

# **MultipleActivities Example**

### Renault@Irde.epita.fr



## **BeerApp Example**



### **Three activities**

- MainActivity
- Start screen with a "register button"
   InscriptionActivity
  - Fields required for registration
- ResultActivity
  - Display a text according to your age





## Use XML to store static values



- Good practice since you will not use magic static values in your code
- Avoid to repeat multiple time same text
- Put all constants into res/value/string.xml

<?xml version="1.0" encoding="utf-8"?> <resources>

<string name="app name">Beer App!</string> <string name="register now">Register now!</string> <string name="inscription">Inscription</string> <string name="name">Name</string> <string name="firstName">First Name</string> <string name="age">Age</string> <string name="submit">Submit</string> <string name="okDrink">Drink with me!</string> <string name="koDrink">"Don't drink!"</string> </resources>

## Build an App based on Localisation



- Adapt your texts based on the language of the user
- Copy the res/value directory into res/value-fr
- Edit res/value-fr/strings.xml

### <resources>

<string< th=""><th><pre>name="app_name"&gt;Beer App</pre></th></string<>	<pre>name="app_name"&gt;Beer App</pre>
<string< th=""><th><pre>name="register_now"&gt;Regi </pre></th></string<>	<pre>name="register_now"&gt;Regi </pre>
<string< th=""><th><pre>name="inscription"&gt;Inscription"&gt;Inscription"&gt;Inscription</pre></th></string<>	<pre>name="inscription"&gt;Inscription"&gt;Inscription"&gt;Inscription</pre>
<string< th=""><th><pre>name="name"&gt;Name</pre></th></string<>	<pre>name="name"&gt;Name</pre>
<string< th=""><th><pre>name="firstName"&gt;First 1</pre></th></string<>	<pre>name="firstName"&gt;First 1</pre>
<string< th=""><th><pre>name="age"&gt;Age</pre></th></string<>	<pre>name="age"&gt;Age</pre>
<string< th=""><th><pre>name="submit"&gt;Submit</pre></th></string<>	<pre>name="submit"&gt;Submit</pre>
<string< th=""><th><pre>name="okDrink"&gt;Drink wid</pre></th></string<>	<pre>name="okDrink"&gt;Drink wid</pre>
<string< th=""><th><pre>name="koDrink"&gt;"Don't di</pre></th></string<>	<pre>name="koDrink"&gt;"Don't di</pre>

Android will select the correct file based on the Locale



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### p!</string> ister now!</string> ription</string> g> Name</string>

### tring> th me!</string> rink!"</string>

## **Build an App based on Localisation**



### Localisation

- Adapt your texts based on the language of the user
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Android will select the correct file based on the Locale



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# r now!</string>

## Main GUI (1/2)

### Three elements in the hierarchy of views

- A LinearLayout
- A TextView
- A Button

### GUI description: activity\_main.xml

### <LinearLayout xmlns:android=

"http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout\_width="fill\_parent"
android:layout\_height="fill\_parent"
android:orientation="vertical"
android:baselineAligned="false"
android:weightSum="1">



## **Main GUI (2/2)**

### <TextView

android:layout width="396dp" android:layout height="497dp" android:textAppearance= "?android:attr/textAppearanceLarge" android:text="@string/app name" android:id="@+id/display name" android:gravity="center vertical|center horizontal" android:textStyle="bold|italic" android:textColor="#fffff4a45" android:textSize="100dp" android:background="#ffffff53" />

### <Button

android: layout width="match parent" android:layout height="79dp" android:text="@string/register now" android:id="@+id/button register" />

</LinearLayout>



## **Registration Form GUI (1/2)**

## Five elements in the hierarchy of views

- A LinearLayout
- A TextView
- Three EditText
- A Button

## GUI description: activity\_inscription.xml

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:tools="http://schemas.android.com/tools"
 android:layout\_width="fill\_parent" android:layout\_height="fill\_parent"
 android:orientation="vertical" android:baselineAligned="false"
 android:weightSum="1">

### <TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:textAppearance="?android:attr/textAppearanceLarge" android:text="@string/inscription" android:id="@+id/textView" android:layout\_weight="0.43" android:gravity="center\_horizontal" android:textStyle="bold|italic" android:textSize="70dp"

/>



## **Registration Form GUI (2/2)**

### <EditText

android:layout\_width="match\_parent"
android:layout\_height="wrap\_content"
android:inputType="textPersonName"
android:ems="10"
android:layout\_weight="0.04" />

### <EditText

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:inputType="number" android:ems="10" android:id="@+id/text\_age" android:layout\_gravity="center\_horizontal" android:layout\_weight="0.04" android:text="@string/age" />

### <Button

android:layout\_width="wrap\_content"
android:layout\_height="wrap\_content"
android:text="@string/submit" andr
android:layout\_gravity="center\_horizontal"
android:layout\_weight="0.04" />

android:text="@string/firstName"
android:id="@+id/text\_firstname"

android:id="@+id/button\_submit"
tal"

## **GUI post inscription**

### Two elements in the hierarchy of views

- A LinearLayout
- A TextView with runtime initialization

### GUI description: activity\_result.xml

### <LinearLayout

xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout\_width="fill\_parent" android:layout\_height="fill\_parent"
android:orientation="vertical" android:baselineAligned="false"
android:weightSum="1">

### <TextView

android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:textAppearance="?android:attr/textAppearanceLarge" android:text="Large Text" android:id="@+id/text\_display" android:textSize="70dp"

android:gravity="center\_vertical|center\_horizontal" />
arLayout>

### </LinearLayout>



## MainActivity



## Must build the GUI and track clicks on button

- Build the GUI during the call to the <u>onCreate</u> callback
- Action when the button is clicked
  - Implement View.OnClickListener Load the GUI XML during creation
  - set this as listener

public class MainActivity extends Activity implements View.OnClickListener { Button btGotoInscription;

### @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity main); btGotoInscription = (Button) findViewById(R.id.button register); btGotoInscription.setOnClickListener(this);

```
@Override
```

}

```
public void onClick(View v) {
```

```
Intent intent = new Intent(this, InscriptionActivity.class);
startActivity(intent);
```

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```

## **Registration Form**

### Action when the user click on the button

We must capture the age field

Always implement View.OnClickListener

### public class InscriptionActivity

extends Activity implements View.OnClickListener { private Button buttonSubmit;

### @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity inscription); buttonSubmit = (Button) findViewById(R.id.button submit); buttonSubmit.setOnClickListener(this);

### **@Override**

### public void onClick(View v) {

Intent intent = new Intent(this, ResultActivity.class); TextView age = (TextView)findViewById(R.id.text age); intent.putExtra("AGE", Integer.parseInt(age.getText().toString())); startActivity(intent);



## Last Screen: display result



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## Must grab the <u>age</u> from the intent Mut instantiate the XML

public class ResultActivity extends Activity{ **@Override** protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity result); int age = getIntent().getIntExtra("AGE", 0); TextView display = (TextView)findViewById(R.id.text display); **if** (age <= 20) display.setText(R.string.koDrink); else display.setText(R.string.okDrink);



## **Setup Android Permissions**

### Modify the AndroidManifest.xml

xml version="1.0" encoding="utf-8"?
<manifest com.example.admin.myfirstapplicat<="" pre="" xmlns:android="http://schemas.andro&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;pre&gt;package="></manifest>
<application< td=""></application<>
android:allowBackup="true"
android:icon="@drawable/ic_launcher"
android:label="@string/app_name"
android:theme="@style/AppTheme" >
<activity< td=""></activity<>
android:name=".MainActivity"
<pre>android:label="@string/app_name" &gt;</pre>
<intent-filter></intent-filter>
<action android.ir<="" android:name="android.inte&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;category android:name=" td=""></action>
<activity .resultactivity<="" android:name=".InscriptionAct&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;activity android:name=" td=""></activity>

oid.com/apk/res/android"
tion" >

ent.action.MAIN" />
ntent.category.LAUNCHER" />

tivity"/> y"/>

## Summary



### End to end application

- Three Activities
- Manage simple events (clicks)
- Simple Navigation through the back stack
- 🖗 Intents
  - With or Without parameters
- Static value management
  - Throught res/values/\*.xml

## Localisation

- On simple value type
- Can also be applied on all ressources
- Application name can also be changed!





F. Kordon - Sorbonne Université - CC2018