Mobile Application Programming Lab Exercises

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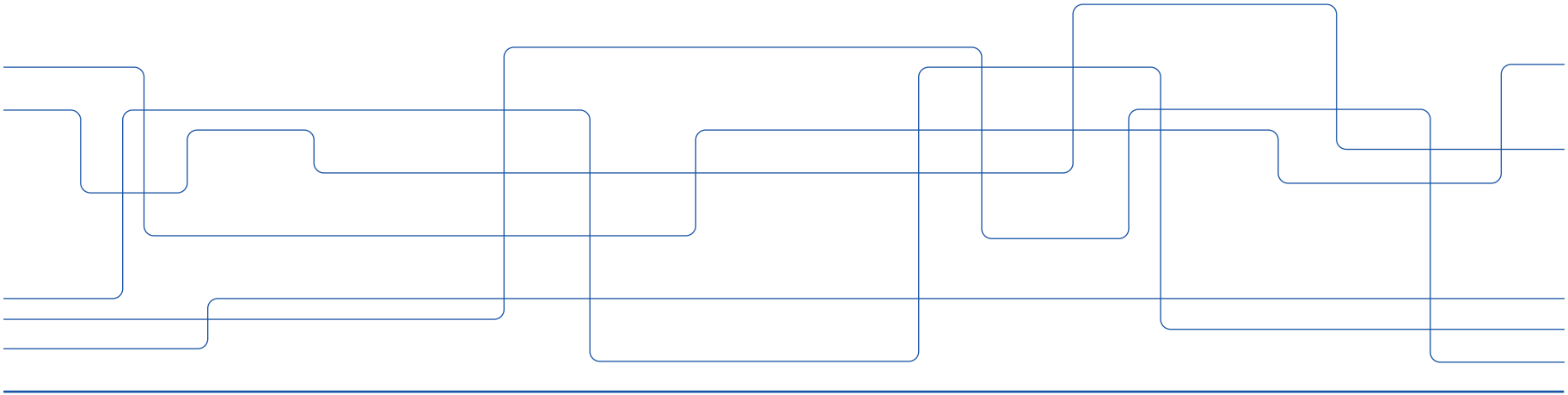

Lab Exercises for L3

The course uses a selection of the code labs from:
https://developer.android.com/courses/fundamentals-training/toc-v2

0. Hello World (if you have not done it yet)
1. Interactive UI
2. The Layout Editor
3. Text and Scrolling Views
4. Activities and Intents
5. Activity Lifecycle and State
6. Implicit Intents

Homwork: Testing, Debugging and Using Support Libraries

Lab Exercise 0: Hello World

What you'll learn

How to install and use the Android Studio IDE.
How to use the development process for building Android apps.
How to create an Android project from a template.
How to add log messages to your app for debugging purposes.

https://developer.android.com/codelabs/android-training-hello-world?index=android-training#0

Lab Exercise 1: Interactive UI

- **What you'll learn**
  - How to create an app with interactive behavior.
  - How to use the layout editor to design a layout.
  - How to edit the layout in XML.
  - A lot of new terminology. Check out the Vocabulary words and concepts glossary for friendly definitions.
- https://developer.android.com/codelabs/android-training-layout-editor-part-a?index=android-training#0

Lab Exercise 2: The Layout Editor

What you'll learn

How to create a layout variant

How to use a baseline constraint to align UI elements with text.

How to use the pack and align buttons to align elements in the layout.

How to position views within a LinearLayout.

How to position views within a RelativeLayout.

https://developer.android.com/codelabs/android-training-layout-editor-part-b?index=android-training#0

Lab Exercise 3: Text and Scrolling views

What you'll learn

How to use XML code to add multiple TextView elements
How to use XML code to define a scrolling View.
How to display free-form text with some HTML formatting tags.
How to style the TextView background color and text color.
How to include a web link in the text.

https://developer.android.com/codelabs/android-training-text-and-scrolling-views?index=android-training#0

Lab Exercise 4: Activities and Intents

What you'll learn

How to create a new Activity in Android Studio.
How to define parent and child activities for Up navigation.
How to start an Activity with an explicit Intent.
How to pass data between each Activity with an explicit Intent.

https://developer.android.com/codelabs/android-training-create-an-activity?index=android-training#0

Lab Exercise 5: Activity Lifecycle and State

What you'll learn

How the Activity lifecycle works.

When an Activity starts, pauses, stops, and is destroyed.

About the lifecycle callback methods associated with Activity changes.

The effect of actions (such as configuration changes) that can result in Activity lifecycle events.

How to retain Activity state across lifecycle events.

https://developer.android.com/codelabs/android-training-activity-lifecycle-and-state?index=android-training#0

Lab Exercise 6: Implicit Intents

What you'll learn

How to create an implicit Intent, and use its actions and categories.

How to use the ShareCompat.IntentBuilder helper class to create an implicit Intent for sharing data.

How to advertise that your app can accept an implicit Intent by declaring Intent filters in the AndroidManifest.xml file.

https://developer.android.com/codelabs/android-training-activity-with-implicit-intent?index=android-training#0

Home Work: Testing, Debugging and using support libraries

- Lesson 3: Testing, debugging, and using support libraries
- 3.1: The debugger
- 3.2: Unit tests
- 3.3: Support libraries