Android Development

An Introduction

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public class HelloWorld extends Activity {
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        TextView textView = new TextView(this);
        textView.setText("heloo!");

        setContentView(textView);
    }
}
What is Android
Application Fundamentals

• Java
• Android Package === .apk === One Application
• Every app has its own Linux Process
• Each process has its own JVM
• Every app has a unique Linux user id
Components

- **Activities** - UI
- **Services** – Background tasks
- **Broadcast Receivers** – picture taken, timezone changed, battery low, network location changed
- **Content Providers** – Database (SQLite, Phonebook)
- **Intents** – Events / Messages
Activities And Tasks
Activity Lifecycle

1. **Activity starts**
   - onCreate()

2. **User navigates back to the activity**
   - onStart()

3. **Process is killed**
   - onRestart()

4. **Activity is running**
   - onResume()

5. **Another activity comes in front of the activity**
   - onPause()

6. **The activity is no longer visible**
   - onStop()

7. **Other applications need memory**
   - onDestroy()
UI

- ViewGroup
  - ViewGroup
    - View
    - View
    - View
UI Events

- onClick
- onLongClick
- onFocusChange
- onKeyDown
- onTouch
- onCreateContextMenu
Adapters

View

Adapter

Data
Installation

• Java
• SDK
• Eclipse (classic)
• Android Plugin
Setup

• Download kits (eg. 1.5)
• Create a device
• Create a project in Eclipse
Example Applications
Tips & tricks

- adb logcat
- adb shell
- Create packages using Eclipse Export
- Eclipse shortcut-keys
  - Ctrl-1  Quick Fix
  - Ctrl-Space  Auto-complete
  - Ctrl-Shift-L  List of shortcuts