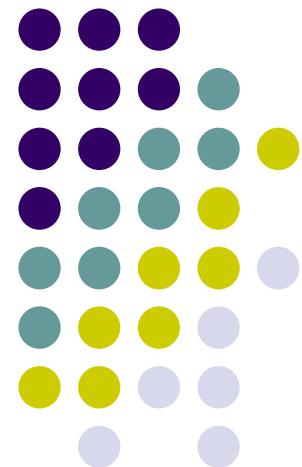
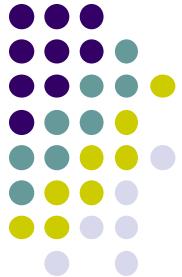


CS 525M Mobile and Ubiquitous Computing

**Tutorial 8: Basic Overview of an App
by Bucky Roberts (thenewboston)**

Emmanuel Agu





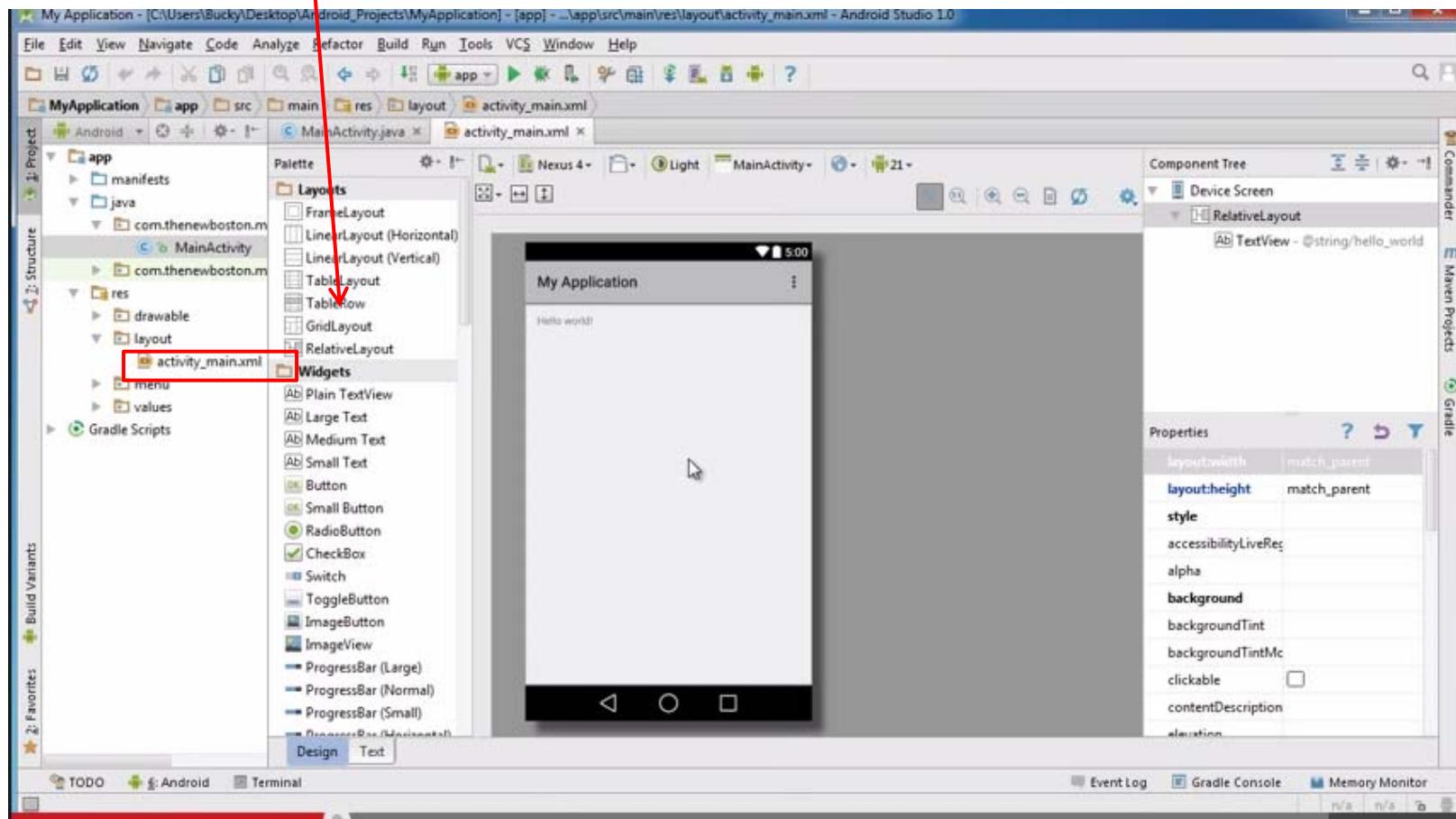
Tutorial 8: Basic Overview of an App

- Tutorial 8: Basic Overview of an App [11:36 mins]
 - <https://www.youtube.com/watch?v=9l1lfWAiHPg>
- Main topics
 - Introduces main files of Android App
 - Activity_main.xml
 - MainActivity.java
 - AndroidManifest.xml
 - How to work with these files within Android Studio
 - Editing files using either drag-and-drop interface or XML
 - Flow of basic app



Activity_main.xml

- XML file used to design screen layout, buttons, etc
- **Widgets:** elements that can be dragged onto activity (screen)





MainActivity.java

- Used to define actions taken when button clicked (intelligence)

The screenshot shows the Android Studio interface with the title bar "My Application - [C:\Users\Bucky\Desktop\Android_Projects\MyApplication] - [app] - ...app\src\main\java\com\thenewboston\myapplication\MainActivity.java - Android Studio 1.0". The menu bar includes File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, Help. The toolbar has icons for file operations like New, Open, Save, and Run. The Project tool window on the left shows the project structure with "app" containing "manifests", "java" (with "com.thenewboston.myapplication" package and "MainActivity" highlighted with a red box), "res" (drawable, layout, menu, values), and "Gradle Scripts". The main editor window displays the MainActivity.java code:

```
package com.thenewboston.myapplication;

import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;

public class MainActivity extends ActionBarActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.menu_main, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        // Handle action bar item clicks here. The action bar will
        // automatically handle clicks on the Home/Up button, so long
        // as you specify a parent activity in AndroidManifest.xml
        int id = item.getItemId();

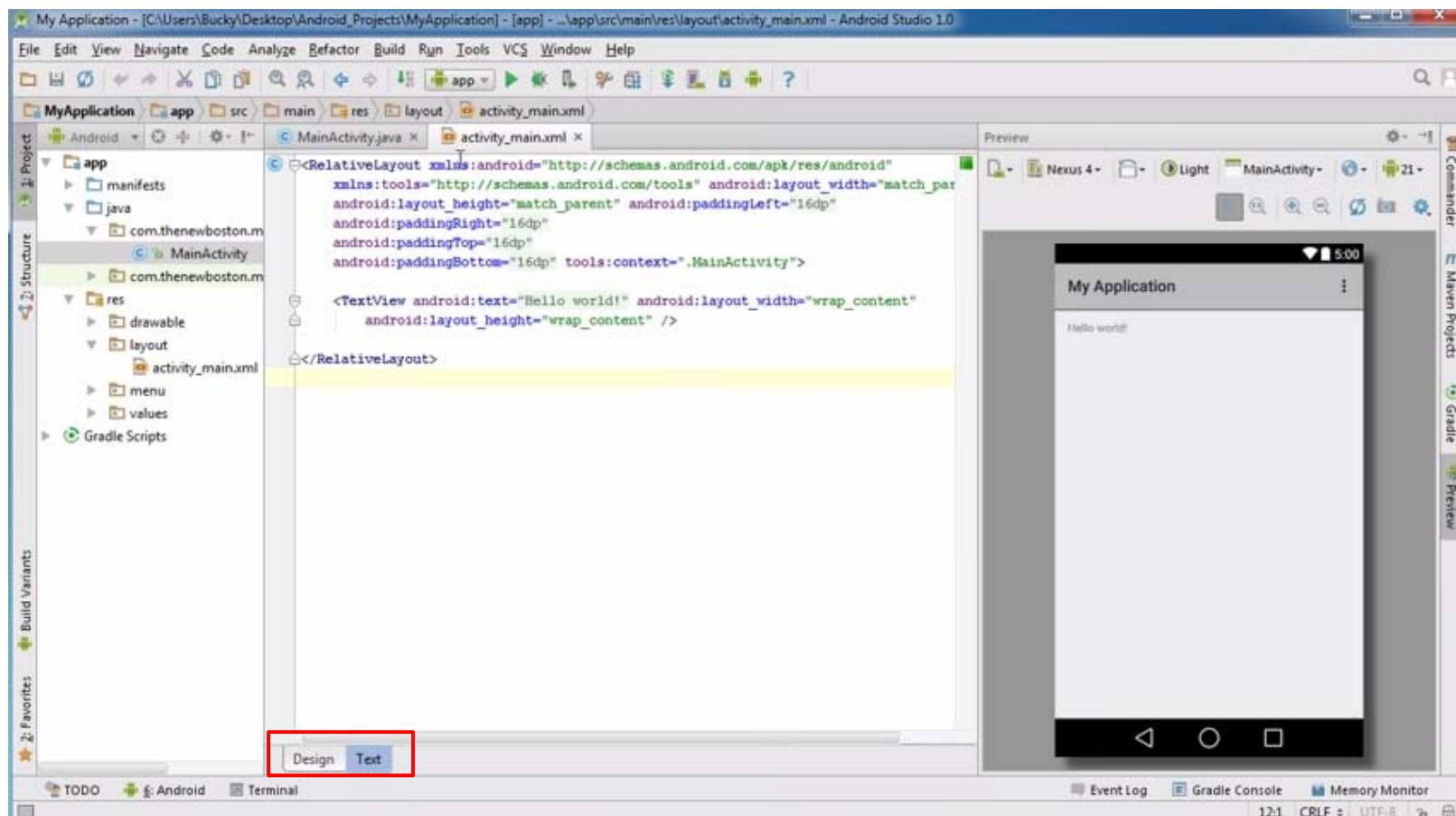
        //noinspection SimplifiableIfStatement
    }
}
```

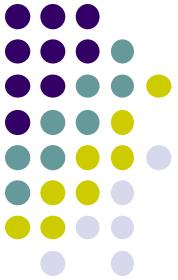
The bottom status bar shows the time as 6:12. The footer includes tabs for TODO, Android, Terminal, Event Log, Gradle Console, Memory Monitor, and status indicators for CRLF, UTF-8, and other build configurations.



Activity_main.xml: Text View

- **Design View:** Drag-and-drop screen (Activity) design
- **Text view:** Directly edit XML file defining screen





AndroidManifest.xml

- App's starting point (a bit like main() in C)
- All activities (screens) are listed in AndroidManifest.xml
- Activity with tag “LAUNCHER” is launched first (starting point)

The screenshot shows the Android Studio interface with the following details:

- Project Structure:** The left sidebar shows the project structure under "app". The "AndroidManifest.xml" file is highlighted with a red box.
- Editor:** The main editor area displays the XML code for `AndroidManifest.xml`. A specific line of code, `<category android:name="android.intent.category.LAUNCHER" />`, is highlighted with a red box.
- Toolbar:** The top toolbar includes standard options like File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, and Help.
- Bottom Navigation:** The bottom navigation bar includes tabs for TODO, Android, Terminal, Event Log, Gradle Console, and Memory Monitor.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.thenevboston.myapplication" >

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="My Application"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="My Application" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```