Tech Lab 01 - Android Programming

Introductions

- Mobile Monday Cleveland
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- Software Craftsmanship Guild
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Overview

- First in a series of four
    - Session 1 - Basic Introduction
    - Session 2 - Simple Address Book
    - Session 3 - Simple Game
    - Session 4 - Interface with Twitter
- Future sessions will build on previous material
- All materials and source code available on GitHub @ https://github.com/swcguild/MobileMonday

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Objectives

- Become familiar with Android Studio
- Understand how to create a new project in Android Studio
- Understand the basic structure of an Android project
- Create a simple app with text input, a button, and 'toast' notification
- Understand how to execute the app on an emulator
- Understand how to enable a phone for developer mode
- Understand how to load and execute the app on a phone

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Preliminaries

- Java installation (7 or 8)
- Android Studio installation and configuration
  - Requires download and installation of Android SDK
  - Requires creation of virtual device
  - Complete directions @ https://developer.android.com/sdk/installing/studio.html
- These downloads are large and bandwidth is limited so we will not be configuring development environments tonight

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Project Creation

- File → New Project…
- Dialog 1 - Project name and location…
- Dialog 2 - Form factors and API level…
- Dialog 3 - Add Activity…
- Dialog 4 - Configure Activity…
- Display new project

Android Project Tour
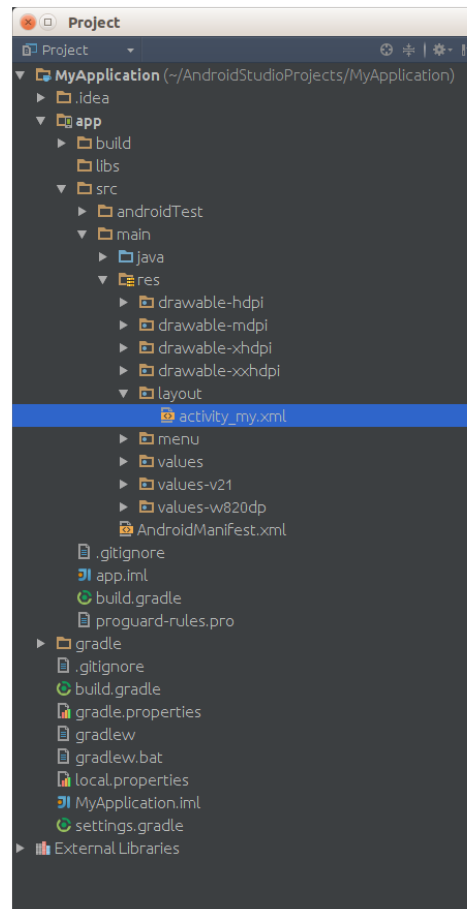
Android Project Tour

- Manifest File
- Gradle Build Automation
  - www.gradle.org
- String Resources
- XML Layout Files
- R.java
- Java Code - Activity

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Android Project Tour

- Emulator
- Android Virtual Device (AVD) Manager
- Phone/Tablet

Simple Example

- PrimeFinder
- Live Coding
  - Completed project can be found @ https://github.com/swcguild/MobileMonday
- Run on emulator
- Deploy to phone/tablet

Live Coding

- Layout:
  - Delete existing Layout
  - Create new GridLayout
  - Add Label
  - Add Text Input Control
  - Add Button
- Application Code:
  - TextView field and initialization
  - onClick Handler
  - Wire up button to handler

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Emulator

- Select Run Project
- Select emulator from Choose Device list
  - Click ellipses to create a virtual device if none are in the list
- Click OK

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Phone/Tablet

- Enable developer mode on device
- Connect device via USB
- Run Project
- Select your physical device
  - App should start to run on your device
- App stays on device after USB is disconnected

Future Sessions

- Session 2: January 19th, 2015
  - Simple Address Book
- Session 3: March 23rd, 2015
  - Simple Game
- Session 4: May 11th, 2015
  - Connect to Twitter

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