Computer Science E-76
Building Mobile Applications

Lecture 4: [Android] Resources, Assets, and Intents
February 21, 2012

Dan Armendariz
danallan@mit.edu
TextView tv = new TextView(this);
tv.setText("Hello, Android");

– or –

<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:text="@string/hello"/>

ViewGroup

View

View

View

View

FrameLayout
Gallery
GridView
LinearLayout
ListView
RelativeLayout
ScrollView
Spinner
SurfaceView
TabHost
TableLayout
ViewFlipper
ViewSwitcher

<table>
<thead>
<tr>
<th><strong>Assets</strong></th>
<th><strong>assets/</strong></th>
<th>read raw bytes via <strong>AssetManager</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resources</strong></td>
<td><strong>res/</strong></td>
<td>reference included content via <strong>R.java</strong></td>
</tr>
<tr>
<td>Folder</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>res/anim/</td>
<td>XML files for frame-by-frame animation</td>
<td></td>
</tr>
<tr>
<td>res/drawable/</td>
<td>images compiled and optimized</td>
<td></td>
</tr>
<tr>
<td>res/layout/</td>
<td>XML files for screen layouts</td>
<td></td>
</tr>
<tr>
<td>res/values/</td>
<td>compiled XML files into different resource</td>
<td></td>
</tr>
<tr>
<td>res/xml/</td>
<td>arbitrary XML files</td>
<td></td>
</tr>
<tr>
<td>res/raw/</td>
<td>raw, uncompiled files</td>
<td></td>
</tr>
</tbody>
</table>
Resources

Additional Information

res/drawable-[lang]-[screen dimensions]
  -[wide/tall screen]-[orientation]
  -[pixel density]-[touchscreen type]
  -[keyboard]-[text input method]-...

Eg: res/drawable-en-rUS-port-mdpi-finger
<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>px</td>
<td>Standard physical pixel</td>
</tr>
<tr>
<td>in</td>
<td>Inches, based on physical size of screen</td>
</tr>
<tr>
<td>mm</td>
<td>Millimeters, based on screen size</td>
</tr>
<tr>
<td>pt</td>
<td>Points, 1/72 of an inch based on screen size</td>
</tr>
<tr>
<td>dp</td>
<td>Density-independent Pixel. Relative pixel size vs 160dpi screen</td>
</tr>
<tr>
<td>sp</td>
<td>Scale-independent pixel. Like dp, but scaled by user's font size pref (use for specifying font)</td>
</tr>
</tbody>
</table>
Intents launch:
   Activities
   Services
   Broadcasts

Intents
   A bundle of information