



DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

Title: Referencing and Event Listener

MOBILE APPLICATION DEVELOPMENT
CSE 402



GREEN UNIVERSITY OF BANGLADESH

1 Objective(s)

- To gather knowledge of java syntax for referencing with XML.
- To implement event listener for different GUI components.

2 Problem analysis

For solving real life problems, all should know about writing logic for GUI components. GUI control components are the primary elements of a graphical user interface that enable interaction with the user. Android applications use classes in the Java language to implement various aspects of Graphical User Interface (GUI) functionality. In this lab experiment, we will link up GUI component to the front-end logic and add listener for Buttons so that they can execute an action when they are being pressed.

3 Referencing Code Implementation in Java

```
1 package com.example.login;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Intent;
6 import android.os.Bundle;
7 import android.view.View;
8 import android.widget.Button;
9 import android.widget.EditText;
10 import android.widget.Toast;
11
12 public class MainActivity extends AppCompatActivity {
13
14     EditText etName;
15     Button BtnOK;
16
17     @Override
18     protected void onCreate(Bundle savedInstanceState) {
19         super.onCreate(savedInstanceState);
20         setContentView(R.layout.activity_main);
21
22         //Referencing
23         etName=(EditText) findViewById(R.id.etName);
24         BtnOk=(Button) findViewById(R.id.btnOk);
25     }
26 }
```

4 Input/Output

Run the code and observe the output in the virtual device.

5 Event Listener Code Implementation in Java

```
1 package com.example.login;
2
```

```
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Intent;
6 import android.os.Bundle;
7 import android.view.View;
8 import android.widget.Button;
9 import android.widget.EditText;
10 import android.widget.Toast;
11
12 public class MainActivity extends AppCompatActivity {
13
14     EditText etName;
15     Button BtnOK;
16
17     @Override
18     protected void onCreate(Bundle savedInstanceState) {
19         super.onCreate(savedInstanceState);
20         setContentView(R.layout.activity_main);
21
22         //Referencing
23         etName=(EditText) findViewById(R.id.etName);
24         BtnOk=(Button) findViewById(R.id.btnOk);
25
26         //Event Listener
27         //Setting event listener for Login Button
28         BtnOK.setOnClickListener(new View.OnClickListener() {
29             @Override
30             public void onClick(View v) {
31                 Toast.makeText(getApplicationContext(),"Login Button Selected.",
32                     Toast.LENGTH_LONG).show();
33             }
34         });
35     }
```

6 Input/Output

Run the code and observe the output in the virtual device.

7 Discussion & Conclusion

From this experiment, we learnt about linking up GUI components to Java file and setting event listener for Buttons to develop Android applications.

8 Lab Task (Please implement yourself and show the output to the instructor)

1. Implement referencing all the GUI components.
2. Implement event listener for Reset Button.
3. Add another button to change background color.

8.1 Problem analysis

Create references for all the GUI components such as EditText, Buttons etc. Setup an onClickListener for Reset Button. Create another Button in the UI and implement necessary logic so that background color can be changed when it is clicked.

9 Lab Exercise (Submit as a report)

- Implement validation process for user login.
- Design your login page to give a good outlook.

10 Policy

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