



# Intro to Android

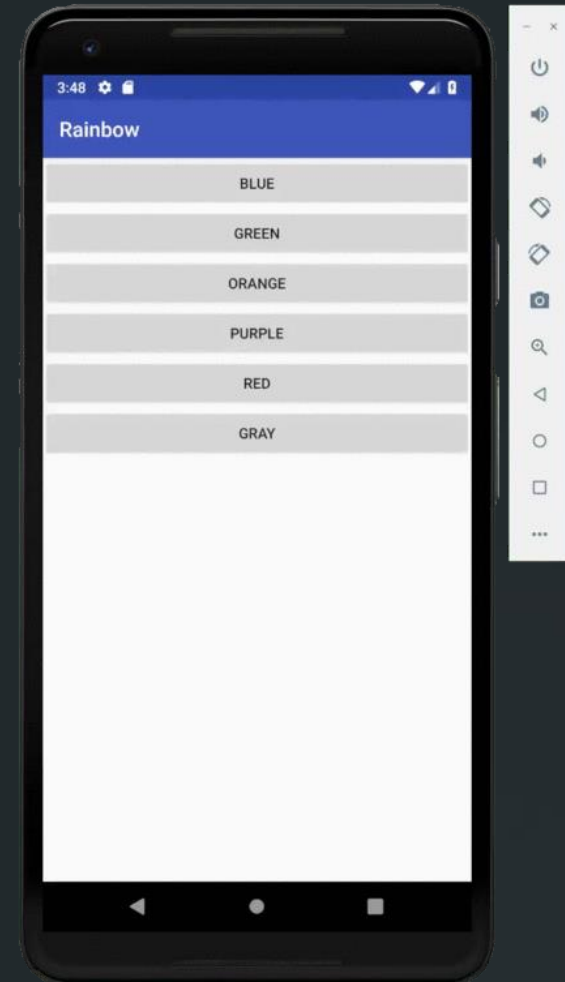
# Upon completion of this module, a student will be able to

- create a project in Android Studio
- prepare a virtual testing environment
- prepare a physical testing environment
- edit the user interface using XML
- understand and explain the way Android allows applications to respond to user interaction
- use debugging and logging tools to find and correct bugs
- make code changes that drive the application user interface



# Project

- Task
  - Build an app with multiple buttons that changes the background to a different color with each button pushed.
- Repo
  - [https://github.com/LambdaSchool/Android\\_Rainbow](https://github.com/LambdaSchool/Android_Rainbow)
- Submission
  - Compress the project directory into a zip archive and then send it to your PM in a DM.
- Challenge
  - Experiment with different properties of [Button](#) and [Linear Layout](#). To improve the look of your app.





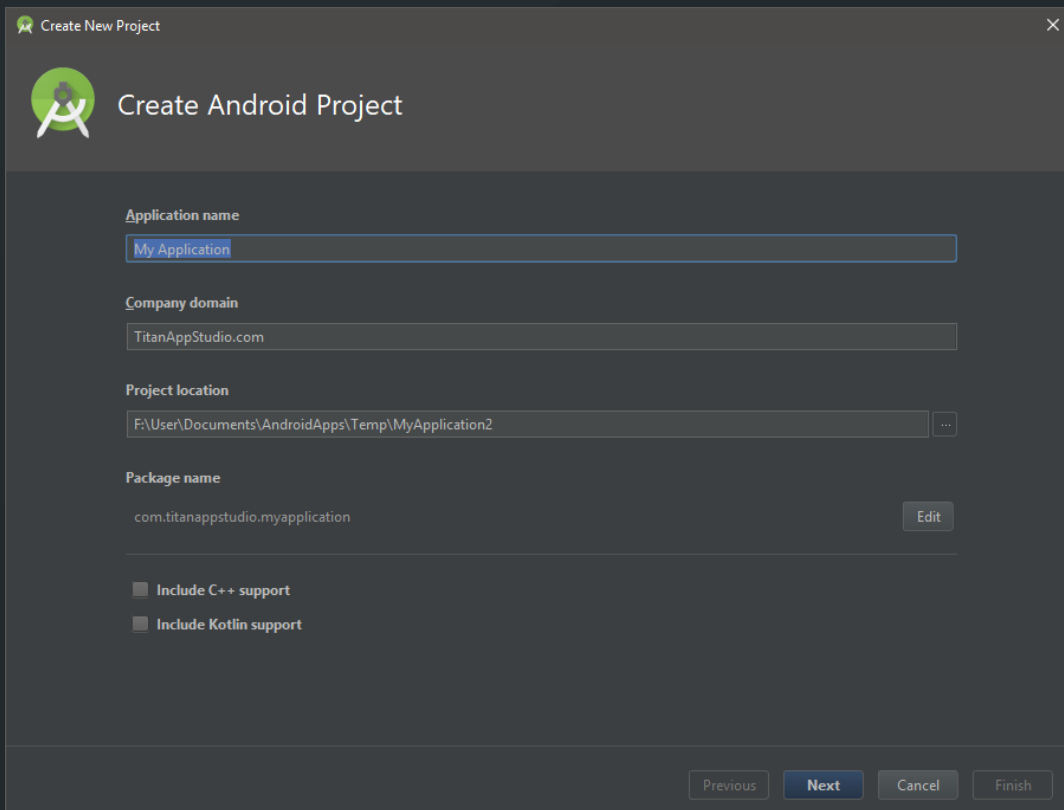
**A Student Can**  
create a project in Android Studio

# Android Studio

- IDE
  - Code Editor
  - Build Automation Tools
  - Debugger
- Download and manage Android libraries
- Create and Run Android Virtual Devices (AVDs)



# Creating a Project



The screenshot shows the 'Create New Project' dialog box in Android Studio. The dialog has a title bar with the text 'Create New Project' and a close button. Below the title bar is the Android Studio logo and the text 'Create Android Project'. The main area contains four text input fields: 'Application name' with the value 'My Application', 'Company domain' with the value 'TitanAppStudio.com', 'Project location' with the value 'F:\User\Documents\AndroidApps\Temp\MyApplication2', and 'Package name' with the value 'com.titanappstudio.myapplication'. There is an 'Edit' button next to the package name field. Below these fields are two checkboxes: 'Include C++ support' and 'Include Kotlin support', both of which are unchecked. At the bottom of the dialog are four buttons: 'Previous', 'Next', 'Cancel', and 'Finish'. The 'Next' button is highlighted in blue.

Create New Project

Create Android Project

Application name  
My Application

Company domain  
TitanAppStudio.com

Project location  
F:\User\Documents\AndroidApps\Temp\MyApplication2

Package name  
com.titanappstudio.myapplication Edit

☐ Include C++ support  
☐ Include Kotlin support

Previous Next Cancel Finish

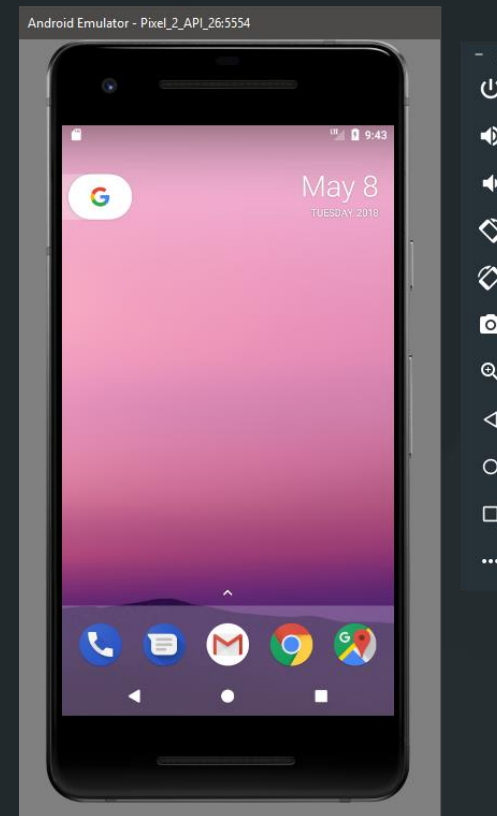
- Create Android Project
- Target Android Devices
- Add an Activity
- Name the Activity



**A Student Can**  
prepare a virtual testing environment

# Android Virtual Device

- Great tool for quickly testing apps
- Can build based on a variety of devices
- Requires a relatively powerful computer to run smoothly
- Built and managed with AVD Manager







**A Student Can**  
prepare a physical testing environment

# Physical Android Device



- Run on Actual Hardware
- Test devices from different manufacturers
- Devices with different idiosyncrasies

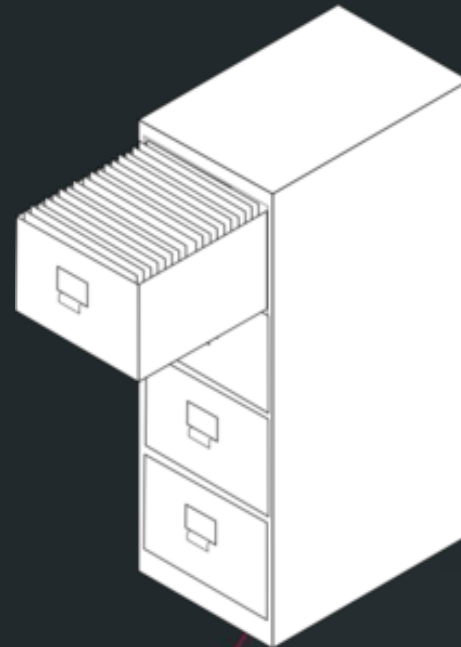


# A Student Can

edit the user interface using XML

# UI Object

- Filing Cabinet
  - Multiple Drawers
    - Label
    - Handles
    - Attributes
- Attaching Process
  1. Give the component an id
  2. Create a data member
  3. Use the id to get a handle
  4. Assign the handle to your data member





# A Student Can

understand and explain the way Android allows applications to respond to user interaction

# Listener



- Listener is assigned
- Message is sent
- Code is executed



# A Student Can

use debugging and logging tools to find and  
correct bugs

# Put One Foot in Front of the Other





# Tools

- Log
  - Level
  - Tag
  - Content
- Debugger
  - Breakpoints

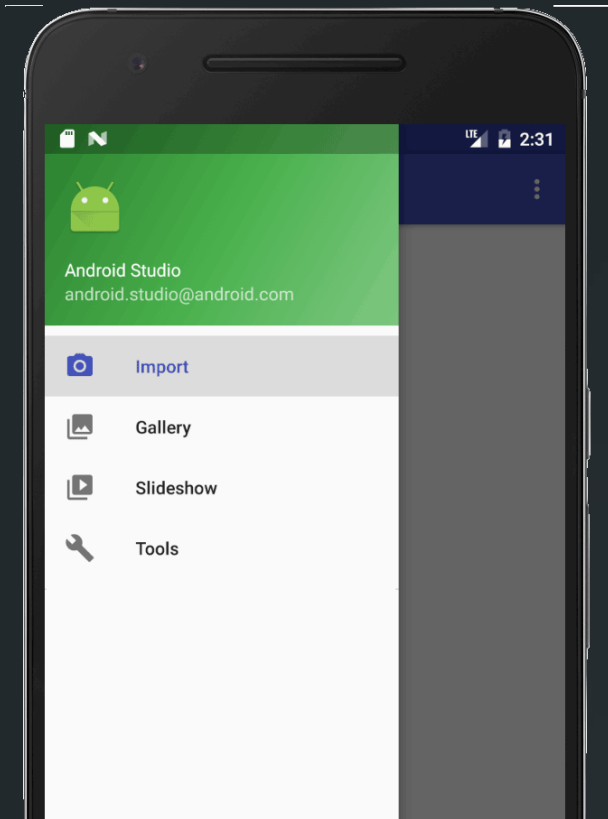


# A Student Can

make code changes that drive the application user interface

# Updating the UI

- Update Information to the User
- Prompt additional interaction
- Programmatically change component attributes



# Putting it All Together

- Add an ID another component
- Get a handle to that component
- Change that component

