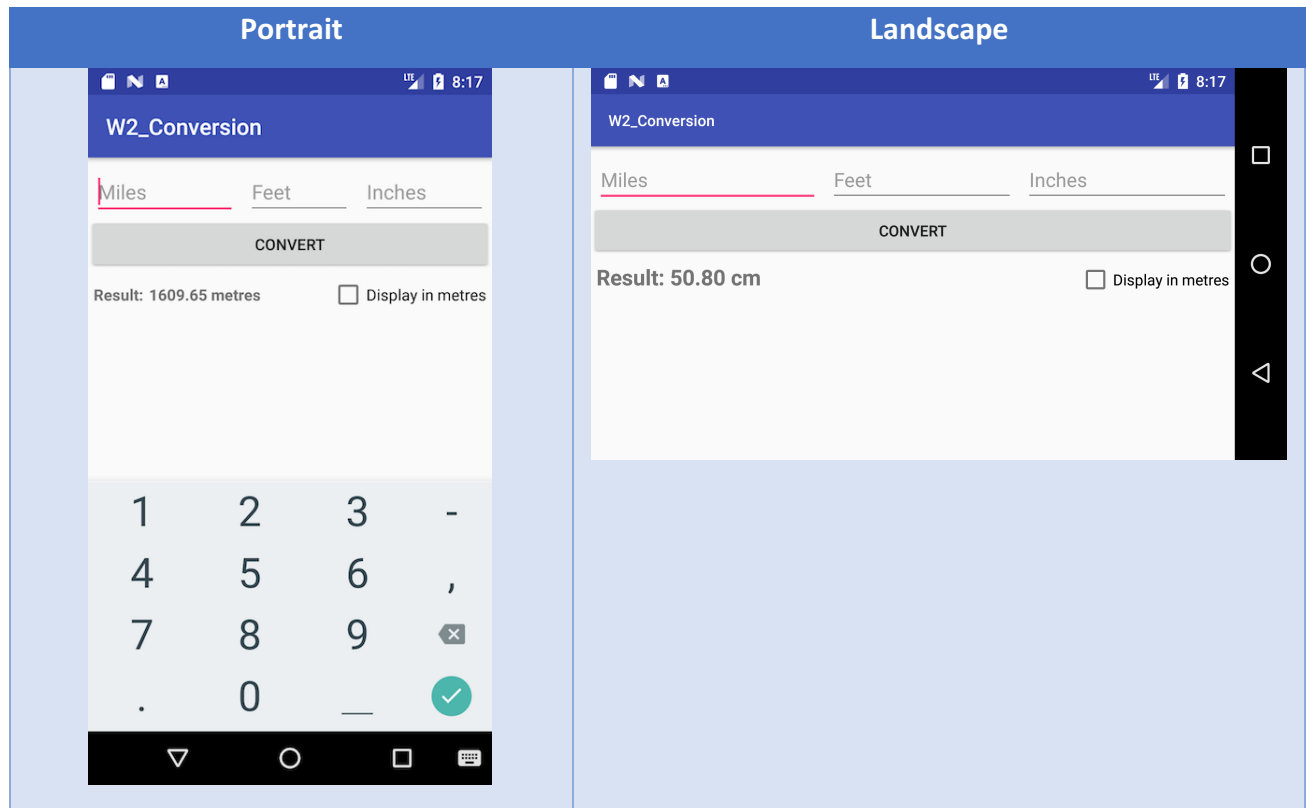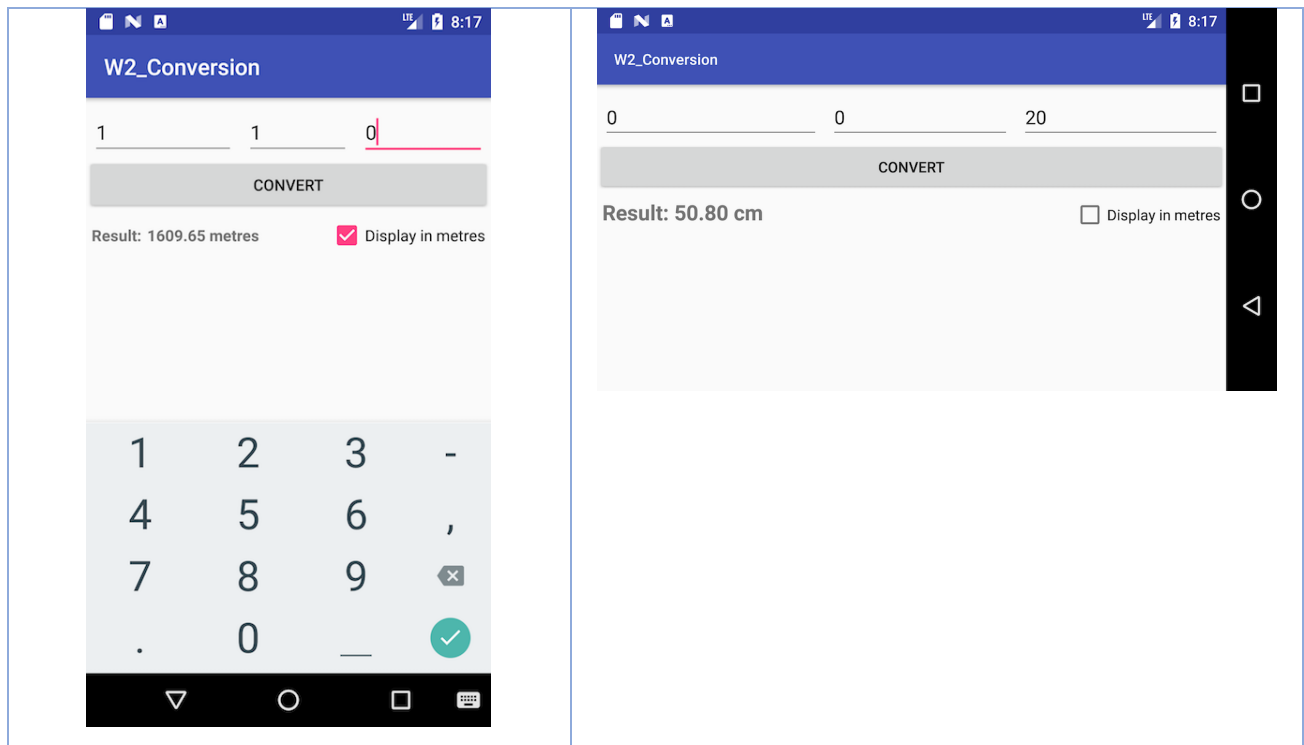# Software Development for Mobile Devices

Submission for Assignment A3.2P

Task 1: Conversion app

App Screen Shot

Project structure

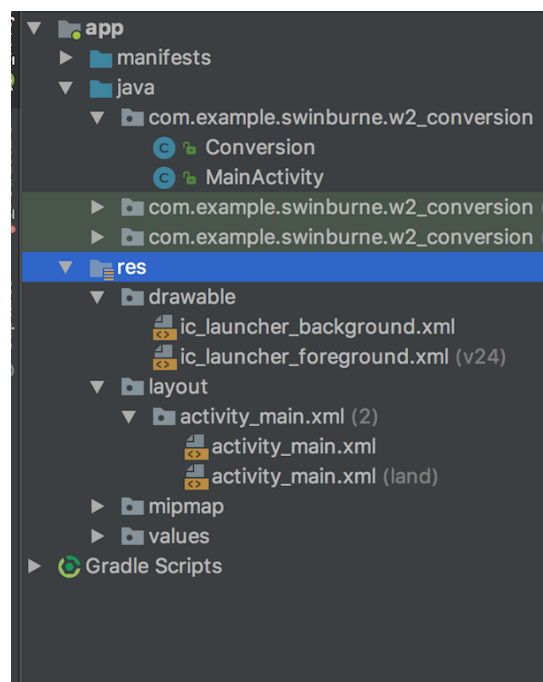There are two activity_main.xml in this application for two dimensions portrait and landscape.

Figure 1: Project structure

Source code

Conversion.java

```java
package com.example.swinburne.w2_conversion;

/**
 * Created by iOSDev on 8/9/18.
 */

public class Conversion {
    private double inch;
    private double feet;
    private double mile;
    private boolean isMetres;

    /**
     * Constructor of conversion class
     * @param inch inch value
     * @param feet feet value
     * @param mile the value of mile
     * @param isMetres the indicator to show whether metres or cm
     */
    public Conversion(double inch, double feet, double mile, boolean isMetres) {
        this.inch = inch;
        this.feet = feet;
        this.mile = mile;
        this.isMetres = isMetres;
    }

    /**
     * This method uses to convert the data from inch, mile, feet to cm or metres
     * @return
     */
    public double toValue() {
        double inch = this.inch + this.feet * 12 + this.mile * 5280 * 12;
        if (isMetres)  {
            return inch * 2.54/100;
        }
        return (inch * 2.54);
    }
}
```

MainActivity.java

```java
package com.example.swinburne.w2_conversion;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
```

```java
    EditText edtFeet;
    EditText edtMiles;
    EditText edtInches;
    CheckBox chkboxDisplayMetres;
    TextView txtViewResult;

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

    private void initializeUI() {
        edtInches = findViewById(R.id.edtInches);
        edtFeet = findViewById(R.id.edtFeet);
        edtMiles = findViewById(R.id.edtMiles);
        txtViewResult = findViewById(R.id.txtViewResult);
        chkboxDisplayMetres = findViewById(R.id.chkboxDisplayMetres);

        Button btnConvertMiles = findViewById(R.id.btnConvert);
        btnConvertMiles.setOnClickListener(this);

    }

    /**
     * This method uses to check whether these edit text have value or not
     * @return
     */
    private boolean isValid() {
        return edtInches.getText().toString().length() > 0 &&
edtMiles.getText().toString().length() > 0 && edtFeet.getText().length() > 0;
    }

    @Override
    public void onClick(View view) {
        String result;
        if (isValid()) {
            Conversion conversion = new
Conversion(Double.valueOf(edtInches.getText().toString())
,Double.valueOf(edtFeet.getText().toString()),
Double.valueOf(edtMiles.getText().toString()), chkboxDisplayMetres.isChecked());
            if (chkboxDisplayMetres.isChecked()) {
                result = String.format("%.2f metres", conversion.toValue());
            } else {
                result = String.format("%.2f cm", conversion.toValue());
            }

        } else {
            result = "";
            Toast.makeText(getApplicationContext(), "You have to enter a valid value",
Toast.LENGTH_SHORT).show();
        }
        txtViewResult.setText(result);
    }
}
```

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.swinburne.w2_conversion.MainActivity">

    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="8dp">
        <TableRow >

            <EditText
                android:id="@+id/edtMiles"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginEnd="5dp"
                android:layout_marginStart="5dp"
                android:layout_weight="1"
                android:hint="Miles"
                android:inputType="numberDecimal" />

            <EditText
                android:id="@+id/edtFeet"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:hint="Feet"
                android:inputType="numberDecimal"
                android:layout_marginStart="5dp"
                android:layout_marginEnd="5dp"
                android:layout_weight="1"
                />

            <EditText
                android:id="@+id/edtInches"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:hint="Inches"
                android:inputType="numberDecimal"
                android:layout_marginStart="5dp"
                android:layout_marginEnd="5dp"
                android:layout_weight="1">
            </EditText>

        </TableRow>

        <TableRow>
            <Button
                android:id="@+id/btnConvert"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Convert"
                android:layout_weight="1"
                />
        </TableRow>
```

```xml
        <LinearLayout
            android:layout_marginTop="5dp"
            >
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginStart="5dp"
                android:text="Result:"
                android:textStyle="bold" />
            <TextView
                android:id="@+id/txtViewResult"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginStart="5dp"
                android:text=""
                android:textStyle="bold"
                android:layout_weight="1"/>

            <CheckBox
                android:id="@+id/chkboxDisplayMetres"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginEnd="5dp"
                android:text="Display in metres"/>
        </LinearLayout>

    </TableLayout>

</android.support.constraint.ConstraintLayout>
```

activity_main.xml (landscape)

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="8dp">
        <TableRow >

            <EditText
                android:id="@+id/edtMiles"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginEnd="5dp"
                android:layout_marginStart="5dp"
                android:layout_weight="1"
                android:hint="Miles"
                android:inputType="numberDecimal" />

            <EditText
                android:id="@+id/edtFeet"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:hint="Feet"
                android:inputType="numberDecimal"
```

```xml
                android:layout_marginStart="5dp"
                android:layout_marginEnd="5dp"
                android:layout_weight="1"
                />

        <EditText
            android:id="@+id/edtInches"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Inches"
            android:inputType="numberDecimal"
            android:layout_marginStart="5dp"
            android:layout_marginEnd="5dp"
            android:layout_weight="1">
        </EditText>

    </TableRow>

    <TableRow>
        <Button
            android:id="@+id/btnConvert"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Convert"
            android:layout_weight="1"
            />
    </TableRow>

    <LinearLayout
        android:layout_marginTop="5dp"
        >
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginStart="5dp"
            android:text="Result:"
            android:textSize="20sp"
            android:textStyle="bold" />
        <TextView
            android:id="@+id/txtViewResult"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginStart="5dp"
            android:textSize="20sp"
            android:text=""
            android:textStyle="bold"
            android:layout_weight="1"/>

        <CheckBox
            android:id="@+id/chkboxDisplayMetres"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginEnd="5dp"
            android:text="Display in metres"/>
    </LinearLayout>

    </TableLayout>
</android.support.constraint.ConstraintLayout>
```