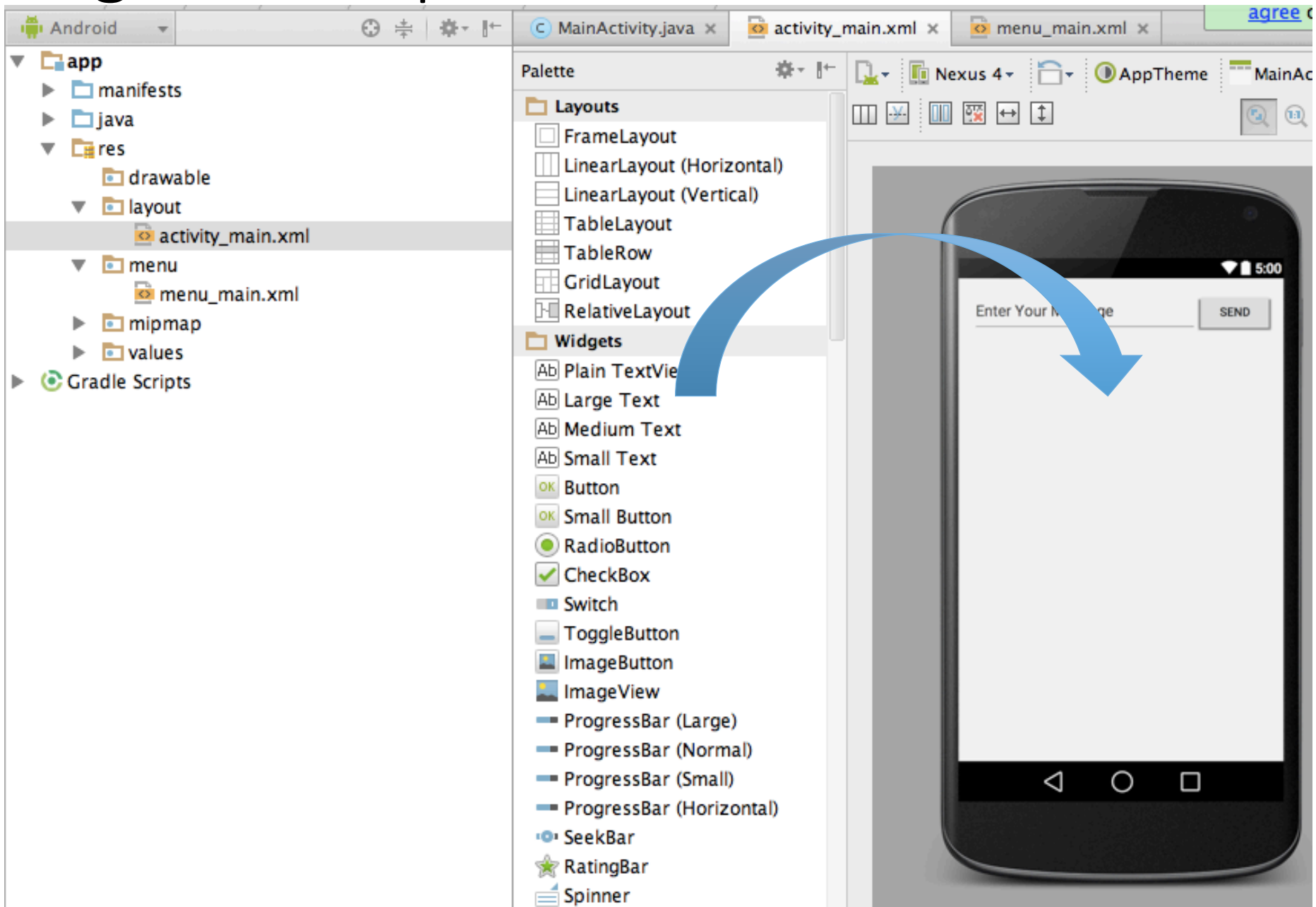
[Tutorial #2] Basic User Interface: Intent and Action Bar

Basic Layout

- Different Layout Styles (View Group):
  - Relative layout (default), linear layout, Table layout…
- Hierarchy of View
  - View Group (contains views, invisible)
  - View (visible: button, text …)

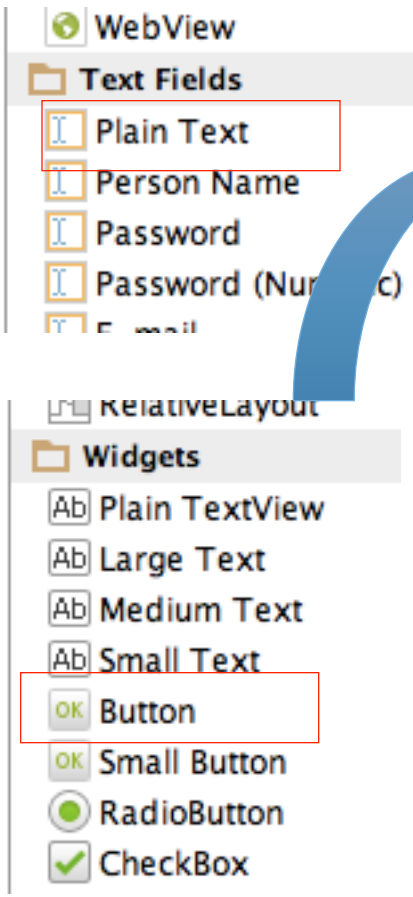
Drag and Drop



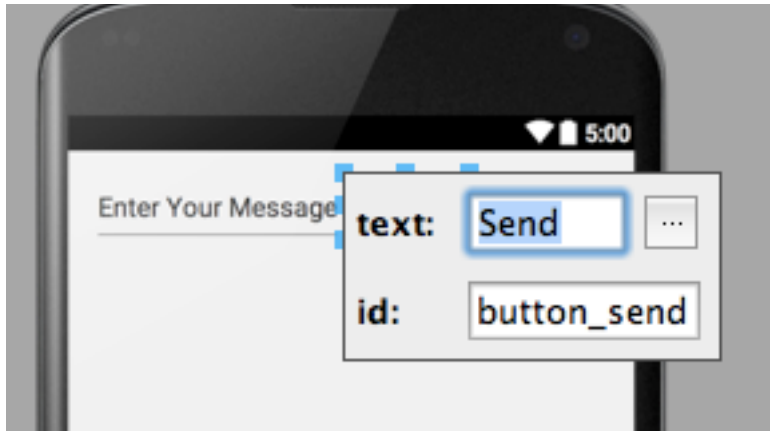
Change the Layout Style

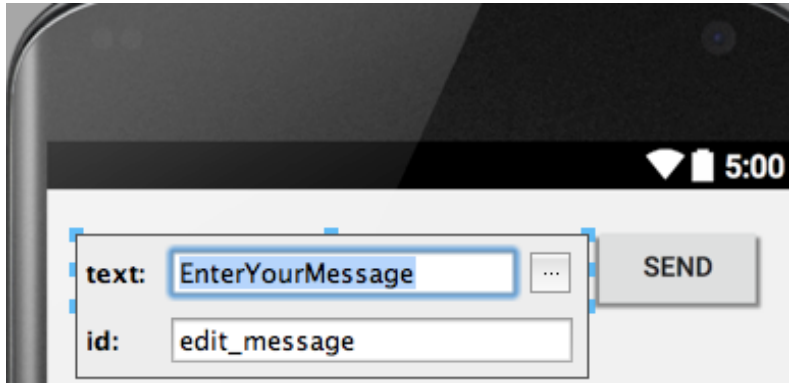
- Relative layout -> linear layout
  - Cannot drag and drop to change the root layout
  - Modify it in XML code

Add EditText and Button



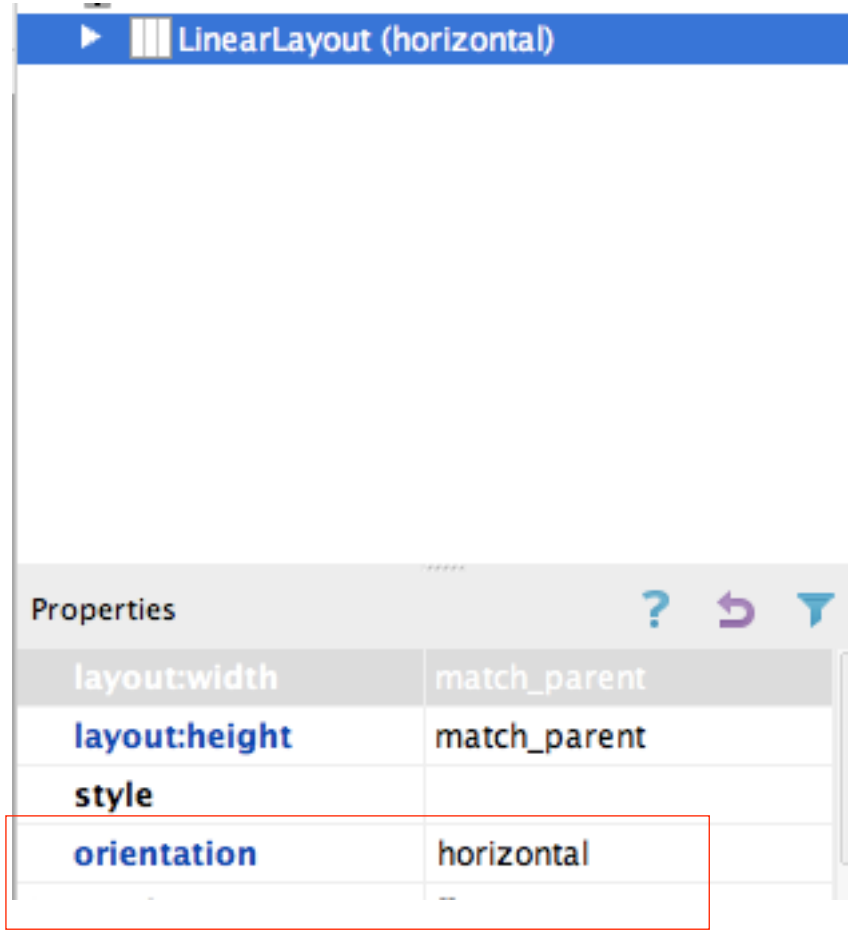
Double Click on Views To Change the ID and Text of the View





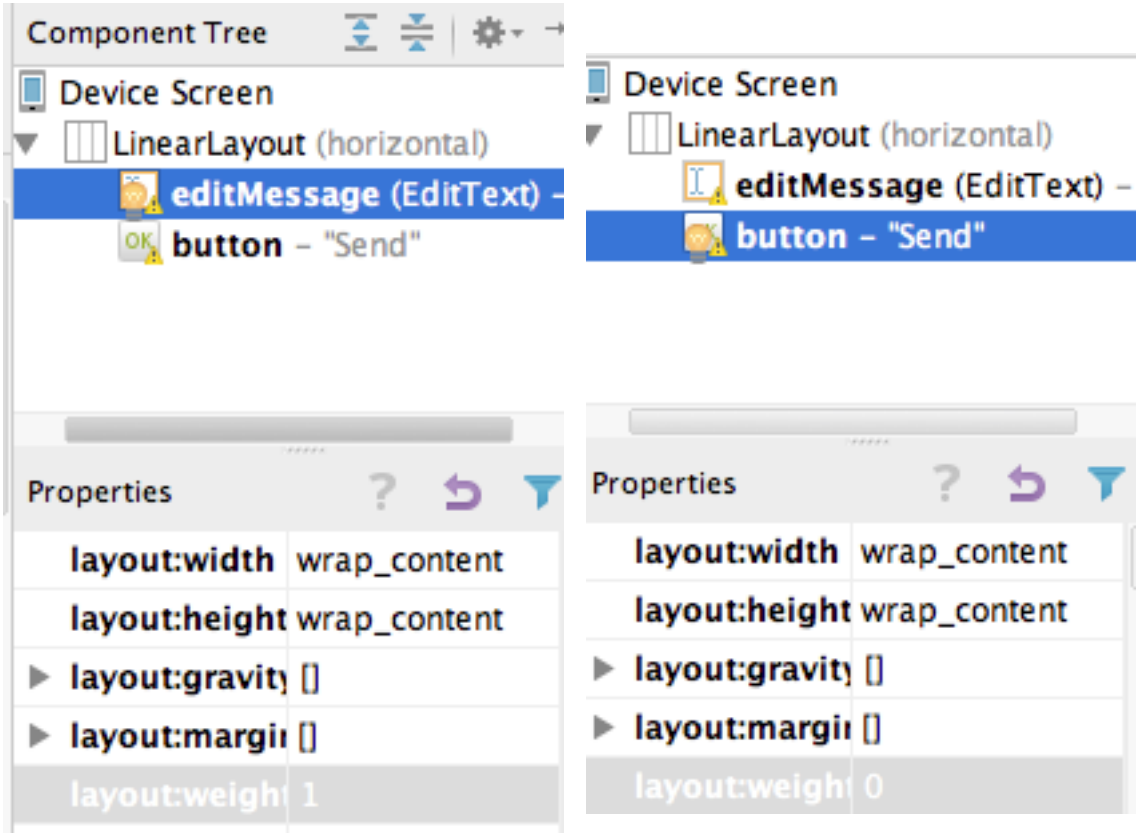
Modify the Properties of Views and View Group

- Select a view in the hierarchy in your right hand side
  - Example: Change the orientation to horizontal

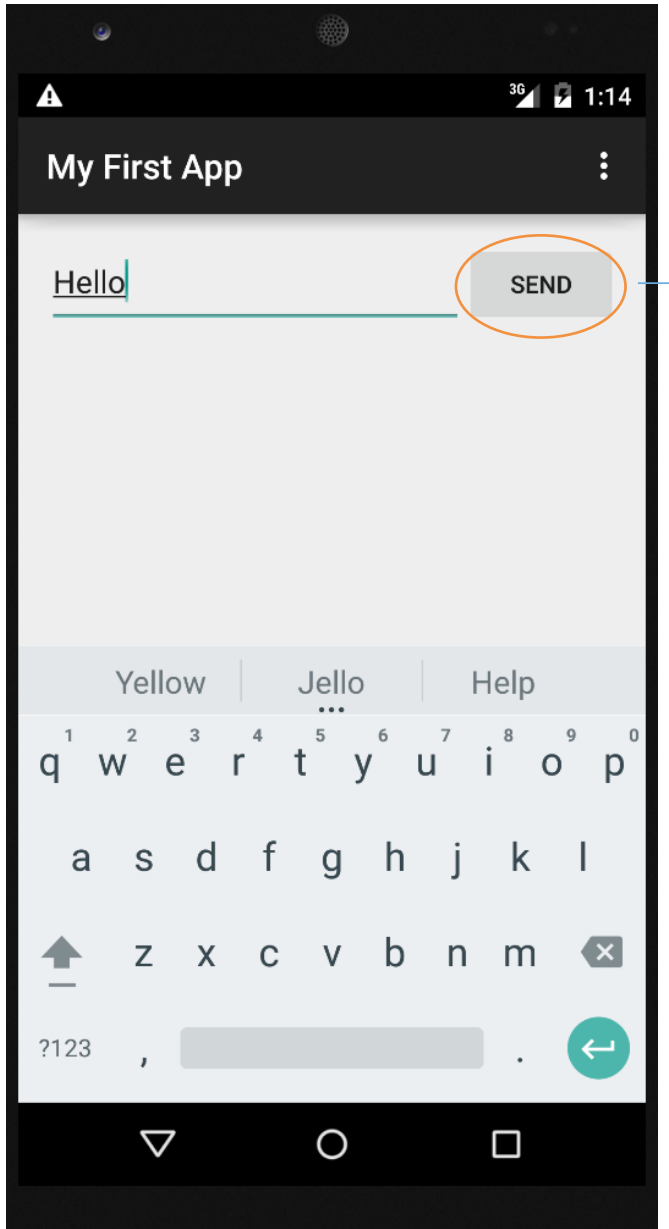


Properties Used in Our Example

- Orientation of Linearlayout: horirontal
- Height and Width: wrap_content
- Weight of Each Views:
  - Edit_message: weight=1
  - Button: weight=0
- Priority of Properties:
  - Weight > wrap_content

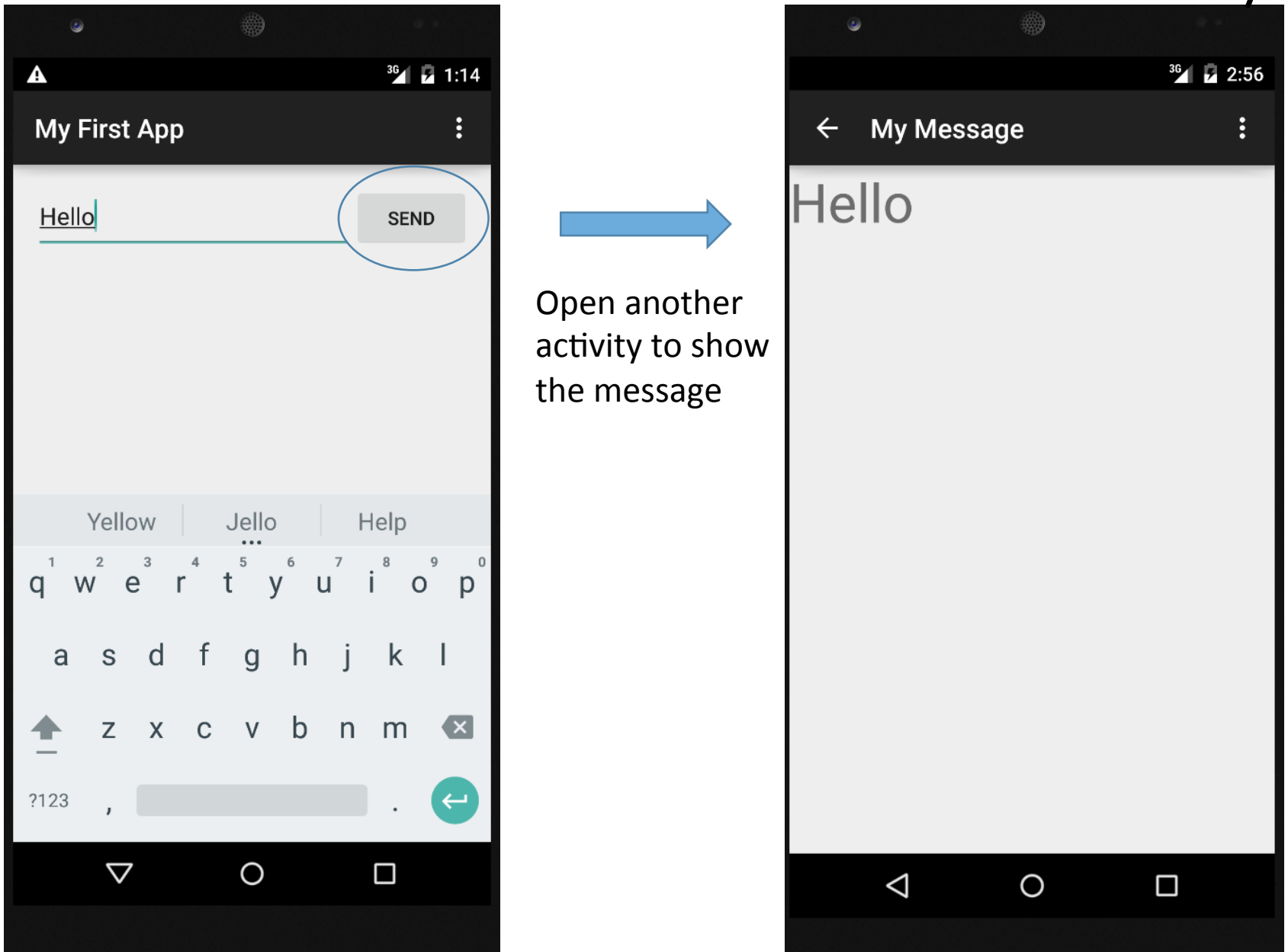


Current State



Nothing Happened When You Click the Button

Using Intent to Switch to Another Activity



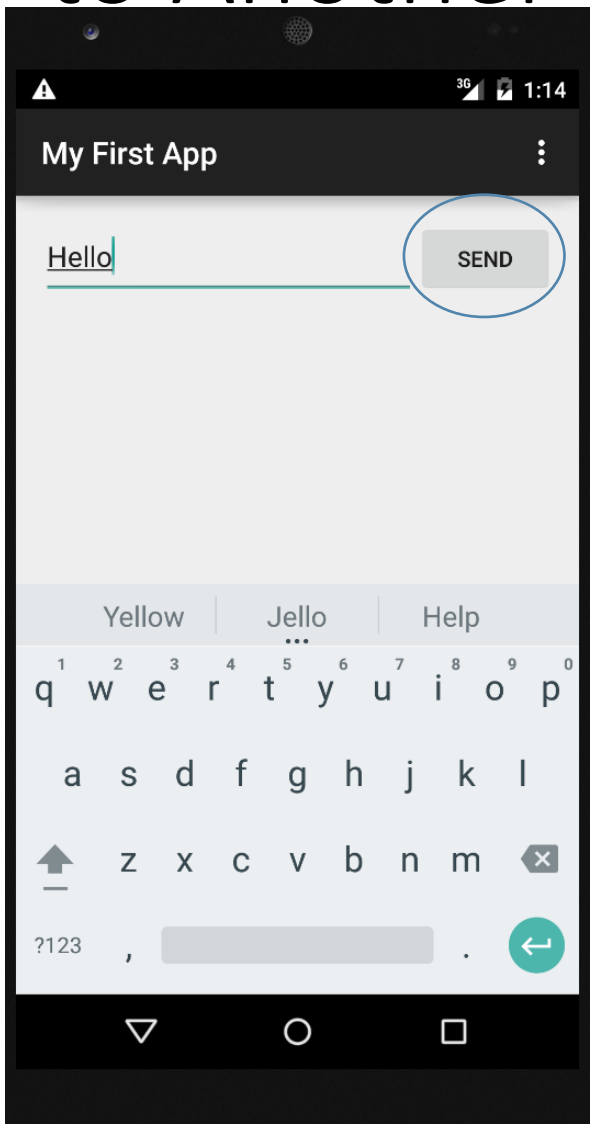
Open another activity to show the message

What is Intent?

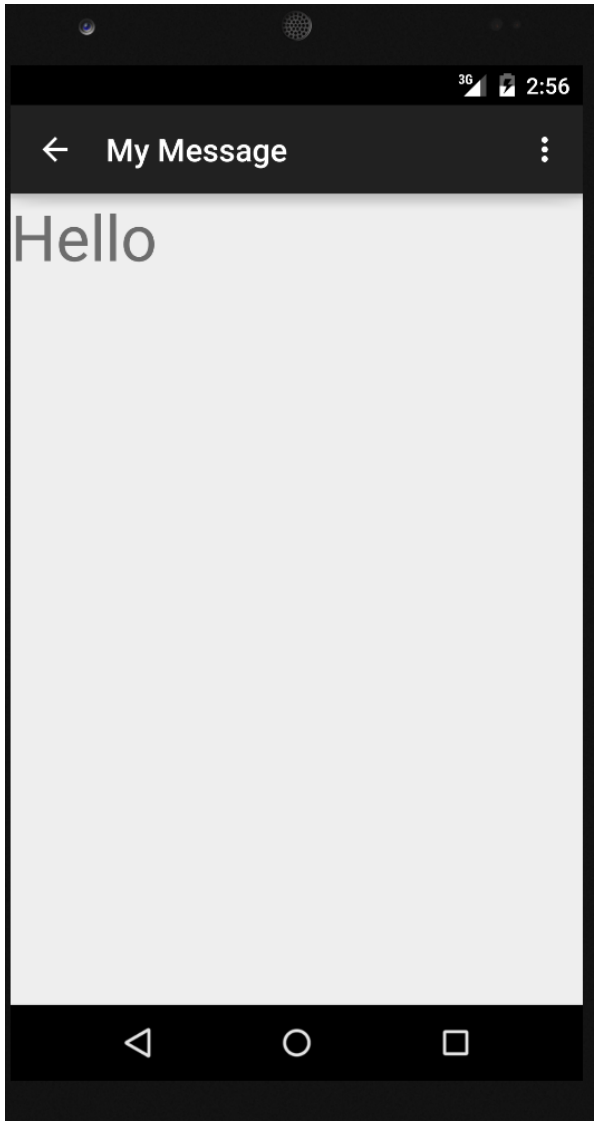
- An intent is a description of an action to be performed
- Intent to do something or go to somewhere
  - Open Browser, Camera, …
  - Go (switch) to another activity
- Using Bundle to carry data
- You can find the actions in the following link

http://developer.android.com/reference/android/content/Intent.html

Example – Carry Your Message From one Activity to Another



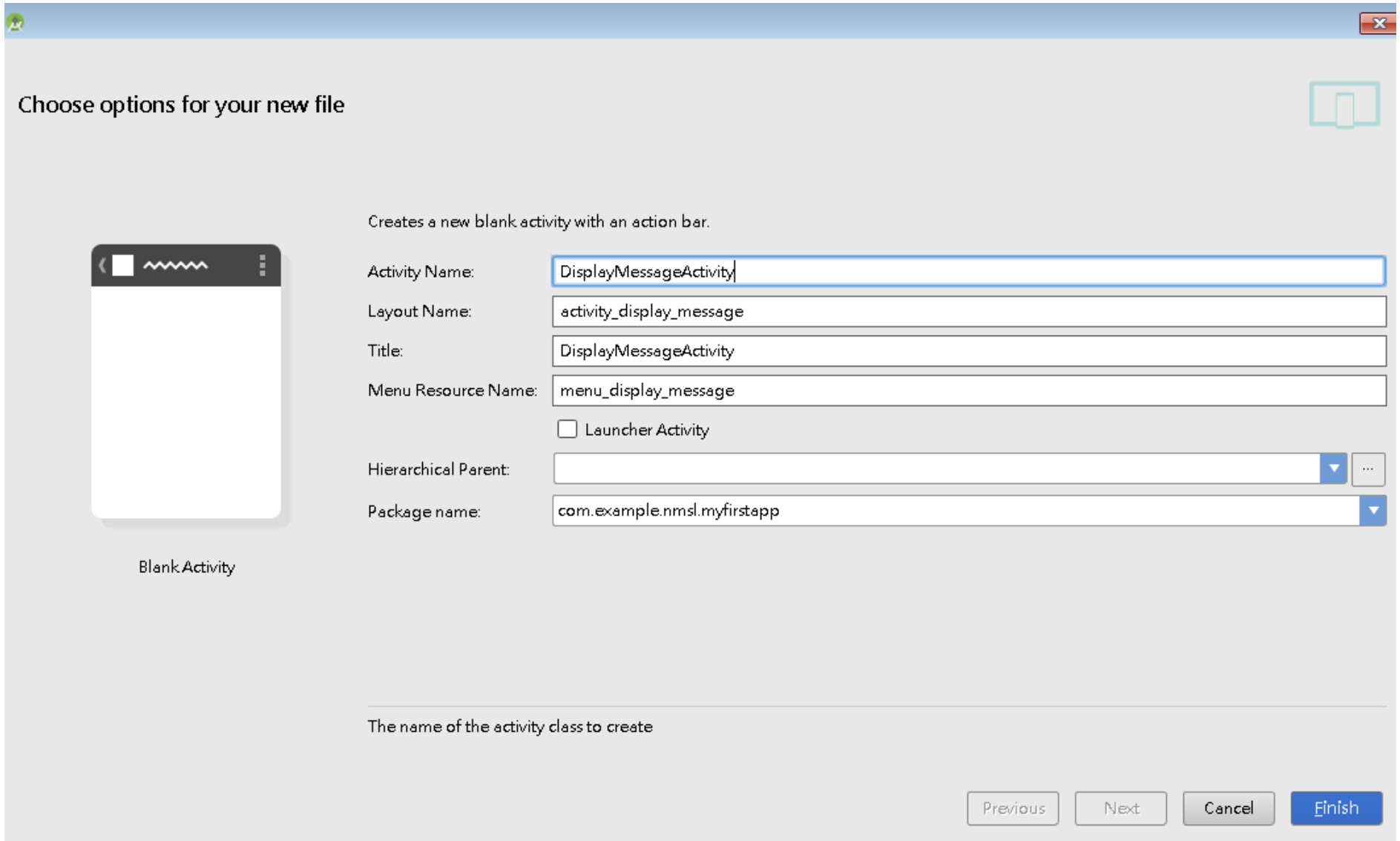
Open another activity to show the message



Step 1:

- Create second activity
- Create a function which is triggered once you click your button
- Describe your intent in the function
- Get your message from your TextEdit Field
- Put your message into a Bundle
- Perform your intent which carries with the Bundle

Create the Second Activity



Step 2:

- Create second activity
- Create a function which is triggered once you click your button
- Describe your intent in the function
- Get your message from your TextEdit Field
- Put your message into a Bundle
- Perform your intent which carries with the Bundle
- Get the message in the second activity

OnClick Listener

- Link your button with a function to do something
- Edit activity_main.xml

```
<Button
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:text="@string/button_send"
   android:onClick="sendMessage" />
```

The name of your function

- Edit MyActivity.java to add the function

```
import android.content.Intent;
…
public void sendMessage(View view) {
      // Do something in response to button
Toast.makeText(this, "Click Button", Toast.LENGTH_SHORT).show();
}
```

Step 3:

- Create second activity
- Create a function which is triggered once you click your button
- Describe your intent in the function
- Get your message from the TextEdit Field
- Put your message into a Bundle
- Perform your intent which carries with the Bundle
- Get the message in the second activity

Describe the Intent and Get the Message

```
import android.content.Intent;
…
public void sendMessage(View view) {
        // Do something in response to button
        Intent intent = new Intent(this, DisplayMessageActivity.class);
        EditText editText = (EditText)
findViewById(R.id.edit_message);
        String message = editText.getText().toString();
        …
 }
```

Second Activity

Id of Your Message View

Current Activity

Step 4:

- Create second activity
- Create a function which is triggered once you click your button
- Describe your intent in the function
- Get your message from your TextEdit Field
- Put your message into a Bundle
- Perform your intent which carries with the Bundle
- Get the message in the second activity

Using Bundle to Carry the Message and Perform the Intent

```
  public void sendMessage(View view) {
        // Do something in response to button
        Intent intent = new Intent(this, DisplayMessageActivity.class);
        EditText editText = (EditText) findViewById(R.id.edit_message);
        String message = editText.getText().toString();
        Bundle bundle = new Bundle();
        bundle.putString(EXTRA_MESSAGE, message);
        intent.putExtras(bundle);
        startActivity(intent);
    }
public class MyActivity extends ActionBarActivity {
    public final static String EXTRA_MESSAGE = "com.mycompany.myfirstapp.MESSAGE";
    ...
}
```

Create a unique key for the message put into the bundle. We then get the message by this key in the second activity (next page)

Step 5:

- Create second activity
- Create a function which is triggered once you click your button
- Describe your intent in the function
- Get your message from your TextEdit Field
- Put your message into a Bundle
- Perform your intent which carries with the Bundle
- Get the message in the second activity

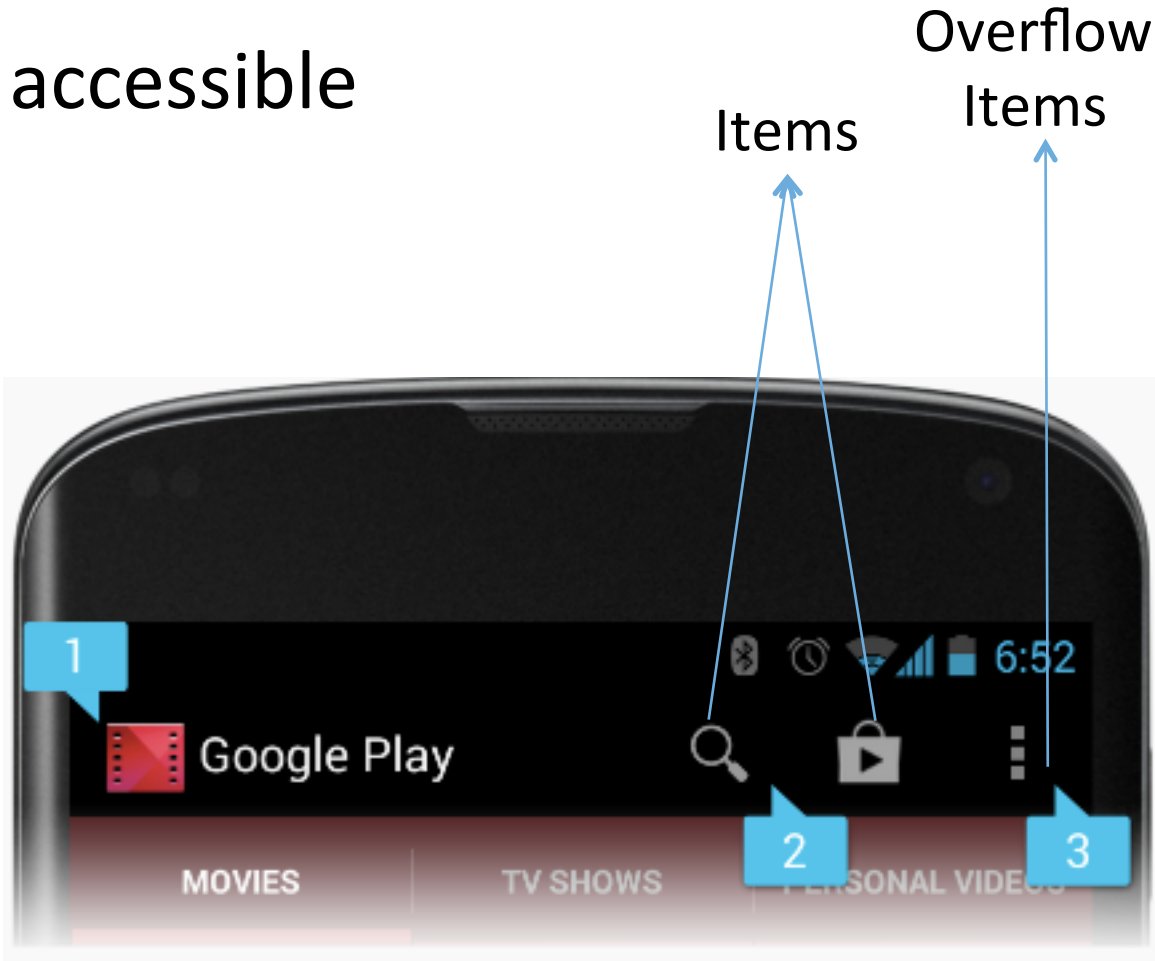
Receive the Intent and Get the Message

- Edit DisplayMessageActivity.java (your second activity)
  - Get the message from the intent
  - Create a textview to show the message

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    Intent intent = getIntent();
    Bundle bundle = intent.getExtras();
    String message = bundle.getString(MyActivity.EXTRA_MESSAGE);
    TextView textView = new TextView(this);
    textView.setTextSize(40);
    textView.setText(message);
    setContentView(textView);
}
```

Action Bar

- Action bar shows users where you are
- Make important actions be easily accessible
- Includes
  - Application icon
  - Items
  - Overflow items



http://developer.android.com/guide/topics/ui/actionbar.html

Create a Menu and Add Items

- Item
  - Title
  - Icon
  - ShowAsAction


```
<menu 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"
tools:context=".MyActivity">
    <item
        android:id="@+id/search"
        android:icon="@drawable/ic_action_search"
        app:showAsAction="ifRoom"
        android:title="search_title"/>

    <item android:id="@+id/action_settings"
        android:title="@string/action_settings"
        android:orderInCategory="100"
app:showAsAction="never" />
</menu>
```

Show Your Action Bar

- getMenuInflater().inflate(R.menu.menu_my, menu);
  - Show your menu_my.xml

```
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getSupportActionBar().setIcon(R.drawable.ic_nmsl);
    getSupportActionBar().setDisplayShowHomeEnabled(true);
    getMenuInflater().inflate(R.menu.menu_my, menu);
    return true;
}
```

Handling Clocks on Actions

- When you click an action, the Android system calls your activity's onOptionItemSelected()

```
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();
    if (id == R.id.search) {
        googleIt();
        return true;
    }

    return super.onOptionsItemSelected(item);
}
```

Create this function later

Example 2 – Search by Google

- Add “googleIt” function in MyActivity.java

```
public void googleIt() {
        // Do something in response to button
        EditText editText = (EditText) findViewById(R.id.edit_message);
        String message = editText.getText().toString();
        String url = "http://www.google.com/search?q="+message;
        Intent i = new Intent(Intent.ACTION_VIEW);
        i.setData(Uri.parse(url));
        startActivity(i);
}
```

Q & A