

Activity Lifecycle

Android Framework

Activity

- onCreate()
- onStart()
- onResume()
- onPause()
- onStop()
- onRestart()
- onDestroy()

Stopped (hidden)

GreetFriend

John

Paul

George

Ringo

Activity Lifecycle

Coordinating Activities

- When one activity starts another, they both experience lifecycle transitions
  - One pauses and may stop, while the other starts up.
- The order of lifecycle callbacks is well defined, particularly when the two activities are in the same process. For example if Activity A starts Activity B:
  1. A's onPause() method is called.
  2. B's onCreate(), onStart(), and onResume() methods are called in sequence.
  3. Then, if A is no longer visible on screen, its onStop() method is called.

Chat Client App

- Off to the next app: Chat Client UI
  - ListView with Custom Adapter
  - Layouts