

Introduction

For the first lab we had to main tasks. First we had setup our Android Development Environment for our systems. Our second task was to create an Android application that would display a layout shown below. The main part of the second task wa to use 4 views, with no specific requirement for padding, or color configuration.



Main

For the first task, setting up our Android Development Environment, I decided to go with Android Studio 2.2.3. Setting up Android Studio was not that difficult, but a bit time consuming. Most of my time was spent on the layout of the app and under the `activity_main.xml`. First I started using `RelativeLayout` with `TextView` placed under each other. The main problem I had was with the pixel count and how to determine the `layout_width` and `layout_height`. The `TextView`s would overlap each other. Later I decided to use a `LinearLayout` approach. I saw that when using `LinearLayout`, a `layout_weight` can be given to specify how large text views are compared to others when using "0dp" for `layout_width` or `layout_height`. For the `Image` a `ImageView` was used and for padding I used `paddingLeft`, `paddingRight`, `paddingTop`, `paddingBottom` on the views. Background color for the views was changed using the `background` field and for text color and font I used `textSize` and `textColor`.

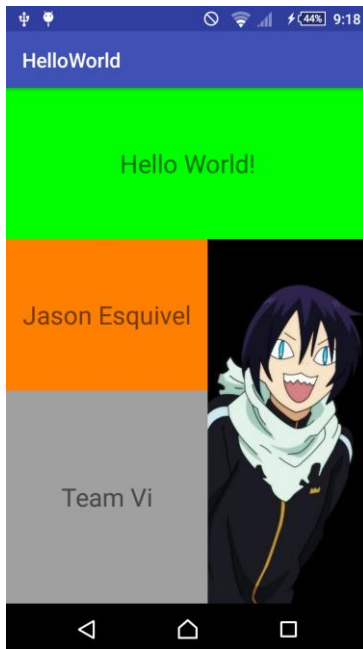


Figure 1

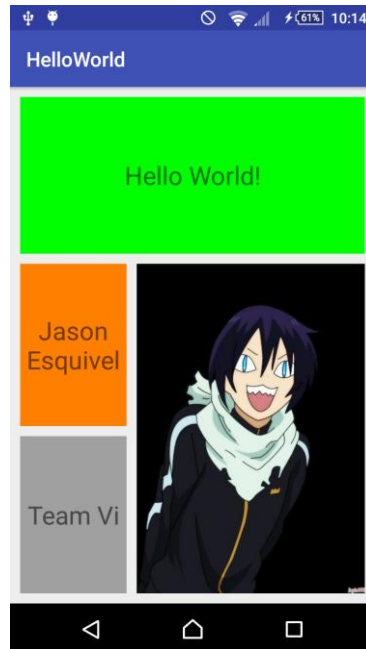


Figure 2



Figure 3(Final Version)

Figure 1 show initial app without any padding. Figure 2 show after padding was added. I wanted to get rid of the blue “HelloWorld” on the top as well as go into full screen mode when the screen is tapped. Figure 3 shows my final version of the app.

In order to get rid of the blue “Helloworld” dialog box I had to go into the AndroidManifest.xml file and change the following line.

```
android:theme="@style/Theme.AppCompat.NoActionBar">
```

In order to go into full screenmode I had to add the followingto MainActivity.java:

```
@Override
public void onWindowFocusChanged(boolean hasFocus) {
    super.onWindowFocusChanged(hasFocus);
    View decorView = getWindow().getDecorView();
    if (hasFocus) {
        decorView.setSystemUiVisibility(
            View.SYSTEM_UI_FLAG_LAYOUT_STABLE
            | View.SYSTEM_UI_FLAG_LAYOUT_HIDE_NAVIGATION
            | View.SYSTEM_UI_FLAG_LAYOUT_FULLSCREEN
            | View.SYSTEM_UI_FLAG_HIDE_NAVIGATION
            | View.SYSTEM_UI_FLAG_FULLSCREEN
            | View.SYSTEM_UI_FLAG_IMMERSIVE_STICKY);
    }
}
```

Discussion and Conclusion

This was a very enjoyable first lab to work on. I still need to figure out the pixel density so that future apps will work and all screen sizes. This time by using the layout_weight along with layout_width and layout_height I feel I got a good solution. I look forward to future lab assignments.

Appendix A: Code

MainActivity.java

```
package com.hwl.jasonesquivel.helloworld;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity {

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

    // Added to go into fullscreen mode
    @Override
    public void onWindowFocusChanged(boolean hasFocus) {
        super.onWindowFocusChanged(hasFocus);
        View decorView = getWindow().getDecorView();
        if (hasFocus) {
            decorView.setSystemUiVisibility(
                View.SYSTEM_UI_FLAG_LAYOUT_STABLE
                | View.SYSTEM_UI_FLAG_LAYOUT_HIDE_NAVIGATION
                | View.SYSTEM_UI_FLAG_LAYOUT_FULLSCREEN
                | View.SYSTEM_UI_FLAG_HIDE_NAVIGATION
                | View.SYSTEM_UI_FLAG_FULLSCREEN
                | View.SYSTEM_UI_FLAG_IMMERSIVE_STICKY);
        }
    }
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```
android:orientation="vertical">

<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"
    android:paddingTop="10dp"
    android:paddingLeft="10dp"
    android:paddingRight="10dp"
    android:paddingBottom="5dp">
    <TextView
        android:id="@+id/hello"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Hello World!"
        android:background="#00ff00"
        android:gravity="center"
        android:textSize="25sp"
        android:textColor="#000000"/>

</RelativeLayout>

<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="2">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="horizontal">

        <LinearLayout
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:orientation="vertical">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="0dp"
                android:layout_weight="1"
                android:paddingTop="5dp"
                android:paddingLeft="10dp"
                android:paddingRight="5dp"
                android:paddingBottom="5dp">
                <TextView
                    android:id="@+id/name"
                    android:layout_width="match_parent"
                    android:layout_height="match_parent"
                    android:text="Jason Esquivel"
                    android:background="#ff8000"
                    android:gravity="center"
                    android:textSize="25sp"
                    />
                </LinearLayout>
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="0dp"
                android:layout_weight="1"
                android:paddingTop="5dp"
```

```
        android:paddingLeft="10dp"
        android:paddingRight="5dp"
        android:paddingBottom="10dp">
        <TextView
            android:id="@+id/group"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:text="Team Vi"
            android:background="#a0a0a0"
            android:gravity="center"
            android:textSize="25sp" />
    </LinearLayout>

</LinearLayout>

<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="2"
    android:paddingTop="5dp"
    android:paddingLeft="5dp"
    android:paddingRight="10dp"
    android:paddingBottom="10dp">
    <ImageView
        android:src="@drawable/yato"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:scaleType="centerCrop" />
    </LinearLayout>
</LinearLayout>
</RelativeLayout>
</LinearLayout>
```

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.hw1.jasonesquivel.helloworld">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportRtl="true"
        android:theme="@style/Theme.AppCompat.NoActionBar">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```