User Interaction: Intro to Android

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Activity Lifecycle

- Unlike traditional Java, Android does not use a “main” function
- It uses a sophisticated set of callbacks
- Each step of the callback corresponds to a step in the lifecycle of the app
- This is so that the phone can shut your app down when important things happen, like a phone calls arriving
- An implementation of the Activity class contains the callbacks
- “Activity” maps to “Observer”

http://developer.android.com/training/basics/activity-lifecycle/starting.html
Activity Lifecycle

- Key loops
- Entire Lifetime
  - `onCreate()` - `onDestroy()`

http://developer.android.com/training/basics/activity-lifecycle/starting.html
Activity Lifecycle

- Key loops
- Visible Lifetime
  - onStart() - onStop()
Activity Lifecycle

- Key loops
- Foreground Lifetime
  - onResume() - onPause()
Activity Lifecycle

- onPause() may be followed by kill

http://developer.android.com/training/basics/activity-lifecycle/starting.html
Why do you care? So that your app ... 

- Does not crash if the user receives a phone call or switches to another app while using your app.
- Does not consume valuable system resources when the user is not actively using it.
- Does not lose the user's progress if they leave your app and return to it at a later time.
- Does not crash or lose the user's progress when the screen rotates between landscape and portrait orientation.

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Activity Stack

Diagram showing the concept of an activity stack, with labels such as 'Active', 'Front', 'Visible', 'Hidden', and 'LIFO'.