FEU-EAST ASIA COLLEGE
COLLEGE OF ENGINEERING • COLLEGE OF COMPUTER STUDIES

INFORMATION TECHNOLOGY EDUCATION DEPARTMENT

ITMA133

(MOBILE APPLICATIONS DEVELOPMENT 1)

EXERCISE 2

View Control Actions

<STUDENT NAME>
<SECTION>
<DATE>

I. OBJECTIVES

At the end of this exercise, students must be able to:

Cognitive

a.) Understand the topics they have learned from lesson 3.

.

Psychomotor:

a.) Design android views with different UI controls.
b.) Reference each control to Java code for actions.
c.) Apply onClick() event using Java code and xml code.
d.) Apply the assigned layout for views.
e.) Apply basic Toast for output.
f.) Construct an event response for each control.
g.) Construct a custom control for selected views.

Affective

a.) Appreciate the concept behind this exercise.

II. BACKGROUND INFORMATION

In order to accomplish this exercise, the student must have a clear understanding of the following topics:

- Java Classes
- Method structure
- Event handling
- Object referencing

III. LABORATORY PROCEDURE

Overview

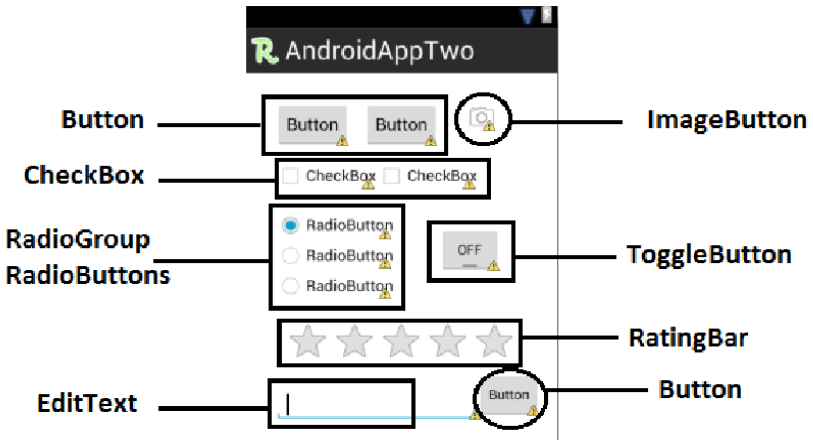
This programming exercise demonstrates the use of different UI Controls, calling events method and apply some operations.

TASK

1. Create a new Android Project.

   Project Name: AndroidAppTwo
   Activity Name (Main): MainActivity

2. Design your layout as shown below

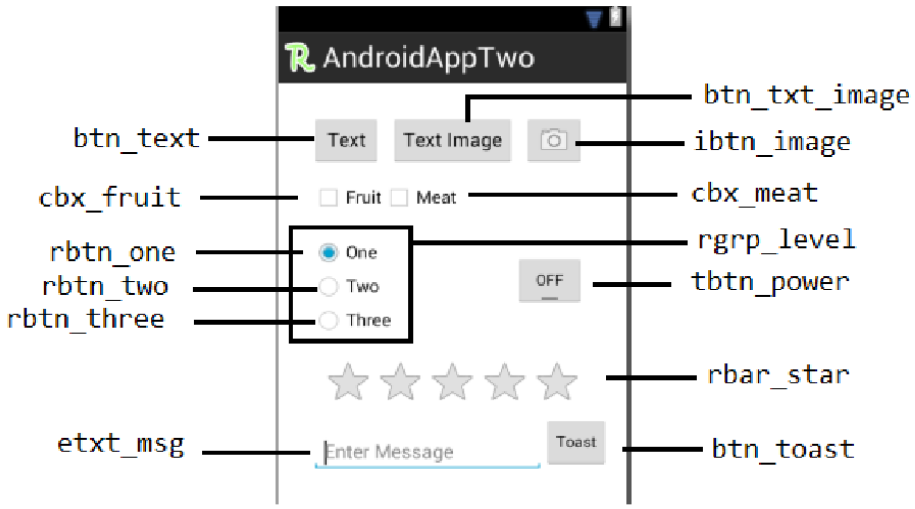


3. Add the given xml statement in strings.xml (res/values/ folder).

```
<string name="btn_txt">Text</string>
<string name="btn_txt_image">Text Image</string>
<string name="btn_image">Take Shot</string>
<string name="btn_toast">Toast</string>
<string name="cbx_fruit">Fruit</string>
<string name="cbx_meat">Meat</string>
<string name="rbtn_one">One</string>
<string name="rbtn_two">Two</string>
<string name="rbtn_three">Three</string>
<string name="tbtn_power">Power Button</string>
<string name="etxt_msg">Enter Message</string>
```

4. Change the values of each control as shown below.

5. Change the id name of each control.



6. Add image resource in Text Image button.

   a. Add xml statement to btn_txt_image and change the string value to Mail.

```
android:drawableLeft="@android:drawable/ic_dialog_email"
```

7. Open MainActivity.java and add the following codes.

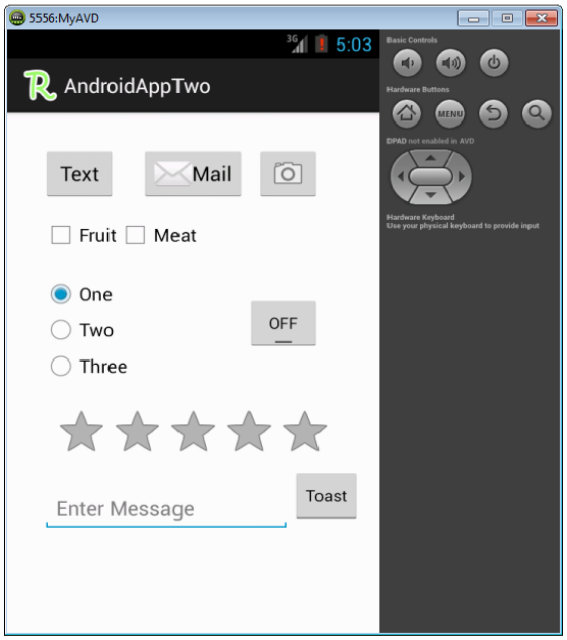
```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    Button btn_text = (Button) findViewById(R.id.btn_text);
    btn_text.setOnClickListener(new OnClickListener() {

        @Override
        public void onClick(View v) {
            // TODO Auto-generated method stub
            Context context = getApplicationContext();
            CharSequence text = "You Clicked Text Button";
            int duration = Toast.LENGTH_SHORT;
            Toast toast = Toast.makeText(context, text, duration);
            toast.show();
        }
    });
}
```

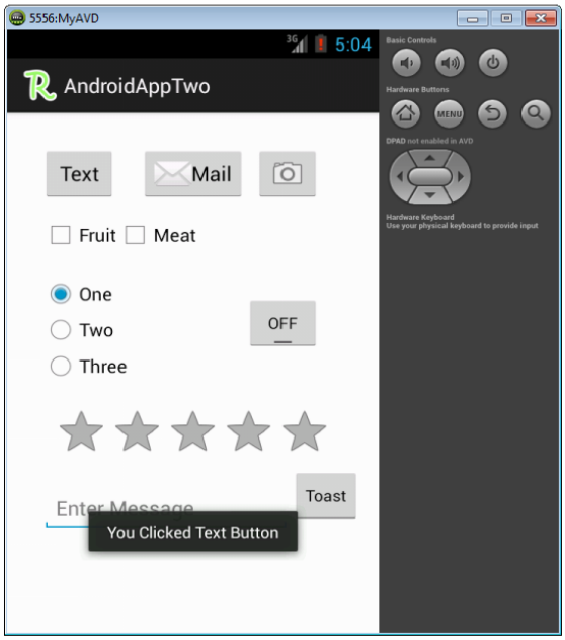
Note: You need to import some classes

```
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.Toast;
```

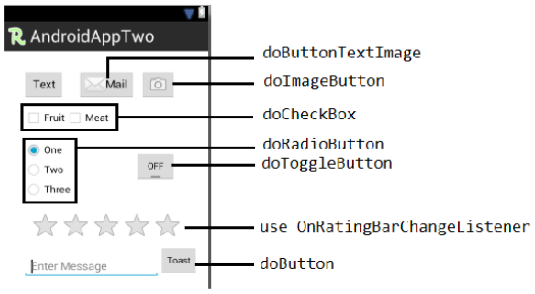
8. Run the application and click the text button.

   Program Output:





9. Add xml statement for onClick event on each view control.




```
<Button
    android:id="@+id/btn_txt_image"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/btn_text"
    android:layout_alignBottom="@+id/btn_text"
    android:layout_centerHorizontal="true"
    android:drawableLeft="@android:drawable/ic_dialog_email"
    android:text="@string/btn_txt_image"
    android:onClick="doButtonTextImage" />
```

10. Modify the MainActivity.java given the complete code below.

```
package com.example.androidapptwo;

import android.os.Bundle;
import android.app.Activity;
import android.content.Context;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RatingBar;
import android.widget.RatingBar.OnRatingBarChangeListener;
```

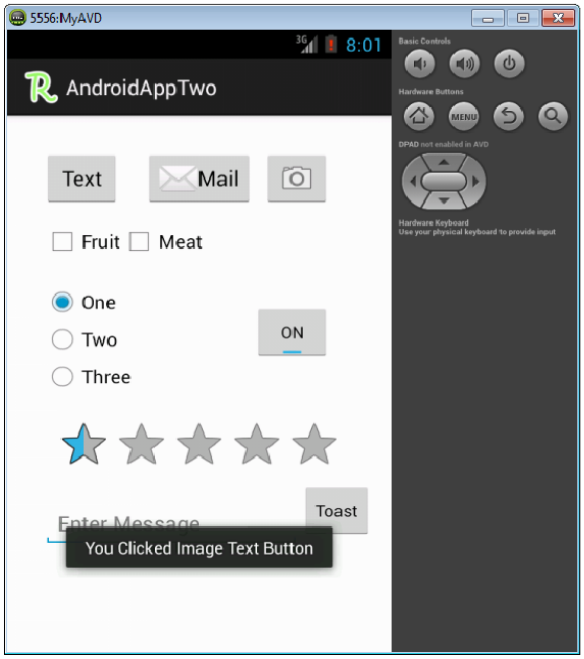
```
import android.widget.Toast;
import android.widget.ToggleButton;

public class MainActivity extends Activity {

    Context context;
    CharSequence text;
    int duration;
    Toast toast;

    String check_box = "";
    String radio_button ="One";
    String toggle_button = "Off";
    String rating_bar = "0.0";
    String edit_text = "";

    boolean fruit = false;
    boolean meat = false;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        context = getApplicationContext();
        duration = Toast.LENGTH_SHORT;

        Button btn_text = (Button) findViewById(R.id.btn_text);
        btn_text.setOnClickListener(new OnClickListener() {

            @Override
            public void onClick(View v) {
                // TODO Auto-generated method stub
                text = "You Clicked Text Button";
                toast = Toast.makeText(context, text, duration);
                toast.show();
            }
        });

        RatingBar ratingBar = (RatingBar) findViewById(R.id.rbar_star);
        ratingBar.setOnRatingBarChangeListener(new OnRatingBarChangeListener() {
            @Override
            public void onRatingChanged(RatingBar ratingBar, float rating,
boolean fromUser) {
                // TODO Auto-generated method stub
                rating_bar = String.valueOf(rating);
            }
        });
    }

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

```
public void doButtonTextImage(View v){
    text = "You Clicked Image Text Button";
    toast = Toast.makeText(context, text, duration);
    toast.show();
}

public void doImageButton(View v){
    text = "You Clicked Image Button";
    toast = Toast.makeText(context, text, duration);
    toast.show();
}

public void doCheckBox(View v){
    boolean checked = ((CheckBox)v).isChecked();
    switch(v.getId()){
        case R.id.cbx_fruit:
            if(checked){
                fruit = true;
            } else {
                fruit = false;
            }
            break;
        case R.id.cbx_meat:
            if(checked){
                meat = true;
            } else {
                meat = false;
            }
            break;
    }

    if(fruit && meat){
        check_box = "Fruit and Meat";
    } else if(fruit){
        check_box = "Fruit";
    } else if(meat){
        check_box = "Meat";
    } else {
        check_box = "No Selection";
    }
}

public void doRadioButton(View v){
    boolean checked = ((RadioButton)v).isChecked();
    switch(v.getId()){
        case R.id.rbtn_one:
            if(checked)
                radio_button = "One";
            break;
        case R.id.rbtn_two:
                radio_button = "Two";
            break;
        case R.id.rbtn_three:
                radio_button = "Three";
```

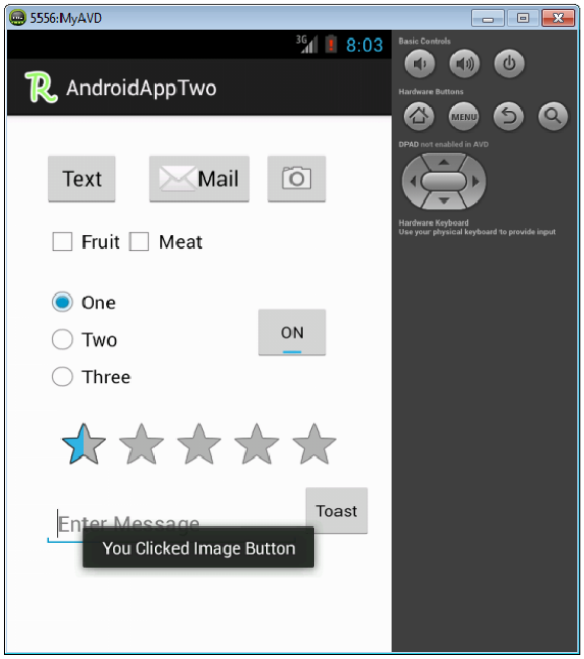
```
            break;
        }
    }

    public void doToggleButton(View v){
        boolean on = ((ToggleButton) v).isChecked();
        if(on){
            toggle_button = "On";
        } else {
            toggle_button = "Off";
        }
    }

    public void doButton(View v){
        EditText etxt_msg = (EditText) findViewById(R.id.etxt_msg);
        edit_text = etxt_msg.getText().toString();
        text = "Check Box: " + check_box + "\n";
        text = text.toString() + "Radio Button: " + radio_button + "\n";
        text = text.toString() + "Toggle Button: " + toggle_button + "\n";
        text = text.toString() + "Rating Bar: " + rating_bar + "\n";
        text = text.toString() + "Edit Text: " + edit_text;
        text = text.toString() + edit_text;
        toast = Toast.makeText(context, text, duration);
        toast.show();
    }
}
```

11. Run and Test the Program.

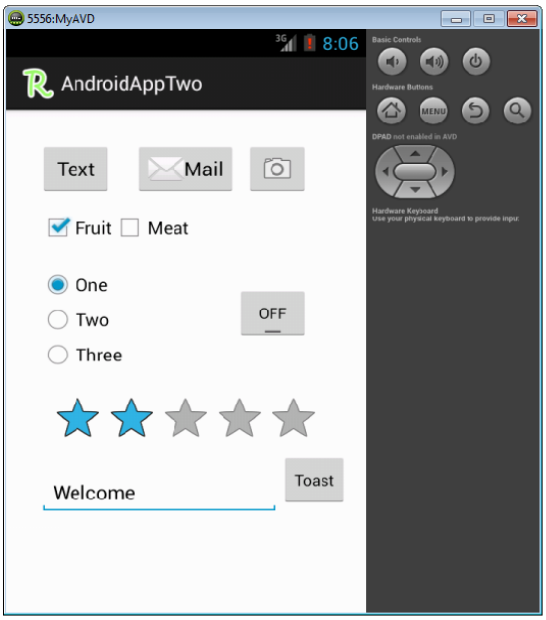
Program Output 1:

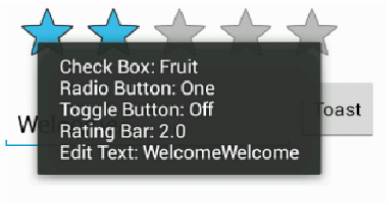


Program Output 2:

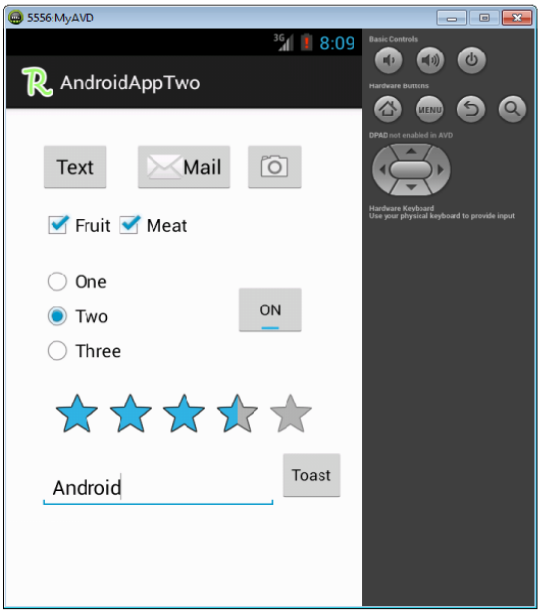


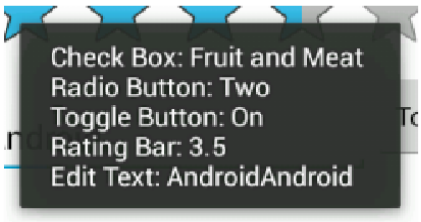
Program Output 3:





Program Output 4:





IV. QUESTION AND ANSWER

1. What is the difference of calling control events using xml and using java codes?

2. Are all android controls can support by xml onClick event. (state why)

3. What is the difference of renaming and refactoring?

4. What is the importance of xml file in android development?

V. REFERENCE

http://www.developer.android.com