



Accelerating Information Technology Innovation

<http://aiti.mit.edu>

Cali, Colombia
Summer 2012
Lesson 7 – Support Different Android
Devices

Support Different Languages

- Create resource subdirectories and string resource files
- Use ISO country code
 - Do Wikipedia search for list

```
MyProject/  
  res/  
    values/  
      strings.xml  
    values-es/  
      strings.xml  
    values-fr/  
      strings.xml
```

Support Different Languages

English (default locale), `/values/strings.xml`:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string name="title">My Application</string>
  <string name="hello_world">Hello World!</string>
</resources>
```

Spanish, `/values-es/strings.xml`:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string name="title">Mi Aplicación</string>
  <string name="hello_world">Hola Mundo!</string>
</resources>
```

French, `/values-fr/strings.xml`:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string name="title">Ma Application</string>
  <string name="hello_world">Bonjour tout le Monde!</string>
</resources>
```

Use of String Resource

- How to get or supply a string resource

```
// Get a string resource from your app's Resources
String hello = getResources().getString(R.string.hello_world);

// Or supply a string resource to a method that requires a string
TextView textView = new TextView(this);
textView.setText(R.string.hello_world);
```

- Access by other XML files

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/hello_world" />
```

Different Screen Sizes

- Sizes: small, medium, large, xlarge

```
MyProject/  
  res/  
    layout/                # default (portrait)  
      main.xml  
    layout-land/          # landscape  
      main.xml  
    layout-large/         # large (portrait)  
      main.xml  
    layout-large-land/    # large landscape  
      main.xml
```

Different Screen Resolutions

- Densities: low (ldpi), medium (mdpi), high (hdpi), extra high (xhdpi)
- xhdpi = 2.0
- hdpi = 1.5
- mdpi = 1.0 (baseline)
- ldpi = 0.75
- System scales hdpi to ldpi

```
MyProject/  
  res/  
    drawable-xhdpi/  
      awesomeimage.png  
    drawable-hdpi/  
      awesomeimage.png  
    drawable-mdpi/  
      awesomeimage.png  
    drawable-ldpi/  
      awesomeimage.png
```

Different Platform Versions

- Manifest file: set minimum and target version

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android" ... >
    <uses-sdk android:minSdkVersion="4" android:targetSdkVersion="15" />
    ...
</manifest>
```

- Place check when using new features

```
private void setUpActionBar() {
    // Make sure we're running on Honeycomb or higher to use ActionBar APIs
    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.HONEYCOMB) {
        ActionBar actionBar = getActionBar();
        actionBar.setDisplayHomeAsUpEnabled(true);
    }
}
```

Platform Styles and Themes

- Apply in Manifest file (examples)
- Dialog box:
 - `<activity android:theme="@android:style/Theme.Dialog">`
- Transparent background:
 - `<activity android:theme="@android:style/Theme.Translucent">`
- Custom theme in `/res/values/styles.xml`
 - `<activity android:theme="@style/CustomTheme">`
- Apply theme to entire app
 - `<application android:theme="@style/CustomTheme">`

Resources

- Supporting Different Devices
 - <http://developer.android.com/training/basics/supporting-devices/index.html>
- More on themes and styles
 - <http://developer.android.com/guide/topics/ui/themes.html>
- Images and source code examples taken from site above