

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app

1: Project

Resource Manager

Gradle Scripts

Build Variants

I: Structure

I: Favorites

Layout Captures

2: Favorites

Device File Explorer

activity_main.xml MainActivity.java

```
import ...  
public class MainActivity extends ListActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
  
        // convert the 'attraction' string-array to a list  
  
        List<String> Attractions =  
            Arrays.asList(getResources().getStringArray(R.array.attraction));  
  
        // inflate the UI with the Attractions list  
  
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,  
            R.id.travel, Attractions));  
    } // end onCreate method  
  
    // handle list item click  
    protected void onListItemClick(ListView listView, View view,  
        int position, long id) {  
        Intent itemIntent = new Intent(Intent.ACTION_VIEW);  
        switch (position) {  
            case 0:  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));  
                break;  
            case 1:  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://willistower.com"));  
                break;  
            case 2:  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://navypier.org"));  
                break;  
            case 3:  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://water-tower.com"));  
                break;  
        } // end switch  
    } // end onListItemClick handler  
} // end MainActivity class
```

MainActivity > onListItemClick()

TODO Terminal Build Logcat Profiler Run Event Log

Gradle build finished in 12 s 13 ms (7 minutes ago) 44:105 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app

1: Project

Resource Manager

Gradle Scripts

Build Variants

I: Structure

I: Favorites

Layout Captures

2: Favorites

Device File Explorer

Activity_main.xml MainActivity.java

As in Lesson 2 (Healthy Recipes), we add a new Empty Activity to the project by right-clicking 'app' in the Project explorer ...

```
import ...  
  
public class MainActivity extends ListActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
  
        // convert the 'attraction' string-array to a list  
  
        List<String> Attractions =  
            Arrays.asList(getResources().getStringArray(R.array.attraction));  
  
        // inflate the UI with the Attractions list  
  
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,  
            R.id.travel, Attractions));  
    } // end onCreate method  
  
    // handle user taps on the list items  
  
    protected void onListItemClick(ListView l, View v, int position, long id)  
    {  
        Intent itemIntent;  
  
        switch (position)  
        {  
            case 0:      // Art Institute of Chicago (web page)  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://artic.edu"));  
                break;  
            case 1:      // Magnificent Mile (web page)  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));  
                break;  
            case 2:      // Willis Tower (image)  
                break;  
            case 3:      // Navy Pier (image)  
                break;  
            case 4:      // Water Tower (image)  
                break;  
            default:  
                break;  
        } // end switch  
    } // end onListItemClick handler  
} // end MainActivity class
```

MainActivity > onListItemClick()

TODO Terminal Build Logcat Profiler Run Event Log

Gradle build finished in 12 s 13 ms (7 minutes ago) 44:105 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app

Android

Project

Resource Manager

Gradle Script

Build Variants

Structure

Favorites

Layout Captures

File

New

- Module
- Android Resource File
- Android Resource Directory
- Sample Data Directory
- File
- Scratch File
- Directory
- C++ Class
- C/C++ Source File
- C/C++ Header File
- Image Asset
- Vector Asset
- module-info.java
- .editorconfig file
- Kotlin Script
- Gradle Kotlin DSL Build Script
- Gradle Kotlin DSL Settings
- Edit File Templates...

AIDL

Activity

- Android Auto
- Folder
- Fragment
- Google
- Other
- Service
- UI Component
- Wear
- Widget
- XML
- Resource Bundle

Gallery...

Import ...

```
public class MainActivity extends ListActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
  
        // convert the 'attraction' string-array to a list  
  
        List<String> Attractions =  
            Arrays.asList(getResources().getStringArray(R.array.attraction));  
  
        // inflate the UI with the Attractions list  
  
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,  
            R.id.travel, Attractions));  
    } // end onCreate method  
  
    // handle user taps on the list items  
  
    protected void onListItemClick(ListView l, View v, int position, long id)  
    {  
        Intent itemIntent;  
    }  
}
```

Chicago (web page)
ACTION_VIEW, Uri.parse("http://artic.edu");
(web page)
ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));

... and selecting New > Activity > Empty Activity from the menu that appears

52
53
54
55
56
57

MainActivity > onListItemClick()

TODO Terminal Build Logcat Profiler Run Event Log

Create a new Empty Activity

44:105 CRLF ï UTF-8 4 spaces



CityGuide > app

Android

1: Project

- app
 - manifests
 - java
 - edu.udayton.cityguide
 - MainActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
 - generatedJava
 - res
 - drawable
 - layout
 - mipmap
 - values
 - colors.xml
 - dimens.xml
 - strings.xml
 - styles.xml

Resource Manager

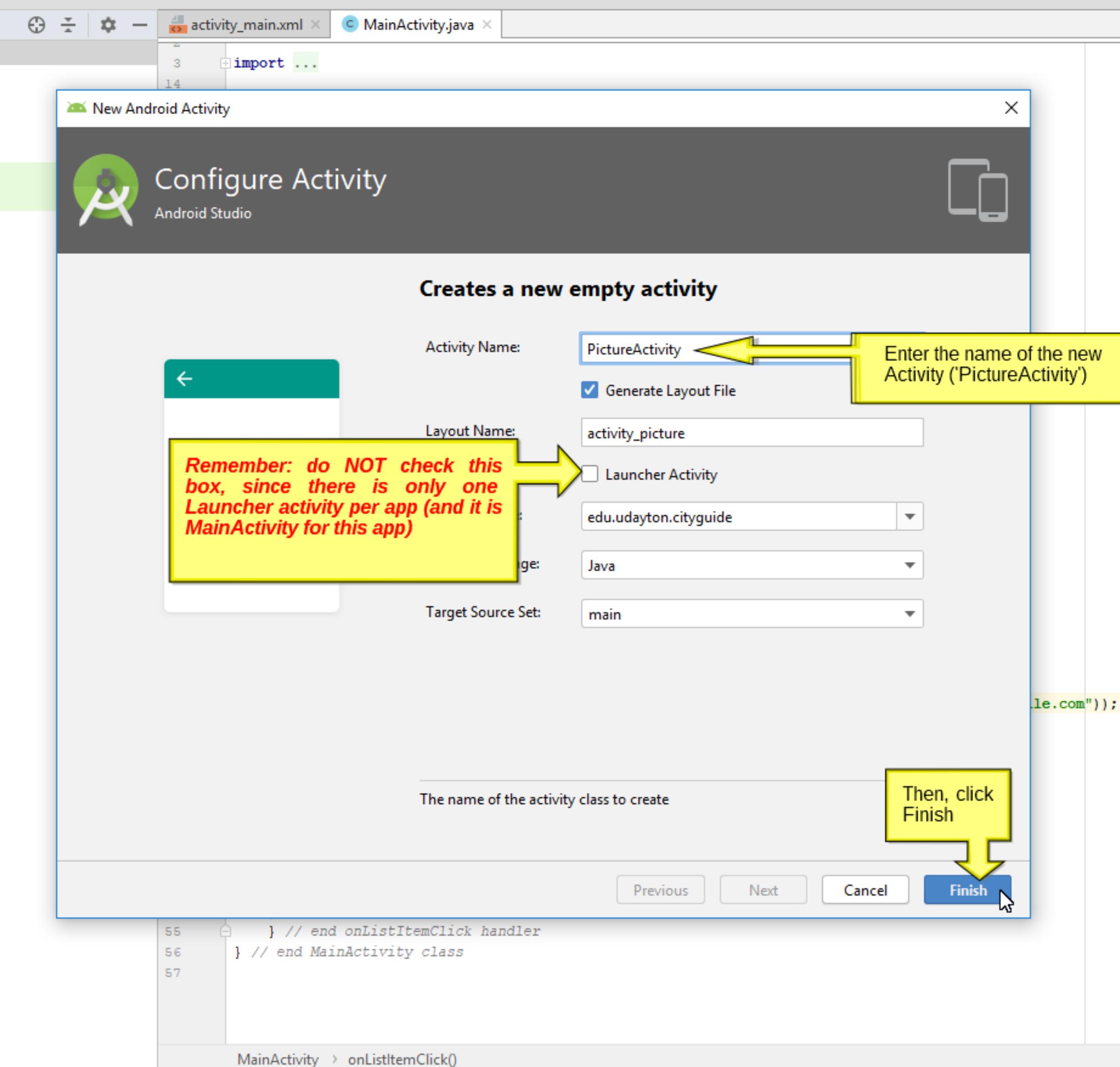
Build Variants

I: Structure

Favorites

2: Favorites

Layout Captures



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
- edu.udayton.cityguide (androidTest)
- edu.udayton.cityguide (test)
- generatedJava
- res
- Gradle Scripts

Resource Manager

Build Variants

Layout Captures

2: Favorites

Layout Activity

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

[app] C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide\app\src\main\res\layout\activity_picture.xml

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity
6     @Override
7     protected void onCreate(Bundle savedInstanceState) {
8         super.onCreate(savedInstanceState);
9         setContentView(R.layout.activity_picture);
10    }
11
12 }
13
14 }
```

Switch to the PictureActivity's layout

Notice that we are not closing PictureActivity.java

We will be adding code here later

Device File Explorer

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)

1:1 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

Layout Captures

2: Favorites

Layout Pictures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Palette Attributes

Common Text Buttons Widgets Layouts Containers Google Legacy

Ab TextView

Button ImageView RecyclerView <> <fragment> ScrollView Switch

Pixel 28 AppTheme Default (en-us) 26% + !

No component selected.

Select a component in the Component Tree or on the Design Surface.

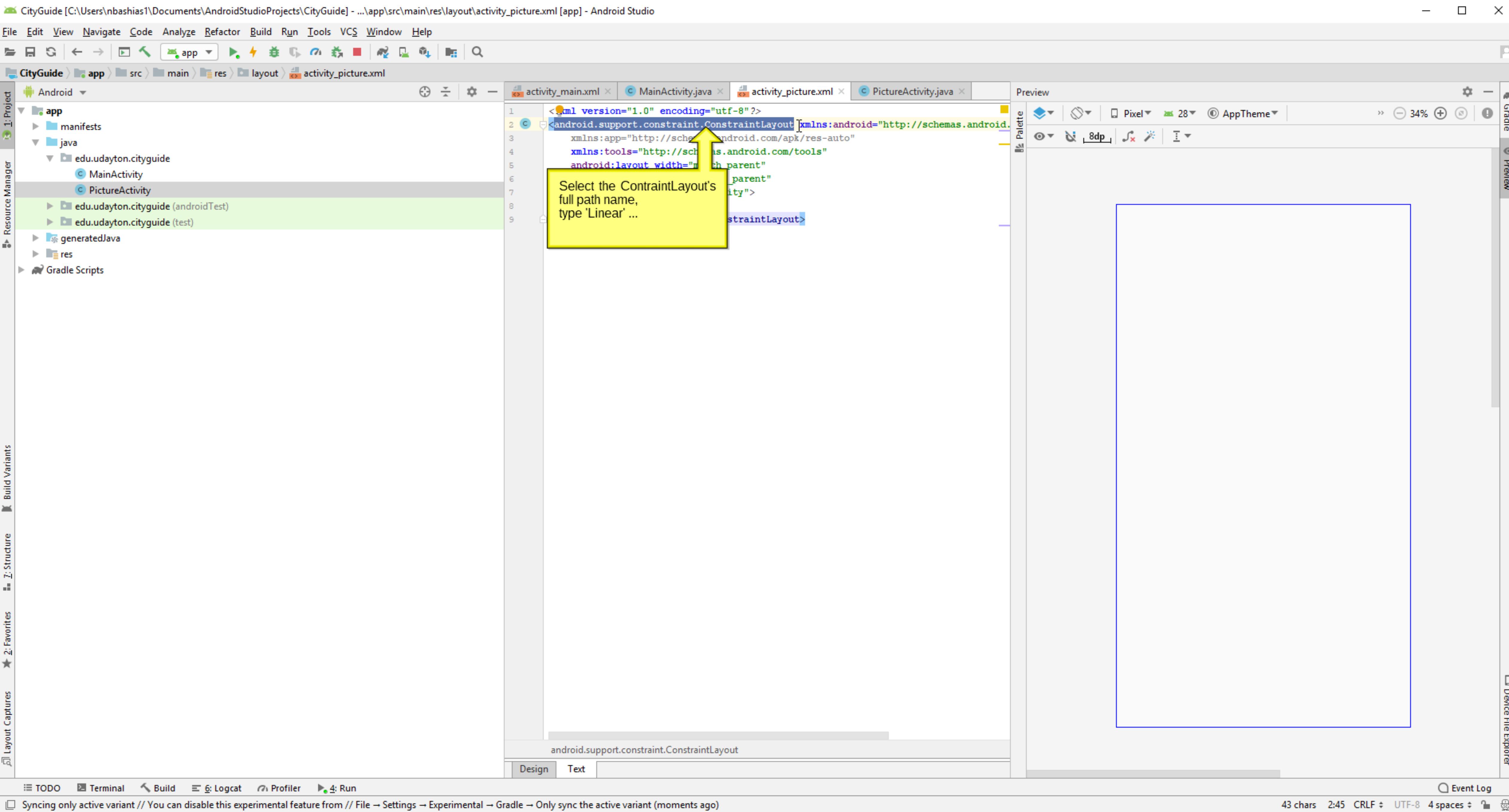
Switch to the layout's text view to change the layout to a LinearLayout

Design Text

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)

The screenshot shows the Android Studio interface with the 'activity_picture.xml' layout file open. The layout consists of a single dark blue rectangular view. The palette on the left lists common components such as TextView, Button, ImageView, RecyclerView, ScrollView, and Switch. A tooltip at the bottom left of the palette area says: "Switch to the layout's text view to change the layout to a LinearLayout". At the bottom of the screen, there are tabs for 'Design' and 'Text', with 'Design' currently selected. The status bar at the very bottom displays the message: "Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)".



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

Android Project Resource Manager Build Variants I: Structure 2: Favorites Layout Captures

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
</LinearLayout>
```

... and select the LinearLayout from this code completion menu

Palette Preview Pixel 28 AppTheme 35% Gradle Preview

Linear

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)

2:8 CRLF UTF-8 4 spaces

The screenshot shows the Android Studio interface with the project 'CityGuide' open. The 'activity_picture.xml' file is selected in the layout editor. In the code editor, the XML for a linear layout is partially typed:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
</LinearLayout>
```

A yellow callout box with the text "... and select the LinearLayout from this code completion menu" is overlaid on the code completion menu, which is currently displaying the 'LinearLayout' option. An arrow points from the text to the 'LinearLayout' item in the list.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1: Project 1: Resource Manager 1: Build Variants 1: Structure 1: Favorites 1: Layout Captures 1: Device File Explorer

Preview

Palette

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".PictureActivity">
```

Switch back to the layout's design view

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)

2:14 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

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Layout Captures

2: Favorites

1:Structure

Layout Pictures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

LinearLayout(horizontal)

Select the LinearLayout in the Component Tree

Attributes

<unnamed> LinearLayout

id

Declared Attributes

Layout

layout_width match_parent

layout_height match_parent

visibility

visibility

Common Attributes

orientation

gravity

All Attributes

actionBarNavMode

addStatesFromChild

alpha

alwaysDrawnWithCa

animateLayoutChani

animationCache

background

baselineAligned

baselineAlignedChil

clickable

clipChildren

clipToPadding

contentDescription

context .PictureActivity

descendantFocusab

divider

dividerPadding

drawingCacheQualit

duplicateParentState

Device File Explorer

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (moments ago)

The screenshot shows the Android Studio interface with the 'activity_picture.xml' layout file open. The layout consists of a single horizontal linear layout containing a single image view. The 'Component Tree' panel on the left shows the structure: 'LinearLayout(horizontal)' is selected. A yellow callout box with the text 'Select the LinearLayout in the Component Tree' points to this selection. The right-hand 'Attributes' panel displays numerous properties for the selected view, including layout_width, layout_height, visibility, orientation, gravity, and context. The 'Design' tab is currently selected at the bottom.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Text Buttons Widgets Layouts Containers Google Legacy

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Pixel 28 AppTheme Default (en-us) 26% Attributes

<unnamed> LinearLayout

id Declared Attributes Layout

layout_width match_parent

layout_height match_parent

visibility visibility

orientation horizontal vertical

All ATTRIBUTES actionBarNavMode addStatesFromChild alpha alwaysDrawnWithCa animateLayoutChani animationCache background baselineAligned baselineAlignedChil clickable clipChildren clipToPadding contentDescription context descendantFocusab divider dividerPadding drawingCacheQualit duplicateParentState

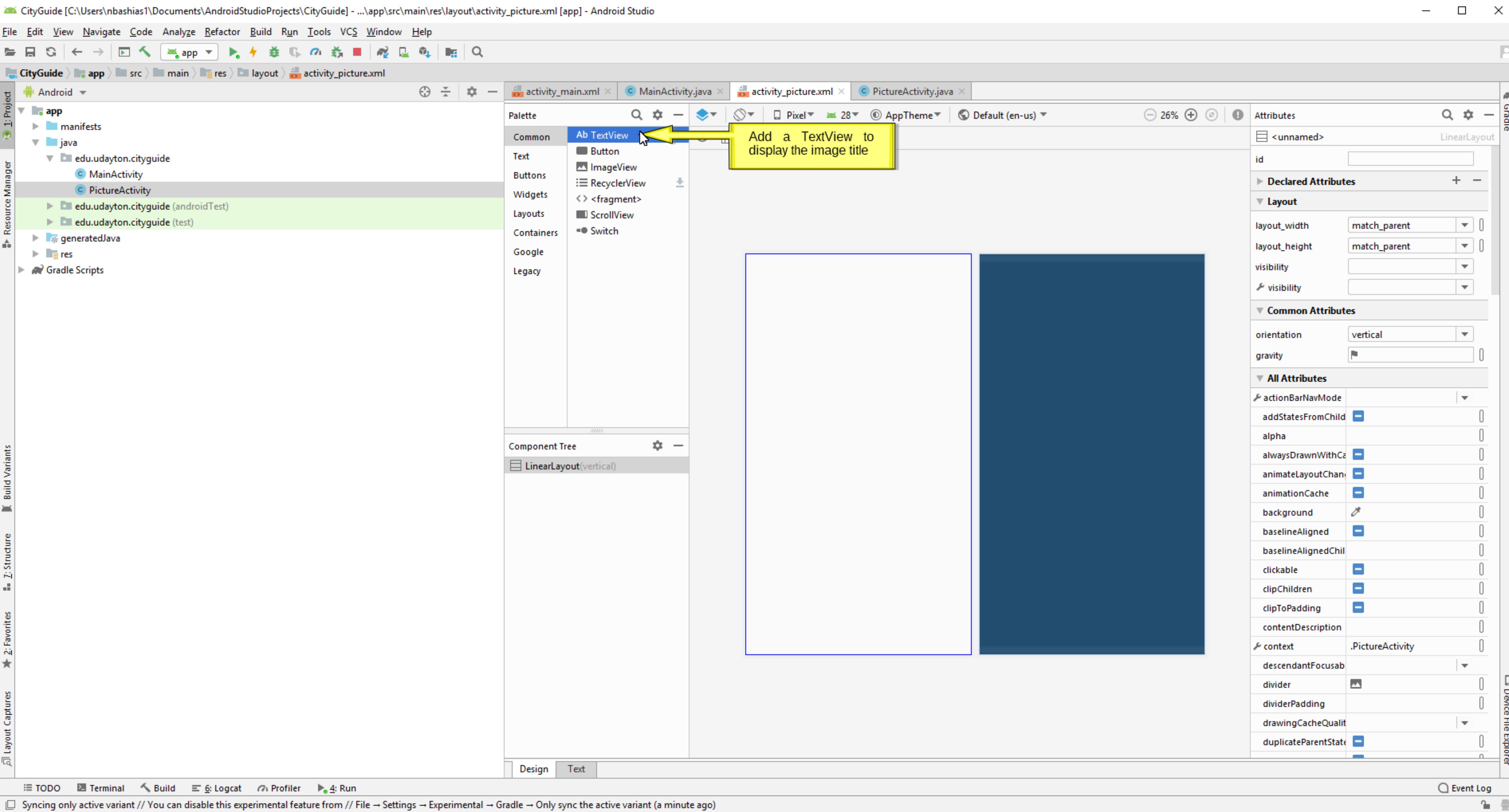
Component Tree LinearLayout(horizontal)

Design Text

Change the orientation to vertical by choosing it from this pulldown menu

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

Event Log



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Ab TextView Add to Design Enter

Text Button Favorite ✓

Buttons ImageView

Widgets RecycleView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

LinearLayout(vertical)

Pixel 28 AppTheme Default (en-us) 26% Attributes

<unnamed> LinearLayout

id

Declared Attributes

Layout

layout_width match_parent

layout_height match_parent

visibility

visibility

Common Attributes

orientation vertical

gravity

All Attributes

actionBarNavMode

addStatesFromChild

alpha

alwaysDrawnWithCa

animateLayoutChani

animationCache

background

baselineAligned

baselineAlignedChil

clickable

clipChildren

clipToPadding

contentDescription

context .PictureActivity

descendantFocusab

divider

dividerPadding

drawingCacheQualit

duplicateParentState

Device File Explorer

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

The screenshot shows the Android Studio interface with the 'activity_picture.xml' layout file open. The layout consists of a single vertical linear layout. A context menu is open over the 'Add to Design' button in the palette, with 'Favorite' selected. The right panel shows the XML code for the layout, which consists of a single 'LinearLayout' with 'vertical' orientation and 'match_parent' width and height. The 'context' attribute is set to '.PictureActivity'.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Text Buttons Widgets Layouts Containers Google Legacy

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Attributes

Ab textView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text TextView

text

contentDescription

textAppearance @android:style/TextAp

fontFamily

typeface

textSize 14sp

lineSpacingExtra

textColor @android:color/secondar

textStyle B I Tr

All Attributes

alpha

autoLink

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranul

autoSizeTextType

autoText

background

bufferType

Change the TextView's ID

Component Tree

LinearLayout(vertical)

Ab textView- "TextView"

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

Event Log

The screenshot shows the Android Studio interface for editing an XML layout file. The top navigation bar includes 'File', 'Edit', 'View', 'Navigate', 'Code', 'Analyze', 'Refactor', 'Build', 'Run', 'Tools', 'VCS', 'Window', and 'Help'. Below the navigation bar is a toolbar with icons for file operations like Open, Save, and Run. The project structure on the left shows the 'app' module with 'Manifests', 'java' (containing 'MainActivity' and 'PictureActivity'), and 'res' (containing 'layout'). The 'layout' folder contains 'activity_main.xml' and 'activity_picture.xml'. The main workspace is the XML layout editor for 'activity_picture.xml'. The layout consists of a single `LinearLayout` with a vertical orientation containing one `TextView`. The `TextView` has an ID of `titleTextView`. A yellow callout box highlights this ID in the 'Attributes' panel. The 'Attributes' panel also lists other properties like `layout_width`, `layout_height`, and `text`. The 'Component Tree' panel on the left shows the hierarchical structure of the layout. The bottom navigation bar includes tabs for 'Design' and 'Text', along with 'TODO', 'Terminal', 'Build', 'Logcat', 'Profiler', 'Run', and 'Event Log'.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Pixel 28 AppTheme Default (en-us) 26% Attributes

Ab titleTextView TextView

id titleTextView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text TextView

text

contentDescription

textAppearance @android:style/TextAp

fontFamily

typeface

textSize 14sp

lineSpacingExtra

textColor @android:color/secondary

textStyle B I Tr

All Attributes

alpha

autoLink

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranul

autoSizeTextType

autoText

background

bufferType

Gradle

Palette

Component Tree

LinearLayout(vertical)

Ab titleTextView- "TextView"

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

Event Log

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

2: Favorites

Layout Captures

3: Structure

4: Favorites

5: Layout

6: Logcat

7: Profiler

8: Run

9: TODO

10: Terminal

11: Build

12: Event Log

13: Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

Activity Main XML

MainActivity.java

activity_picture.xml

PictureActivity.java

Attributes

Ab titleTextView

id titleTextView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text Picture Text

text

contentDescription

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text"

As in prior lessons, we'll extract resources once we're done setting attributes

Type the text, followed by the Enter key

Note that this TextView (and the ImageView that we'll later add) are really just placeholders.

We will be changing these components' attribute values later in Picture.java based on the data set from the MainActivity.

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranularity

autoSizeTextType

autoText

background

bufferType

Pixel 28 App Default (en-us) 26% 20% 24% 28% 32% 36% 40% 44% 48% 52% 56% 60% 64% 68% 72% 76% 80% 84% 88% 92% 96% 100%

Device File Explorer

Design Text

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Picture Text

Picture Text

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text" A

Attributes

Ab titleTextView

id titleTextView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text Picture Text

text

contentDescription

textAppearance @android:style/TextAp

fontFamily

typeface

textSize 30sp

lineSpacingExtra

textColor color/secondary

textStyle

All Attributes

alpha

autoLink

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranul

autoSizeTextType

autoText

background

bufferType

Design Text

TODO Terminal Build Logcat Profiler Run

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Type the text size as 30sp

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

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Layout Captures

2: Favorites

1: Project

Gradle

Activity Main XML

MainActivity.java

activity_picture.xml

PictureActivity.java

Attributes

Ab titleTextView

id titleTextView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text Picture Text

text

contentDescription

textAppearance @android:style/TextAp

fontFamily

typeface

textSize 30sp

lineSpacingExtra

textColor @android:color/secondary

textStyle B I Tr

All Attributes

alpha

autoLink

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranul

autoSizeTextType

autoText

background

bufferType

Use the Resource manager to set the text color to black

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

LinearLayout(vertical)

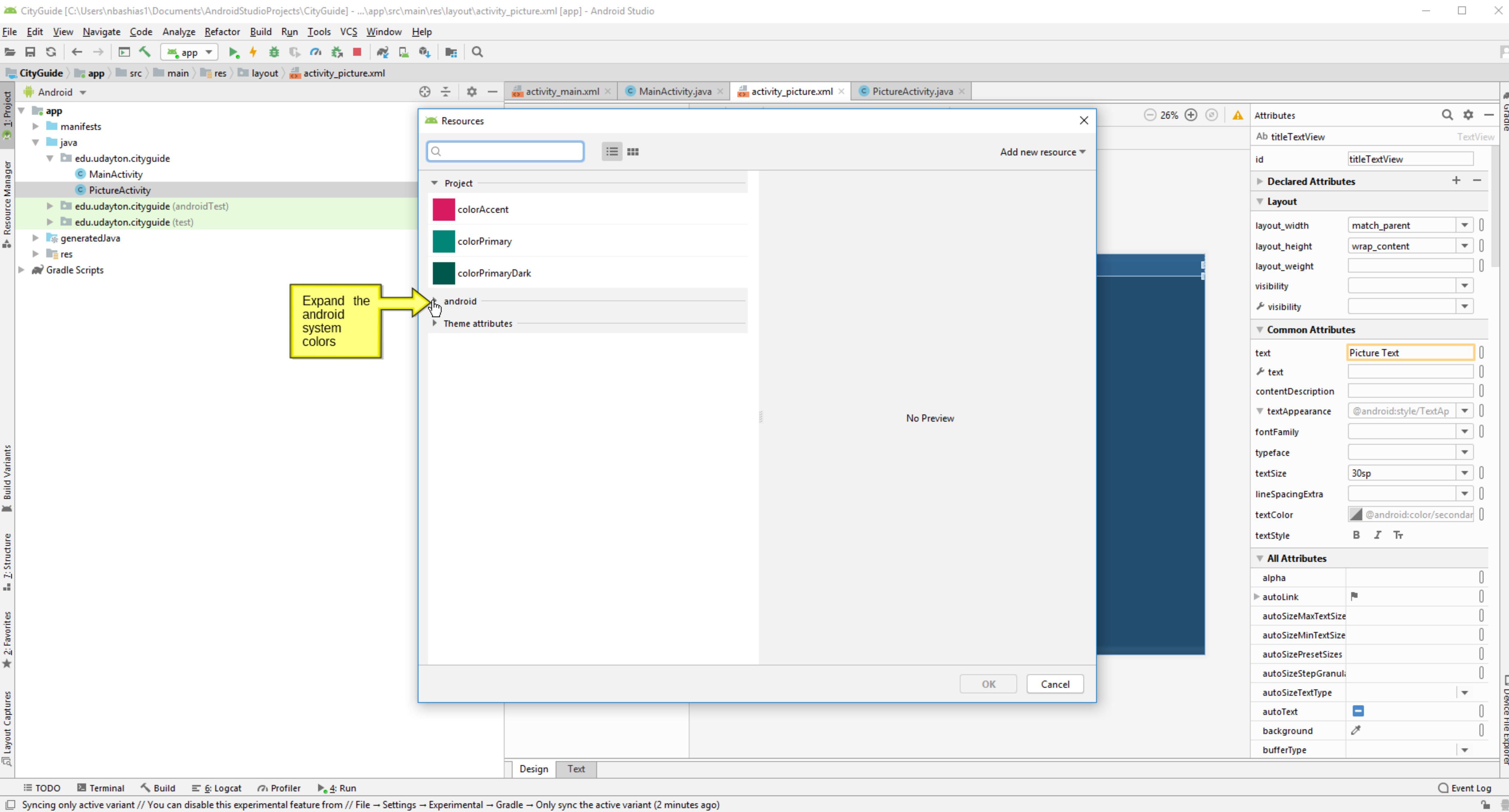
Ab titleTextView- "Picture Text"

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

Event Log



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2:Structure

Layout Captures

2: Favorites

3: Layouts

4: Captures

5: Device File Explorer

Gradle

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Resources

Add new resource

Name: black Default

Project

colorAccent

colorPrimary

colorPrimaryDark

android

background_dark

background_light

black

darker_gray

holo_blue_bright

holo_blue_dark

holo_blue_light

holo_green_dark

holo_green_light

holo_orange_dark

holo_orange_light

1. Select the black (android system) color

@android:color/black
= #ff000000

2. Click OK

OK Cancel

Attributes

Ab titleTextView

id titleTextView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

text Picture Text

text

contentDescription

textAppearance @android:style/TextAp

fontFamily

typeface

textSize 30sp

lineSpacingExtra

textColor @android:color/secondar

textStyle B I Tr

All Attributes

alpha

autoLink

autoSizeMaxTextSize

autoSizeMinTextSize

autoSizePresetSizes

autoSizeStepGranul

autoSizeTextType

autoText

background

bufferType

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2:Structure

Layout Captures

2: Favorites

1: Project

Gradle

Activity Main XML

MainActivity.java

activity_picture.xml

PictureActivity.java

Attributes

Ab titleTextView

onClick

overScrollMode

padding

password

phoneNumber

privateImeOptions

requiresFadingEdge

rotation

rotationX

rotationY

saveEnabled

scaleX

scaleY

scrollHorizontally

scrollIX

scrollLY

scrollbarAlwaysDraw

scrollbarAlwaysDraw

scrollbarDefaultDela

scrollbarFadeDuratio

scrollbarSize

scrollbarStyle

scrollbarThumbHoriz

scrollbarThumbVerti

scrollbarTrackHorizo

scrollbarTrackVertica

scrollbars

selectAllOnFocus

shadowColor

shadowDx

shadowDy

shadowRadius

Picture Text

Picture Text

Expand the padding attribute group

Palette

Common

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text"

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (3 minutes ago)

Event Log

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2:Structure

Layout Captures

2: Favorites

1:Project

Android

app

manifests

java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Palette

Common

Ab TextView

- Button
- ImageView
- RecyclerView
- <> <fragment>
- ScrollView
- Switch

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text" !

Design Text

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Default (en-us)

26%

Attributes

Ab titleTextView

onClick

overScrollMode

padding

paddingLeft

paddingTop

paddingRight

paddingBottom

password

phoneNumber

privateLabel

requiresFaci

rotation

rotationX

rotationY

saveEnabled

scaleX

scaleY

scrollHorizontally

scrollIIX

scrollIY

scrollbarAlwaysDraw

scrollbarAlwaysDraw

scrollbarDefaultDela

scrollbarFadeDuratio

scrollbarSize

scrollbarStyle

scrollbarThumbHoriz

scrollbarThumbVerti

scrollbarTrackHorizo

scrollbarTrackVertica

scrollbars

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (3 minutes ago)

Event Log

Click to set the bottom padding attribute value

The screenshot shows the Android Studio interface with the 'activity_picture.xml' layout file open. The layout consists of a vertical LinearLayout containing two TextViews, both labeled 'Picture Text'. The right-hand TextView is currently selected. The Attributes panel on the right lists various XML attributes for the selected view, with a yellow callout box highlighting the 'paddingBottom' attribute.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1: Project

Resource Manager

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2: Structure

Layout Captures

2: Favorites

1: Project

Android

app

manifests

java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Palette

Common

Ab TextView

- Button
- ImageView
- RecyclerView
- <> <fragment>
- ScrollView
- Switch

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

Default (en-us)

26%

Attributes

Ab titleTextView

onClick

overScrollMode

padding

paddingBottom

paddingLeft

paddingRight

paddingTop

password

phoneNumber

padding

paddingLeft

paddingRight

paddingTop

paddingBottom

rotationY

saveEnabled

scaleX

scaleY

scrollHorizontally

scrollIX

scrollIY

scrollbarAlwaysDraw

scrollbarAlwaysDraw

scrollbarDefaultDelta

scrollbarFadeDuration

scrollbarSize

scrollbarStyle

scrollbarThumbHorizontal

scrollbarThumbVertical

scrollbarTrackHorizontal

scrollbarTrackVertical

scrollbars

Pixel 28 AppTheme Default (en-us) 26% Attributes

Picture Text

Picture Text

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text"

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (3 minutes ago)

Enter the bottom Padding value as 10dp (hit Enter to confirm)

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

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Layout Captures

Android

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text" !

Pixel 28 AppTheme Default (en-us) 26% Attributes

Expand the gravity attribute

Picture Text

Picture Text

Attributes

Ab titleTextView

foreground

foregroundGravity

freezesText

gravity !

hapticFeedbackEnabled

height

hint

id titleTextView

imeActionId

imeActionLabel

imeOptions

includeFontPadding

inputMethod

inputType

isScrollContainer

keepScreenOn

lastBaselineToBottom

layerType

layout_gravity

layout_height wrap_content

layout_margin [?, ?, ?, ?, ?]

layout_weight

layout_width match_parent

lineHeight

lineSpacingExtra

lineSpacingMultiplier

lines

linksClickable

longClickable

marqueeRepeatLimit

maxEms

maxHeight

Device File Explorer

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (4 minutes ago)

The screenshot shows the Android Studio interface with the project 'CityGuide' open. The 'activity_picture.xml' layout file is selected. In the layout editor, a single TextView is present with the text 'Picture Text'. The 'gravity' attribute is highlighted with a red exclamation mark, and a yellow callout box with the text 'Expand the gravity attribute' points to it. The 'Component Tree' panel shows the TextView is a child of a 'LinearLayout' with 'vertical' orientation. The 'Attributes' panel lists various TextView properties like 'foreground', 'foregroundGravity', and 'gravity'. The status bar at the bottom indicates 'Syncing only active variant'.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project
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Android
app
manifests
java
edu.udayton.cityguide
MainActivity
PictureActivity
edu.udayton.cityguide (androidTest)
edu.udayton.cityguide (test)
generatedJava
res
Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Palette
Common Ab TextView
Text Button
Buttons ImageView
Widgets RecyclerView
Layouts <> <fragment>
Containers ScrollView
Google Switch
Legacy

Pixel 28 AppTheme Default (en-us) 26% Attributes

Ab titleTextView
foreground
foregroundGravity
freezesText
gravity center
bottom
clip_horizontal
center true
clip_vertical
start
right
center
fill_vertical
end
hapticFeedbackEnab
height
hint
id titleTextView
imeActionId
imeActionLabel
imeOptions
includeFontPadding
inputMethod
inputType
isScrollContainer
keepScreenOn
lastBaselineToBottom
layerType

Picture Text

Picture Text

Check this box to center the text in the TextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (4 minutes ago)

Event Log

The screenshot shows the Android Studio interface with the 'activity_picture.xml' layout file open. The layout consists of a single TextView with the text 'Picture Text'. In the Attributes panel, the 'center' attribute is checked. A yellow callout box with the text 'Check this box to center the text in the TextView' points to the checked checkbox for the 'center' attribute.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

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2:Structure

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2:Favorites

1:Structure

Layouts

Containers

Google

Legacy

Common

Ab TextView

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Component Tree

LinearLayout(vertical)

Ab titleTextView- "Picture Text" !

Picture Text

Picture Text

Attributes

Ab titleTextView

foreground

foregroundGravity

freezesText

gravity

bottom

clip_horizontal

center

clip_vertical

start

right

center_horizontal

fill

fill_horizontal

top

left

center_vertical

fill_vertical

end

hapticFeedbackEna

height

hint

id

imeActionId

imeActionLabel

imeOptions

includeFontPadding

inputMethod

inputType

isScrollContainer

keepScreenOn

lastBaselineToBottom

layerType

Pixel 28 AppTheme Default (en-us) 26% Attributes

Switch to the layout's text view to extract resources

Design Text

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (4 minutes ago)

Event Log

The screenshot shows the Android Studio interface with the project 'CityGuide' open. The 'activity_picture.xml' layout file is being edited. The layout contains a single TextView with the text 'Picture Text'. The 'Text' tab is currently selected in the bottom navigation bar. A yellow callout box with the text 'Switch to the layout's text view to extract resources' points to the 'Text' tab. The 'Attributes' panel on the right lists various properties for the TextView, such as 'center' checked under 'gravity'. The 'Component Tree' panel shows the LinearLayout containing the TextView.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project 2 Resource Manager 3 Build Variants 4 Favorites 5 Layout Captures

Android app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Preview Pixel 28 AppTheme 34% 34% 34%

Picture Text

Click anywhere in the bottom padding value "10dp"

<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout 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"
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 android:orientation="vertical"
 tools:context=".PictureActivity">

 <TextView
 android:id="@+id/titleTextView"
 android:layout_width="match_parent"
 android:layout_height="wrap_content"
 android:gravity="center"
 android:paddingBottom="10dp"
 android:text="Picture Text"
 android:textColor="@android:color/black"
 android:textSize="30sp" />
 </LinearLayout>

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (5 minutes ago)

15:34 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project 1 Resource Manager 1 Build Variants 1 Favorites 1 Layout Captures 1 Device File Explorer

Android

app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Preview Pixel 28 AppTheme 34% Preview

Picture Text

Click on the yellow lightbulb ...

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="10dp"
        android:text="Picture Text"
        android:textColor="@android:color/black"
        android:textSize="30sp" />
</LinearLayout>
```

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (5 minutes ago)

15:34 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project

Resource Manager

Java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Preview Pixel 28 AppTheme 34%

Picture Text

Extract dimension resource

... and select Extract dimension resource

Reminder: if the lightbulb fails to appear, the key combination Alt+Enter will also display this menu

LinearLayout > TextView

Design Text

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="10dp"/>

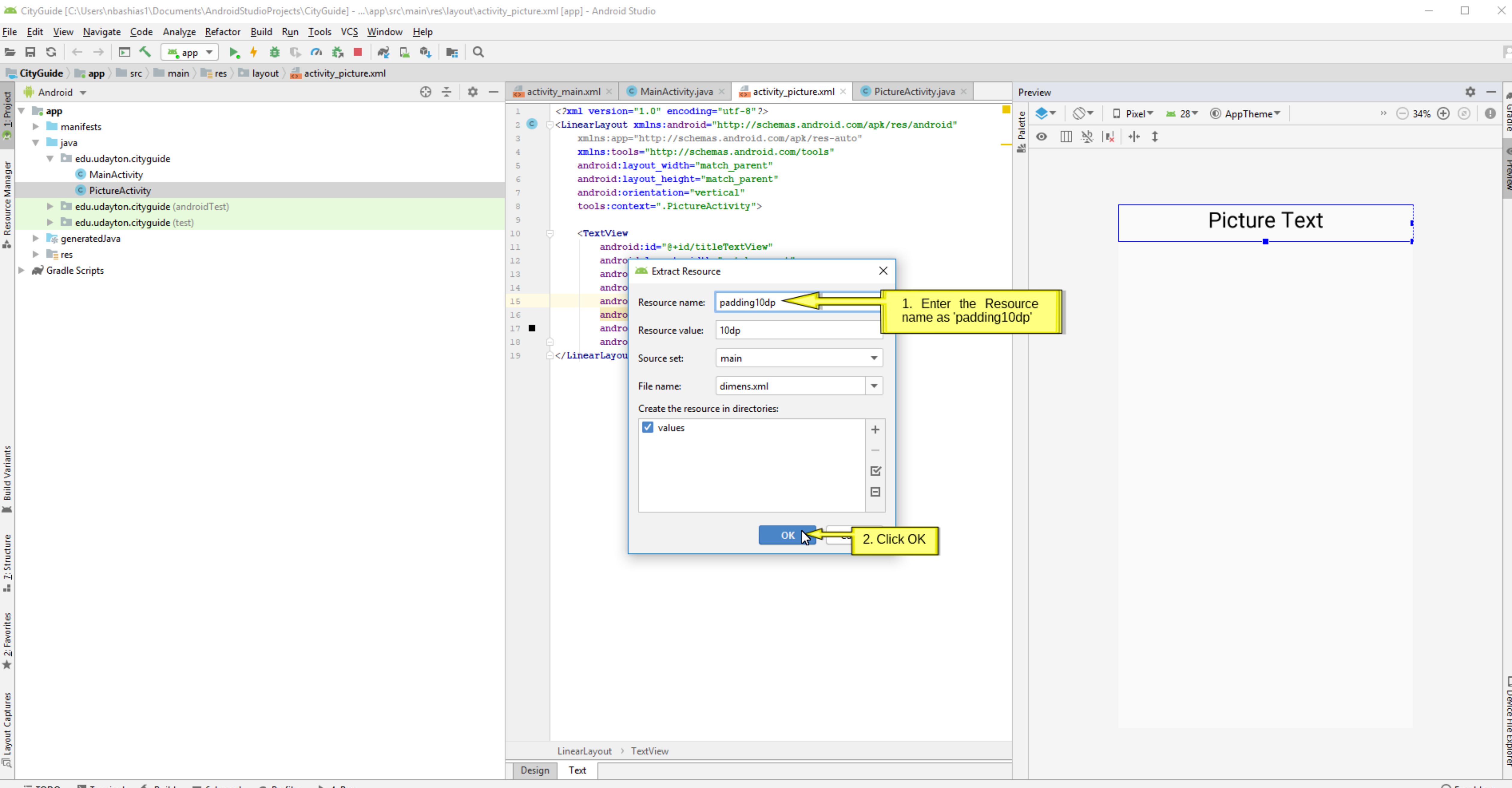
```

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (5 minutes ago)

15:34 CRLF UTF-8 4 spaces

Device File Explorer



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project 1 Resource Manager

Java MainActivity.java PictureActivity.java

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="@dimen/padding10dp"
        android:text="Picture Text"
        android:textColor="#d90000"
        android:textSize="30sp" />
</LinearLayout>
```

Preview Pixel 28 AppTheme 34%

Picture Text

To extract the text as a string resource, click anywhere in the quoted string literal ...

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run

Hardcoded string "Picture Text", should use '@string' resource

16:29 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project

Resource Manager

Java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="@dimen/padding10dp"
        android:text="Picture Text"
        android:textColor="@android:color/black"
        android:textSize="30sp" />

```

... and click on the yellow lightbulb

Preview

Pixel 28 AppTheme

Picture Text

Palette

Design Text

LinearLayout > TextView

TODO Terminal Build Logcat Profiler Run

Hardcoded string "Picture Text", should use '@string' resource

16:29 CRLF UTF-8 4 spaces

Event Log

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project
Resource Manager
Build Variants
Favorites
Layout Captures
2 Favorites
2 Layout Captures

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="@dimen/padding10dp"
        android:text="Picture Text" />

```

Preview Pixel 28 AppTheme 34% 34%

Picture Text

Extract string resource Select Extract string resource

Suppress: Add tools:ignore="HardcodedText"

Extract string resource Override Resource in Other Configuration... Rearrange tag attributes Remove attribute Inject language or reference

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run

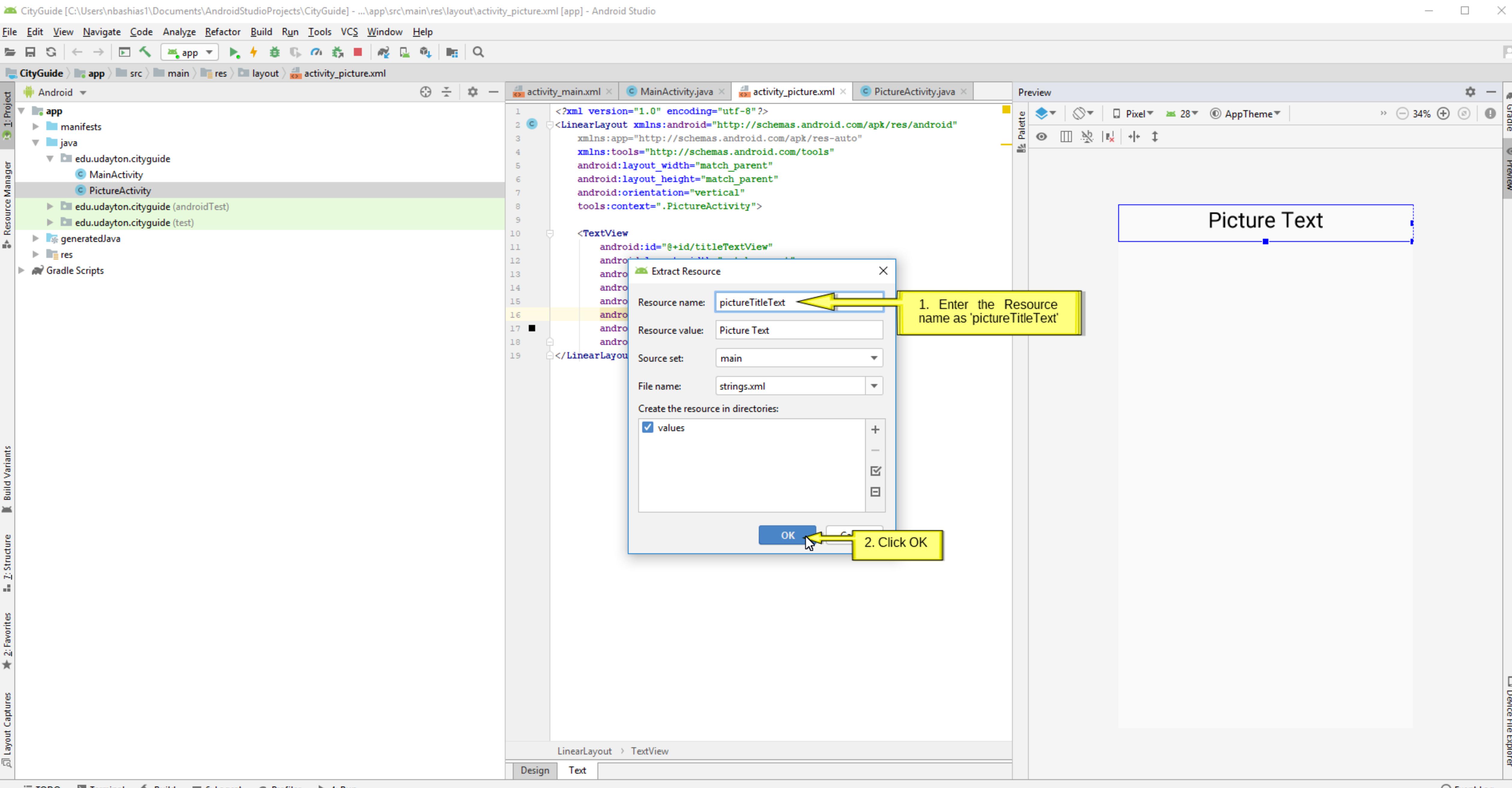
Hardcoded string "Picture Text", should use '@string' resource

16:29 CRLF UTF-8 4 spaces

Event Log

Device File Explorer

The screenshot shows the Android Studio interface with the project 'CityGuide' open. The 'activity_picture.xml' layout file is being edited. In the XML code editor, the text 'Picture Text' is selected. A context menu is open, and the 'Extract string resource' option is highlighted with a yellow arrow. The preview pane on the right shows a white box with the text 'Picture Text'. The bottom navigation bar indicates the 'Text' tab is active.



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project

Resource Manager

Build Variants

Layout Captures

2 Favorites

Layout Captures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Preview Pixel 28 AppTheme 34%

Picture Text

One more time: click anywhere in the text size value "30sp"

1 <?xml version="1.0" encoding="utf-8" ?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3 xmlns:app="http://schemas.android.com/apk/res-auto"
4 xmlns:tools="http://schemas.android.com/tools"
5 android:layout_width="match_parent"
6 android:layout_height="match_parent"
7 android:orientation="vertical"
8 tools:context=".PictureActivity">
9
10 <TextView
11 android:id="@+id/titleTextView"
12 android:layout_width="match_parent"
13 android:layout_height="wrap_content"
14 android:gravity="center"
15 android:paddingBottom="@dimen/padding10dp"
16 android:text="@string/pictureTitleText"
17 android:textColor="@android:color/black"
18 android:textSize="30sp" />
19 </LinearLayout>

LinearLayout > TextView

Design Text

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

18:29 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project

Resource Manager

Java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Preview

Pixel 28 AppTheme 34%

Picture Text

Click on the yellow lightbulb ...

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="@dimen/padding10dp"
        android:text="@string/pictureTitleText"
        android:textColor="@android:color/black"
        android:textSize="30sp" />

```

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

18:29 CRLF UTF-8 4 spaces

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project Resource Manager Build Variants I:Structure 2: Favorites Layout Captures

Android app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java Preview Pixel 28 AppTheme 34% Gradient

Picture Text

Picture Text

1 <?xml version="1.0" encoding="utf-8" ?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3 xmlns:app="http://schemas.android.com/apk/res-auto"
4 xmlns:tools="http://schemas.android.com/tools"
5 android:layout_width="match_parent"
6 android:layout_height="match_parent"
7 android:orientation="vertical"
8 tools:context=".PictureActivity">
9
10 <TextView
11 android:id="@+id/titleTextView"
12 android:layout_width="match_parent"
13 android:layout_height="wrap_content"
14 android:gravity="center"
15 android:paddingBottom="@dimen/padding10dp"
16 android:text="@string/pictureTitleText"
17 android:textColor="@android:color/black"
18 android:textSize="30sp" />
19

Extract dimension resource
Override Resource in Other Configuration...
Rearrange tag attributes
Remove attribute
Inject language or reference

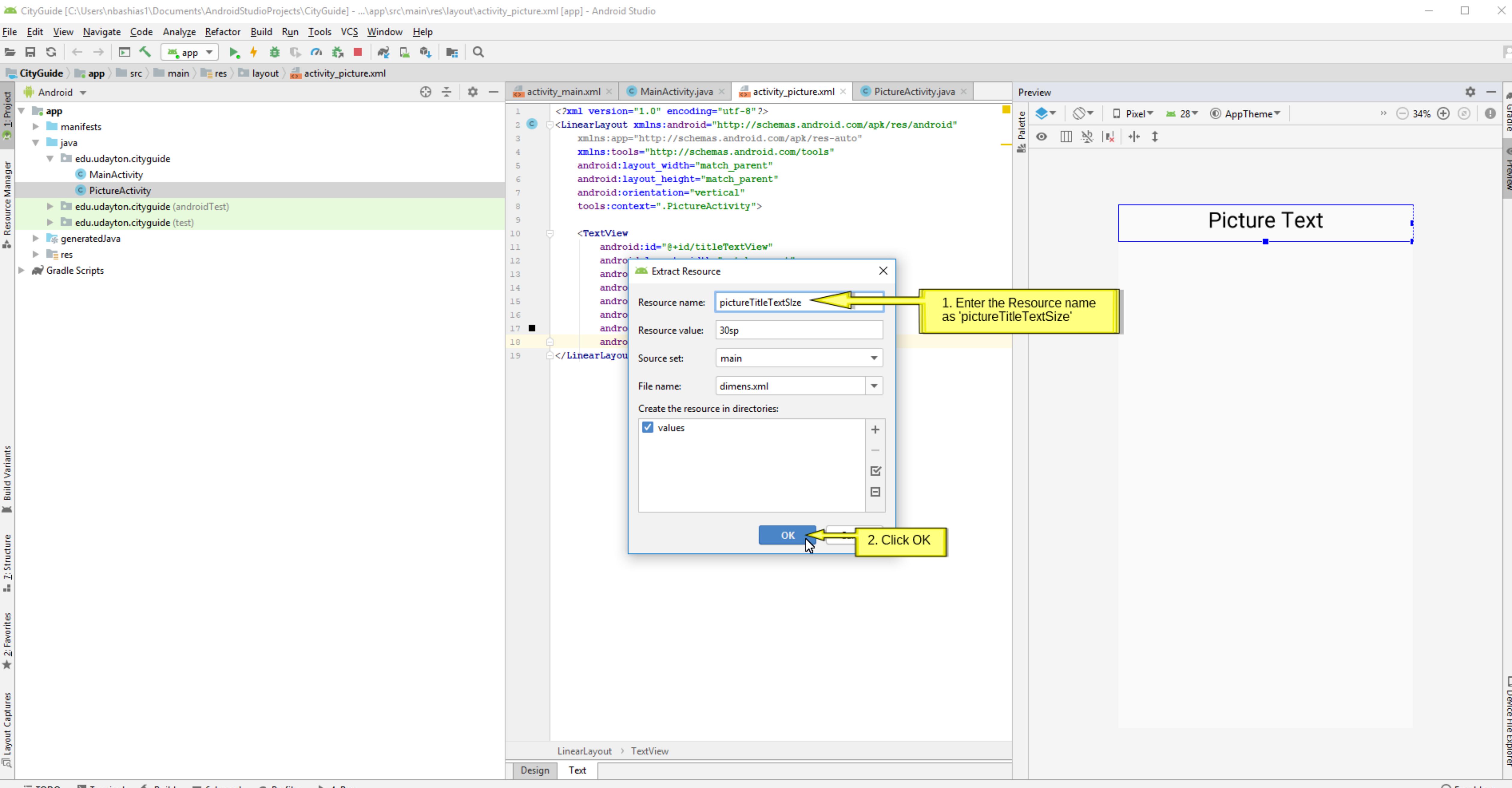
... and select Extract dimension resource

LinearLayout > TextView

Design Text

TODO Terminal Build Logcat Profiler Run Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

18:29 CRLF UTF-8 4 spaces



CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1 Project 1 Resource Manager 1: Favorites 1 Layout Captures 1 Build Variants 1 Structure 1 Favorites 2: Favorites 1 Build Scripts

Android

app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".PictureActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:paddingBottom="@dimen/padding10dp"
        android:text="@string/pictureTitleText"
        android:textColor="@android:color/black"
        android:textSize="@dimen/pictureTitleTextSize" />
</LinearLayout>
```

Preview Pixel 28 AppTheme 34% Preview

Picture Text

Switch back to the layout's design view

LinearLayout > TextView Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

18:29 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

Layout Captures

2: Favorites

Layout

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Palette Attributes

Common Ab TextView
Text Button
Buttons ImageView
Widgets RecyclerView
Layouts <> <fragment>
Containers ScrollView
Google Switch
Legacy

Add an ImageView to the layout

Picture Text Picture Text

Component Tree

LinearLayout(vertical)
Ab titleTextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

Event Log

This screenshot shows the Android Studio interface for editing the layout file 'activity_picture.xml'. The left sidebar displays the project structure, showing the 'app' module with its Java files ('MainActivity.java', 'PictureActivity.java') and resources ('res'). The main workspace shows the XML layout file. A yellow callout box with the text 'Add an ImageView to the layout' points to the 'ImageView' item in the 'Widgets' section of the palette. The layout itself contains two 'Text' views with the placeholder text 'Picture Text'. The right side of the screen shows the 'Attributes' panel for the selected 'titleTextView' component, listing numerous properties like 'foreground', 'gravity', and 'center'.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

Layout Captures

2: Favorites

1: Favorites

Layout Picture

Activity Picture

Picture Activity

Main Activity

Manifests

Java

edu.udayton.cityguide

MainActivity

PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Palette

Common

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

Default (en-us)

26%

Attributes

Ab titleTextView

foreground

foregroundGravity

freezesText

gravity

bottom

clip_horizontal

center

clip_vertical

start

right

center_horizontal

fill

fill_horizontal

top

left

center_vertical

fill_vertical

end

hapticFeedbackEnab

height

hint

id

imeActionId

imeActionLabel

imeOptions

includeFontPadding

inputMethod

inputType

isScrollContainer

keepScreenOn

lastBaselineToBottom

layerType

Pixel 28 AppTheme Default (en-us) 26% Attributes

Add to Design Enter

Favorite

Android Documentation Shift+F1

Material Guidelines

Component Tree

LinearLayout(vertical)

Ab titleTextView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

Event Log

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

2: Favorites

Layout Captures

3: Structure

Build Variants

Gradle Scripts

Java

edu.udayton.cityguide

- MainActivity
- PictureActivity

generatedJava

res

Click to expand the drawables (images) of this project

Resources

Add new resource

Drawable

Color

Sample data

- avatars
- backgrounds/scenic
- Project
- android
- Theme attributes

No Preview

OK Cancel

Design Text

Attributes

Ab titleTextView

foreground

foregroundGravity

freezesText

gravity

- center
- bottom
- clip_horizontal
- center
- clip_vertical
- start
- right
- center_horizontal
- fill
- fill_horizontal
- top
- left
- center_vertical
- fill_vertical
- end
- hapticFeedbackEnab
- height
- hint
- id
- imeActionId
- imeActionLabel
- imeOptions
- includeFontPadding
- inputMethod
- inputType
- isScrollContainer
- keepScreenOn
- lastBaselineToBottom
- layerType

Device File Explorer

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)



The screenshot shows the Android Studio interface with the project 'CityGuide' open. The 'activity_picture.xml' layout file is selected in the top navigation bar. On the left, the Project structure shows the 'app' module with 'Manifests', 'Java' (containing 'MainActivity' and 'PictureActivity'), and 'res' (containing 'generatedJava', 'ic_launcher', 'ic_launcher_background', 'ic_launcher_chicago', 'ic_launcher_foreground', 'ic_launcher_round', 'pier', 'water', and 'willis'). The 'Resource Manager' tab is active.

In the center, the 'Resources' dialog is open, showing the 'Drawable' category. A yellow callout points to the 'ic_launcher_chicago' item, which is highlighted with a blue selection bar. The dialog displays the image of a circular Chicago skyline icon. Below the image, the resource name is shown as '@drawable/ic_launcher_chicago' and its path as '⇒ ic_launcher_chicago.png'. A yellow callout with the text 'Since the image displayed in this ImageView is a placeholder (it will be changed in Picture.java), we can select any drawable resource here' is positioned near the highlighted item.

On the right, the 'Attributes' panel is visible, showing the properties for the currently selected 'titleTextView' (a TextView). The 'center' attribute is checked. A yellow callout with the text 'Then, click OK' points to the 'OK' button at the bottom of the 'Resources' dialog.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2: Favorites

Layout Captures

Android

Common Text Buttons Widgets Layouts Containers Google Legacy

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Pixel 28 AppTheme Default (en-us) 26% Attributes

imageView pictureImageView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

srcCompat able/ic_launcher_chicago

srcCompat

contentDescription

background

scaleType

adjustViewBounds

cropToPadding

All Attributes

adjustViewBounds

alpha

background

baseline

baselineAlignBottom

clickable

contentDescription

cropToPadding

drawingCacheQualit

duplicateParentState

fadeScrollbars

fadingEdge

fadingEdgeLength

Change the ImageView's ID

Picture Text

Picture Text

ImageView

Component Tree

LinearLayout(vertical)

titleTextView "@string/pictur..."

imageView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

Event Log

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

Build Variants

2:Structure

Layout Captures

2:Favorites

Layout Pictures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

Palette

Common Text Buttons Widgets Layouts Containers Google Legacy

Attributes

pictureImageView ImageView

id pictureImageView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

srcCompat able/ic_launcher_chicago

srcCompat

contentDescription

background

scaleType

adjustViewBounds

cropToPadding

All Attributes

adjustViewBounds

alpha

background

baseline

baselineAlignBottom

clickable

contentDescription

cropToPadding

drawingCacheQualit

duplicateParentState

fadeScrollbars

fadingEdge

fadingEdgeLength

Picture Text

Picture Text

ImageView

Component Tree

LinearLayout(vertical)

titleTextView- "@string/pictur..."

pictureImageView

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

Event Log

Use the Resource manager to set the content description ...

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

1:Project

Resource Manager

2:Structure

3:Favorites

Layout Captures

4:Captures

Activity Picture

Resources

Add new resource

Name: travel

Default travel

Project	
app_name	City Guide
pictureTitleText	Picture Text
travel	travel
txtPier	Navy Pier
txtWater	Water Tower
txtWillis	Willis Tower
android	
VideoView_error_button	OK
VideoView_error_text_invalid_progress	Hierdie video is nie geldig vir stro...
VideoView_error_text_unknown	Kan nie hierdie video speel nie.
VideoView_error_title	Videoprobleem
autofill	Outovul
cancel	Kanselleer
copy	Kopieer
copyUrl	Kopieer URL
cut	Sny
defaultMsisdnAlphaTag	MSISDN1
defaultVoiceMailAlphaTag	Stemboodskap
dialog_alert_title	Aandag
emptyPhoneNumber	(Geen foornommer)

... to the text we used for the list item in the main layout

This is also a placeholder

EDIT TRANSLATIONS

OK Cancel

Attributes

pictureImageView

id pictureImageView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

srcCompat able/ic_launcher_chicago

srcCompat

contentDescription

background

scaleType

adjustViewBounds

cropToPadding

All Attributes

adjustViewBounds

alpha

background

baseline

baselineAlignBottom

clickable

contentDescription

cropToPadding

drawingCacheQualit

duplicateParentState

fadeScrollbars

fadingEdge

fadingEdgeLength

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\res\layout\activity_picture.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main res layout activity_picture.xml

[app] C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide\app\src\main\java\edu\udayton\cityguide\PictureActivity.java

1:Project

Resource Manager

Build Variants

2:Structure

Layout Captures

2: Favorites

Layout Picture Activity

Picture Text

pictureImageView

Switch to the Picture activity's Java code

Attributes

pictureImageView

id pictureImageView

Declared Attributes

Layout

layout_width match_parent

layout_height wrap_content

layout_weight

visibility

visibility

Common Attributes

srcCompat able/ic_launcher_chicago

srcCompat

contentDescription @string/travel

background

scaleType

adjustViewBounds

cropToPadding

All Attributes

adjustViewBounds

alpha

background

baseline

baselineAlignBottom

clickable

contentDescription @string/travel

cropToPadding

drawingCacheQualit

duplicateParentState

fadeScrollbars

fadingEdge

fadingEdgeLength

Design Text

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (8 minutes ago)

Event Log

This screenshot shows the Android Studio interface for a project named "CityGuide". The "activity_picture.xml" layout file is currently selected in the top navigation bar. The layout editor displays a vertical "LinearLayout" containing a "titleTextView" and a "pictureImageView". The "pictureImageView" is set to display the image "able/ic_launcher_chicago". The "Attributes" panel on the right shows the ImageView's ID as "pictureImageView". A yellow callout box with the text "Switch to the Picture activity's Java code" points to the tab bar at the top, specifically the "PictureActivity.java" tab. The "Component Tree" panel in the bottom left shows the hierarchy: LinearLayout > titleTextView > pictureImageView.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project Resource Manager Build Variants 2: Favorites Layout Captures 3: Structure Device File Explorer

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7 @Override
8 protected void onCreate(Bundle savedInstanceState) {
9 super.onCreate(savedInstanceState);
10 setContentView(R.layout.activity_picture);
11 } // end onCreate method
12 } // end PictureActivity class

Here, we'll add the code to get the "extras" added to the Intent that launched this activity, and set the attributes of the titleTextView and pictureImageView components

Start by adding the line comments as closing tags for the onCreate method and the Picture class

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (9 minutes ago)

13:31 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

I: Structure

I: Favorites

2: Favorites

Layout Captures

PictureActivity

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5
6 public class PictureActivity extends AppCompatActivity {
7
8     public static final String ID_KEY = "RES_ID",
9         LBL_KEY = "LABEL";
10
11    @Override
12    protected void onCreate(Bundle savedInstanceState) {
13        super.onCreate(savedInstanceState);
14        setContentView(R.layout.activity_picture);
15    } // end onCreate method
16 } // end PictureActivity class
```

Each extra that we add to an Intent represents an extra piece of information that is sent with the Intent from one Activity to another.

Therefore, each extra requires a unique identifier.

This identifier is known as an extra's key, and is a String.

This same key must be used for each extra by the sending Activity and the recipient activity for the information to be sent and received successfully.

So, to reduce errors, we'll declare a String named constant for each of these extra keys. We'll make sure to declare each constant:

public, so that each of the MainActivity and Picture activities has access to the constant;

static, so that the constant id defined once for the entire Picture class

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity.java

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15    } // end onCreate method
16} // end PictureActivity class
```

Now we can add the code the Picture's onCreate method ...

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (10 minutes ago)

16:9 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity.java

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10
11    @Override
12    protected void onCreate(Bundle savedInstanceState) {
13        super.onCreate(savedInstanceState);
14        setContentView(R.layout.activity_picture);
15
16        // get the extras from the Intent
17
18    } // end onCreate
19
20 } // end PictureActivity class
21
```

Type 'Int' here ...

After the target activity is launched with an Intent, the extras are in the form of a Bundle object inside the Intent.

So, we need to first get the Intent itself, then get the Bundle from this Intent.

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (10 minutes ago)

18:9 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

I:Structure

2: Favorites

Layout Captures

PictureActivity > onCreate()

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10
11    @Override
12    protected void onCreate(Bundle savedInstanceState) {
13        super.onCreate(savedInstanceState);
14        setContentView(R.layout.activity_picture);
15
16        // get the extras from the Intent
17
18        Intent intent
19    }
20
21 }
```

... and select the android.content.Intent class from the code completion menu

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent(); // Complete this statement
18    } // end onCreate method
19 } // end PictureActivity class
20
21
22
```

Complete this statement
to get the Intent object
that launches this Activity

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (11 minutes ago)

19:39 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity.java

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        } // end onCreate method
20    } // end PictureActivity class
21
22
23
24
```

Now we get the Bundle of extras from the Intent
On the line following a blank line, type 'Bun' ...

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (11 minutes ago)

21:9 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myBundle = myIntent.getBundleExtra(ID_KEY);
20
21        myBundle.getString(LBL_KEY);
22    }
23
24 }
```

Bun|
... and select the
android.os.Bundle class from
the code completion menu

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (11 minutes ago)

21:12 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

PictureActivity > onCreate()

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras(); [ ] ← Complete this statement to
20        // end onCreate method
21    } // end PictureActivity class
22 } // end onCreate method
23 } // end PictureActivity class
24 }
```

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (12 minutes ago)

21:48 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

Layout Captures

PictureActivity.java

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        } // end onCreate
22    } // end PictureActivity
23
24 }
```

OK, so now we get the information?
Yes.
However, let's first double-check that the Bundle was successfully extracted and exists, just to be on the safe side.

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (12 minutes ago)

23:9 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

Layout Captures

PictureActivity.java

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            ...
24        }
25    } // end onCreate method
26} // end PictureActivity class
```

We use a simple `if` statement to validate the `Bundle`'s existence

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (12 minutes ago)

25:13 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

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Structure

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Layout Captures

2: Favorites

PictureActivity.java

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10
11     @Override
12     protected void onCreate(Bundle savedInstanceState) {
13         super.onCreate(savedInstanceState);
14         setContentView(R.layout.activity_picture);
15
16         // get the extras from the Intent
17
18         Intent myIntent = getIntent();
19
20         Bundle myExtras = myIntent.getExtras();
21
22         if (myExtras != null) // make sure there are extras
23         {
24             // get the String extra with key = LBL_KEY
25             String res_label = myExtras.getString(LBL_KEY);
26         }
27     } // end onCreate method
28 } // end PictureActivity class
```

Remember that each extra is identified by a key.
We use the LBL_KEY in a call to the Bundle's getString method to get the associated String value (i.e., the title's text).

It should be noted that for maximum reliability, all extra values should be sent/received as Strings.
So, we will do this for both the title text and resource id.
We'll convert the resource id from integer to String in MainActivity.java, and then back from String to integer in Picture.java.

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (13 minutes ago)

26:00 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

Layout Captures

PictureActivity.java

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27        }
28    } // end onCreate method
29 } // end PictureActivity class
30
31
32
```

Now that we have the title text, we can:

1. get the titleTextView reference
2. set the titleTextView's text

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

28:61 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

Layout Captures

1:Structure

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            titleTextView.setText(res_label);
28        }
29    } // end onCreate method
30 } // end PictureActivity class
31
32 // end PictureActivity class
33
```

To set a named constant for the titleTextView, type 'final TextV' here ...

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

29:13 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView) findViewById(R.id.title);
28            titleTextView.setText(res_label);
29        }
30    } // end onCreate()
31 } // end PictureActivity
```

... and select the android.widget.TextView class from the code completion menu

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

29:24 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Build Variants

I:Structure

I:Favorites

2:Layout Captures

Layout Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView); I
28        }
29    } // end onCreate method
30 } // end PictureActivity class
31
32
33
34
```

PictureActivity > onCreate()

Finish this statement for the TextView reference constant

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

Layout Captures

2: Favorites

1: Structure

PictureActivity.java

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
28            titleTextView.setText(res_label); [ Add this call to the TextView's setText method to display the title text
29        }
30    } // end onCreate method
31 } // end PictureActivity class
32
33
34
35
```

Add this call to the TextView's setText
method to display the title text

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (16 minutes ago)

31:46 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

I:Structure

I:Favorites

2:Layout Captures

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
28            titleTextView.setText(res_label);
29
30            // get the String extra with key = ID_KEY
31            }
32        }
33    } // end onCreate method
34 } // end PictureActivity class
35
36
37
```

PictureActivity > onCreate()

In the same way we got the extra with the title text, we can get the extra with the image resource id.

Remember that we need an additional step to convert the image resource id from String to integer before we can use it.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

I:Structure

2:Favorites

Layout Captures

2:Captures

PictureActivity > onCreate()

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
28            titleTextView.setText(res_label);
29
30            // get the String extra with key = ID_KEY
31            String image_id = myExtras.getString(ID_KEY); ] ← We get the resource id of
32            // the image as a String from the Bundle, the same way
33            // we got the title text
34        }
35    } // end onCreate method
36 } // end PictureActivity class
37
38
```

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Gradle Scripts

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I:Structure

I:Favorites

Layout Captures

2:Favorites

1:Project

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
28            titleTextView.setText(res_label);
29
30            // get the String extra with key = ID_KEY
31            String image_id = myExtras.getString(ID_KEY);
32
33            // convert the resource ID from String to integer
34            int imageViewId = Integer.parseInt(image_id); [ ]
35
36        }
37    } // end onCreate method
38 } // end PictureActivity class
```

PictureActivity > onCreate()

"Hey, don't we need to worry about converting a non-integer String?"

Not really, since it will be our MainActivity's onCreate method that will convert the integer resource id of the desired drawable to a String, and pack it in the Intent for launching this Picture Activity.

We convert the drawable resource id to an integer using the Integer.parseInt static method

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Android

app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Captures

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
1 package edu.udayton.cityguide;
2
3 import ...
4
5 public class PictureActivity extends AppCompatActivity {
6
7     public static final String ID_KEY = "RES_ID",
8         LBL_KEY = "LABEL";
9
10    @Override
11    protected void onCreate(Bundle savedInstanceState) {
12        super.onCreate(savedInstanceState);
13        setContentView(R.layout.activity_picture);
14
15        // get the extras from the Intent
16
17        Intent myIntent = getIntent();
18
19        Bundle myExtras = myIntent.getExtras();
20
21        if (myExtras != null) // make sure there are extras
22        {
23            // get the String extra with key = LBL_KEY
24            String res_label = myExtras.getString(LBL_KEY);
25
26            // display the label string in the titleTextView
27            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
28            titleTextView.setText(res_label);
29
30            // get the String extra with key = ID_KEY
31            String image_id = myExtras.getString(ID_KEY);
32
33            // convert the resource ID from String to integer
34            int imageId = Integer.parseInt(image_id);
35
36            /*
37             * in the pictureImageView:
38             * 1. display the image with the imageId resource ID
39             * 2. change the content description to the res_label String
40             */
41
42        }
43    }
44
45    } // end onCreate method
46 } // end PictureActivity class
```

PictureActivity > onCreate()

We now get the reference to the pictureImageView, and then:

1. set its src attribute value to the imageId
2. set its contentDescription attribute to the res_label

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Favorites

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
import ...  
public class PictureActivity extends AppCompatActivity {  
    public static final String ID_KEY = "RES_ID",  
        LBL_KEY = "LABEL";  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_picture);  
  
        // get the extras from the Intent  
  
        Intent myIntent = getIntent();  
  
        Bundle myExtras = myIntent.getExtras();  
  
        if (myExtras != null) // make sure there are extras  
        {  
            // get the String extra with key = LBL_KEY  
            String res_label = myExtras.getString(LBL_KEY);  
  
            // display the label string in the titleTextView  
            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);  
            titleTextView.setText(res_label);  
  
            // get the String extra with key = ID_KEY  
            String image_id = myExtras.getString(ID_KEY);  
  
            // convert the resource ID from String to integer  
            int imageId = Integer.parseInt(image_id);  
  
            /*  
             * in the pictureImageView:  
             * 1. display the image with the imageId resource ID  
             * 2. change the content description to the res_label String  
             */  
        }  
    } // end onCreate method  
} // end PictureActivity class
```

To set a named constant for the pictureImageView, type 'final ImageV' here ...

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
- generatedJava
- res
- Gradle Scripts

Resource Manager

Build Variants

Structure

Favorites

Layout Captures

2: Favorites

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
import ...  
public class PictureActivity extends AppCompatActivity {  
    public static final String ID_KEY = "RES_ID",  
        LBL_KEY = "LABEL";  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_picture);  
  
        // get the extras from the Intent  
  
        Intent myIntent = getIntent();  
  
        Bundle myExtras = myIntent.getExtras();  
  
        if (myExtras != null) // make sure there are extras  
        {  
            // get the String extra with key = LBL_KEY  
            String res_label = myExtras.getString(LBL_KEY);  
  
            // display the label string in the titleTextView  
            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);  
            titleTextView.setText(res_label);  
  
            // get the String extra with key = ID_KEY  
            String image_id = myExtras.getString(ID_KEY);  
  
            // convert the resource ID from String to integer  
            int imageId = Integer.parseInt(image_id);  
  
            /*  
             * in the pictureImageView:  
             * 1. display the image with the imageId resource ID  
             * 2. change the content description to the res_label String  
             */  
            final ImageView  
            } // end  
        } // end PictureActivity
```

PictureActivity > onCreate()

... and select the android.widget.ImageView class from the code completion menu

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
- generatedJava
- res
- Gradle Scripts

Resource Manager

Build Variants

I:Structure

2:Favorites

Layout Captures

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
import ...  
public class PictureActivity extends AppCompatActivity {  
    public static final String ID_KEY = "RES_ID",  
        LBL_KEY = "LABEL";  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_picture);  
  
        // get the extras from the Intent  
  
        Intent myIntent = getIntent();  
  
        Bundle myExtras = myIntent.getExtras();  
  
        if (myExtras != null) // make sure there are extras  
        {  
            // get the String extra with key = LBL_KEY  
            String res_label = myExtras.getString(LBL_KEY);  
  
            // display the label string in the titleTextView  
            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);  
            titleTextView.setText(res_label);  
  
            // get the String extra with key = ID_KEY  
            String image_id = myExtras.getString(ID_KEY);  
  
            // convert the resource ID from String to integer  
            int imageId = Integer.parseInt(image_id);  
  
            /*  
             * in the pictureImageView:  
             * 1. display the image with the imageId resource ID  
             * 2. change the content description to the res_label String  
             */  
  
            final ImageView pictureImageView = (ImageView)findViewById(R.id.pictureImageView);  
        }  
    } // end onCreate method  
} // end PictureActivity class
```

PictureActivity > onCreate()

Complete this statement for the picture reference constant

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1:Project

Android

app

manifests

java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Favorites

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
public class PictureActivity extends AppCompatActivity {
    public static final String ID_KEY = "RES_ID",
                           LBL_KEY = "LABEL";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_picture);

        // get the extras from the Intent
        Intent myIntent = getIntent();

        Bundle myExtras = myIntent.getExtras();

        if (myExtras != null) // make sure there are extras
        {
            // get the String extra with key = LBL_KEY
            String res_label = myExtras.getString(LBL_KEY);

            // display the label string in the titleTextView
            final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);
            titleTextView.setText(res_label);

            // get the String extra with key = ID_KEY
            String image_id = myExtras.getString(ID_KEY);

            // convert the resource ID from String to integer
            int imageId = Integer.parseInt(image_id);

            /*
             * in the pictureImageView:
             * 1. display the image with the imageId resource ID
             * 2. change the content description to the res_label String
             */
            final ImageView pictureImageView = (ImageView)findViewById(R.id.pictureImageView);
            pictureImageView.setImageResource(imageId);
        }
    } // end onCreate method
} // end PictureActivity class
```

PictureActivity > onCreate()

Add this statement to display the image identified by imageld in the pictureImageView

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide PictureActivity

1: Project

Resource Manager

Build Variants

Structure

Favorites

Layout Captures

2: Favorites

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
public static final String LBL_KEY = "LABEL";  
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_picture);  
  
    // get the extras from the Intent  
  
    Intent myIntent = getIntent();  
  
    Bundle myExtras = myIntent.getExtras();  
  
    if (myExtras != null) // make sure there are extras  
    {  
        // get the String extra with key = LBL_KEY  
        String res_label = myExtras.getString(LBL_KEY);  
  
        // display the label string in the titleTextView  
        final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);  
        titleTextView.setText(res_label);  
  
        // get the String extra with key = ID_KEY  
        String image_id = myExtras.getString(ID_KEY);  
  
        // convert the resource ID from String to integer  
        int imageId = Integer.parseInt(image_id);  
  
        /*  
         * in the pictureImageView:  
         * 1. display the image with the imageId resource ID  
         * 2. change the content description to the res_label String  
         */  
  
        final ImageView pictureImageView = (ImageView)findViewById(R.id.pictureImageView);  
  
        pictureImageView.setImageResource(imageId);  
  
        pictureImageView.setContentDescription(res_label); } // end onCreate method } // end PictureActivity class
```

PictureActivity > onCreate()

Add this statement to set the title text as the pictureImageView's contentDescription

Note that we could have added a third extra to the Intent with text for the image content description

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (21 minutes ago)

50:63 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\PictureActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide [app] C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide\app\src\main\java\edu\udayton\cityguide>MainActivity.java

1:Project

Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
- generatedJava
- res
- Gradle Scripts

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Captures

PictureActivity.java

```
public static final String LBL_KEY = "LBL";  
Bundle savedInstanceState) {  
InstanceState);  
put.activity_picture);  
om the Intent  
  
Intent myIntent = getIntent();  
  
Bundle myExtras = myIntent.getExtras();  
  
if (myExtras != null) // make sure there are extras  
{  
// get the String extra with key = LBL_KEY  
String res_label = myExtras.getString(LBL_KEY);  
  
// display the label string in the titleTextView  
final TextView titleTextView = (TextView)findViewById(R.id.titleTextView);  
titleTextView.setText(res_label);  
  
// get the String extra with key = ID_KEY  
String image_id = myExtras.getString(ID_KEY);  
  
// convert the resource ID from String to integer  
int imageId = Integer.parseInt(image_id);  
  
/*  
in the pictureImageView:  
1. display the image with the imageId resource ID  
2. change the content description to the res_label String  
*/  
  
final ImageView pictureImageView = (ImageView)findViewById(R.id.pictureImageView);  
  
pictureImageView.setImageResource(imageId);  
  
pictureImageView.setContentDescription(res_label);  
}  
} // end onCreate method  
} // end PictureActivity class
```

PictureActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (21 minutes ago)

50:63 CRLF UTF-8 4 spaces

Device File Explorer



MainActivity.java

```

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        // convert the 'attraction' string-array to a list
        List<String> Attractions =
            Arrays.asList(getResources().getStringArray(R.array.attraction));

        // inflate the UI with the Attractions list
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,
            R.id.travel, Attractions));
    } // end onCreate method

    // handle user taps on the list items
    protected void onListItemClick(ListView l, View v, int position, long id)
    {
        Intent itemIntent;

        switch (position)
        {
            case 0:      // Art Institute of Chicago (web page)
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://artic.edu"));
                break;
            case 1:      // Magnificent Mile (web page)
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
                break;
            case 2:      // Willis Tower (image)
                [
                break;
            case 3:      // Navy Pier (image)
                break;
            case 4:      // Water Tower (image)
                break;
            default:
                break;
        } // end switch
    } // end onListItemClick handler
} // end MainActivity class

```

Here in the `onListItemClick` method, for each of the last 3 switch cases (prior to the default case), we need to:

1. create the explicit intent for the Picture activity
2. add the extras:
extra with key=`LBL_KEY`, and the string resource of the title text
extra with key=`ID_KEY`, and the image resource id as a String

Remember that the keys are defined as static named constants in `Picture.java`, so we'll refer to them using the '`Picture.`' prefix

Also remember that we call `getResources()` to get the Resources object, followed by a call to the `getString()` method to get a String resource given its resource id.
This is similar to how we got the attraction string-array to create the list in Part 2 of this lesson.

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

app

manifests

java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Resource Manager

Build Variants

I:Structure

2:Favorites

Layout Captures

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

```
public class MainActivity extends AppCompatActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
  
        // convert the 'attraction' string-array to a list  
  
        List<String> Attractions =  
            Arrays.asList(getResources().getStringArray(R.array.attraction));  
  
        // inflate the UI with the Attractions list  
  
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,  
            R.id.travel, Attractions));  
    } // end onCreate method  
  
    // handle user taps on the list items  
  
    protected void onListItemClick(ListView l, View v, int position, long id)  
    {  
        Intent itemIntent;  
  
        switch (position)  
        {  
            case 0:      // Art Institute of Chicago (web page)  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://artic.edu"));  
                break;  
            case 1:      // Magnificent Mile (web page)  
                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));  
                break;  
            case 2:      // Willis Tower (image)  
                itemIntent = new Intent(MainActivity.this, PictureActivity.class);  
                break;  
            case 3:      // Navy Pier (image)  
                break;  
            case 4:      // Water Tower (image)  
                break;  
            default:  
                break;  
        } // end switch  
    } // end onListItemClick handler  
} // end MainActivity class
```

MainActivity > onListItemClick()

Start by creating the Intent for launching the Picture Activity

This statement will be repeated in the next 2 cases

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Captures

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
super.onCreate(savedInstanceState);  
  
        // convert the 'attraction' string-array to a list  
  
        List<String> Attractions =  
            Arrays.asList(getResources().getStringArray(R.array.attraction));  
  
        // inflate the UI with the Attractions list  
  
        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,  
            R.id.travel, Attractions));  
    } // end onCreate method  
  
    // handle user taps on the list items  
  
    protected void onListItemClick(ListView l, View v, int position, long id)  
{  
    Intent itemIntent;  
  
    switch (position)  
    {  
        case 0:      // Art Institute of Chicago (web page)  
            itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://artic.edu"));  
            break;  
        case 1:      // Magnificent Mile (web page)  
            itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));  
            break;  
        case 2:      // Willis Tower (image)  
            itemIntent = new Intent(MainActivity.this, PictureActivity.class);  
  
            // add label text and resource id to the itemIntent as String extras  
  
            itemIntent.putExtra(PictureActivityLBL_KEY,  
                getResources().getString(R.string.txtWillis));  
            break;  
        case 3:      // Navy Pier (image)  
            break;  
        case 4:      // Water Tower (image)  
            break;  
        default:  
            break;  
    } // end switch  
} // end onListItemClick handler  
} // end MainActivity class
```

MainActivity > onListItemClick()

Add the extra, with key=LBL_KEY and the id of the txtWillis string resource, to the intent

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Resource Manager

Build Variants

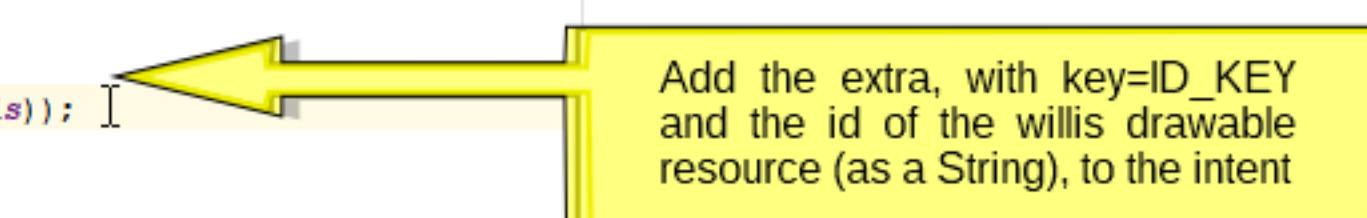
I:Structure

2:Favorites

Layout Captures

1:MainActivity

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
24        Arrays.asList(getResources().getStringArray(R.array.attraction));
25
26        // inflate the UI with the Attractions list
27
28        setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,
29                         R.id.travel, Attractions));
30    } // end onCreate method
31
32
33    // handle user taps on the list items
34
35    protected void onListItemClick(ListView l, View v, int position, long id)
36    {
37        Intent itemIntent;
38
39        switch (position)
40        {
41            case 0:      // Art Institute of Chicago (web page)
42                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://artic.edu"));
43                break;
44            case 1:      // Magnificent Mile (web page)
45                itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
46                break;
47            case 2:      // Willis Tower (image)
48                itemIntent = new Intent(MainActivity.this, PictureActivity.class);
49
50                // add label text and resource id to the itemIntent as String extras
51
52                itemIntent.putExtra(PictureActivityLBL_KEY,
53                                getResources().getString(R.string.txtWillis));
54
55                itemIntent.putExtra(PictureActivity.ID_KEY,
56                                Integer.toString(R.drawable.willis)); 
57                break;
58            case 3:      // Navy Pier (image)
59                break;
60            case 4:      // Water Tower (image)
61                break;
62            default:
63                break;
64        } // end switch
65    } // end onListItemClick handler
66 } // end MainActivity class
67
```

MainActivity > onListItemClick()

Add the extra, with key=ID_KEY and the id of the willis drawable resource (as a String), to the intent

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (25 minutes ago)

56:74 CRLF UTF-8 4 spaces

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

app

manifests

java

edu.udayton.cityguide

- MainActivity
- PictureActivity

edu.udayton.cityguide (androidTest)

edu.udayton.cityguide (test)

generatedJava

res

Gradle Scripts

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Favorites

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

```
    break;
    case 1:      // Magnificent Mile (web page)
        itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
        break;
    case 2:      // Willis Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWillis));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.willis));
        break;
    case 3:      // Navy Pier (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtPier));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.pier));
        break;
    case 4:      // Water Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWater));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.water));
        break;
    default:
        break;
} // end switch
} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

In the same way, we create and pack an intent for each of the fourth (case 3) and fifth (case 4) list items.

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

Resource Manager

Gradle Scripts

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Favorites

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
    break;
    case 1:      // Magnificent Mile (web page)
        itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
        break;
    case 2:      // Willis Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWillis));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.willis));
        break;
    case 3:      // Navy Pier (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtPier));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.pier));
        break;
    case 4:      // Water Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWater));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.water));
        break;
    default:
        I break;
} // end switch
} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

Type 'Toa' here ...

We add code to the default case that:

1. creates and displays a Toast error message to the user
2. sets the intent to null (does not exist)

Note that this case should "never" happen, but, as they say, "Never say never"!

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

Resource Manager

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Favorites

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        break;
    case 1:      // Magnificent Mile (web page)
        itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
        break;
    case 2:      // Willis Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWillis));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.willis));
        break;
    case 3:      // Navy Pier (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtPier));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.pier));
        break;
    case 4:      // Water Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
        // add label text and resource id to the itemIntent as String extras
        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWater));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.water));
        break;
    default:
        Toa
        Toast (android.widget)
        } f RECEIVER_VISIBLE_TO_INSTANT_APPS ( = 0x1
        } // end if
        Toast
    } // end MainActivity class
```

MainActivity > onListItemClick()

... and select the android.widget.Toast class from the code completion menu

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

Resource Manager

Gradle Scripts

Build Variants

I:Structure

2:Favorites

Layout Captures

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
case 1: // Magnificent Mile (new page)
    itemIntent = new Intent(Intent.ACTION_VIEW, Uri.parse("http://themagnificentmile.com"));
    break;
case 2: // Willis Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWillis));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.willis));
    break;
case 3: // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4: // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);
    break;
} // end switch
} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

Complete this statement
for declaring/setting the
toast variable

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (28 minutes ago)

83:75 CRLF ÷ UTF-8 ÷ 4 spaces ÷

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Resource Manager

Gradle Scripts

Build Variants

I:Structure

I:Favorites

Layout Captures

Device File Explorer

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
    break;
    case 2:      // Willis Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras

        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWillis));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.willis));
        break;
    case 3:      // Navy Pier (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras

        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtPier));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.pier));
        break;
    case 4:      // Water Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras

        itemIntent.putExtra(PictureActivityLBL_KEY,
                            getResources().getString(R.string.txtWater));

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.water));
        break;
    default:
        Toast myToast = Toast.makeText(MainActivity.this,
                                         "Invalid Choice Made", Toast.LENGTH_LONG);
        myToast.show();]
        break;
    } // end switch
} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

Add this statement to show the
Toast message to the user

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
- generatedJava
- res

Resource Manager

Gradle Scripts

Build Variants

I:Structure

I:Favorites

Layout Captures

2:Captures

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

```
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivity.LBL_KEY,
                        getResources().getString(R.string.txtWillis));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

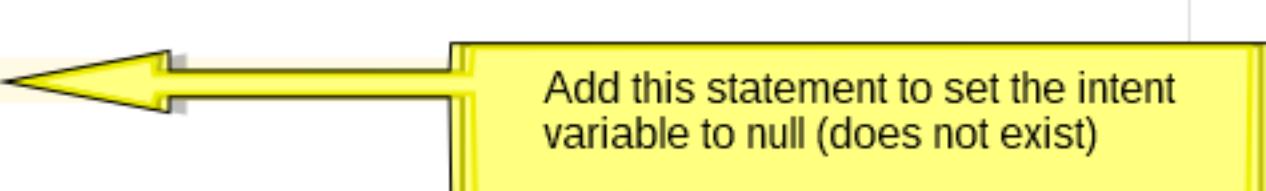
    itemIntent.putExtra(PictureActivity.LBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivity.LBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();
}
itemIntent = null;[] 
break;
} // end switch
} // end onListItemClick handler
} // end MainActivity class
```

Add this statement to set the intent variable to null (does not exist)

MainActivity > onListItemClick()

TODO Terminal Build Logcat Profiler Run

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (28 minutes ago)

87:35 CRLF ÷ UTF-8 ÷ 4 spaces ÷

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

CityGuide app src main java edu udayton cityguide MainActivity

1:Project

Android

app manifests java edu.udayton.cityguide MainActivity PictureActivity edu.udayton.cityguide (androidTest) edu.udayton.cityguide (test) generatedJava res Gradle Scripts

Resource Manager

Build Variants

I:Structure

2:Favorites

Layout Captures

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
56
57     |             Integer.toString(R.drawable.willis));
58     |
59     |         break;
60     |     case 3:      // Navy Pier (image)
61     |         itemIntent = new Intent(MainActivity.this, PictureActivity.class);
62     |
63     |         // add label text and resource id to the itemIntent as String extras
64     |
65     |         itemIntent.putExtra(PictureActivityLBL_KEY,
66     |                             getResources().getString(R.string.txtPier));
67     |
68     |         itemIntent.putExtra(PictureActivity.ID_KEY,
69     |                             Integer.toString(R.drawable.pier));
70     |         break;
71     |     case 4:      // Water Tower (image)
72     |         itemIntent = new Intent(MainActivity.this, PictureActivity.class);
73     |
74     |         // add label text and resource id to the itemIntent as String extras
75     |
76     |         itemIntent.putExtra(PictureActivityLBL_KEY,
77     |                             getResources().getString(R.string.txtWater));
78     |
79     |         itemIntent.putExtra(PictureActivity.ID_KEY,
80     |                             Integer.toString(R.drawable.water));
81     |         break;
82     |     default:
83     |         Toast myToast = Toast.makeText(MainActivity.this,
84     |                                         "Invalid Choice Made", Toast.LENGTH_LONG);
85     |
86     |         myToast.show();
87     |
88     |         itemIntent = null;
89     |         break;
90     |     } // end switch
91     |
92     // start the activity via the itemIntent only if there is one
93     |
94     if (itemIntent != null)
95     {
96         startActivity(itemIntent);
97     } // end onListItemClick handler
98 } // end MainActivity class
```

MainActivity > onListItemClick()

Following the switch statement, since our intent may not exist, we start its Activity conditionally

Device File Explorer

CityGuide [C:\Users\nbashias1\Documents\AndroidStudioProjects\CityGuide] - ...app\src\main\java\edu\udayton\cityguide\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Re-build the project

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

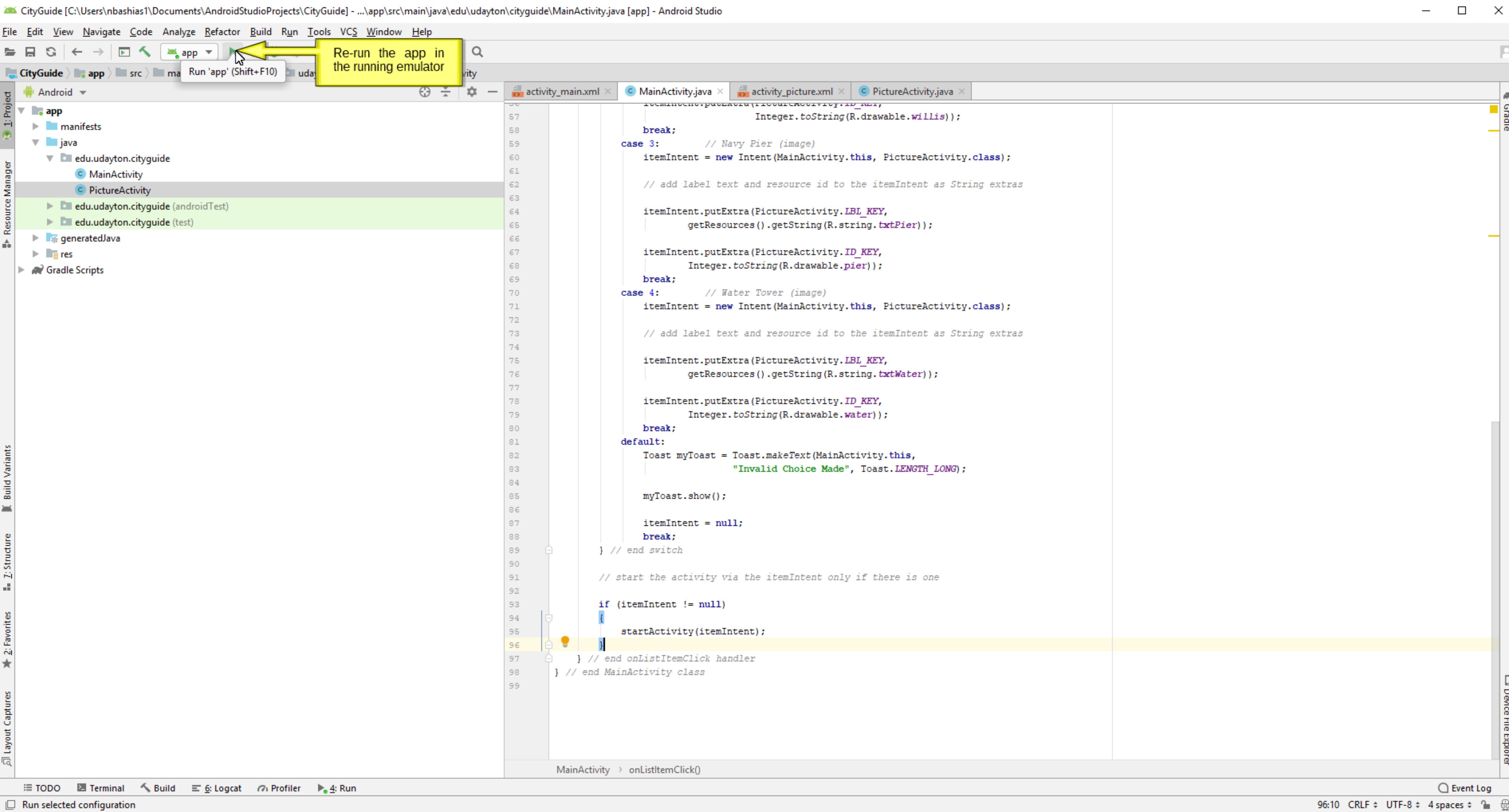
```
56
57     Integer.toString(R.drawable.willis));
58
59     break;
60   case 3:      // Navy Pier (image)
61     itemIntent = new Intent(MainActivity.this, PictureActivity.class);
62
63     // add label text and resource id to the itemIntent as String extras
64
65     itemIntent.putExtra(PictureActivityLBL_KEY,
66                         getResources().getString(R.string.txtPier));
67
68     itemIntent.putExtra(PictureActivity.ID_KEY,
69                         Integer.toString(R.drawable.pier));
70     break;
71   case 4:      // Water Tower (image)
72     itemIntent = new Intent(MainActivity.this, PictureActivity.class);
73
74     // add label text and resource id to the itemIntent as String extras
75
76     itemIntent.putExtra(PictureActivityLBL_KEY,
77                         getResources().getString(R.string.txtWater));
78
79     itemIntent.putExtra(PictureActivity.ID_KEY,
80                         Integer.toString(R.drawable.water));
81     break;
82   default:
83     Toast myToast = Toast.makeText(MainActivity.this,
84                                     "Invalid Choice Made", Toast.LENGTH_LONG);
85
86     myToast.show();
87
88     itemIntent = null;
89     break;
90   } // end switch
91
92   // start the activity via the itemIntent only if there is one
93
94   if (itemIntent != null)
95   {
96     startActivity(itemIntent);
97   } // end onListItemClick handler
98 } // end MainActivity class
99
```

MainActivity > onListItemClick()

TODO Terminal Build Logcat Profiler Run Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (29 minutes ago)

96:10 CRLF UTF-8 4 spaces





Android

app

- manifests
- java
 - edu.udayton.cityguide
 - MainActivity
 - PictureActivity
 - edu.udayton.cityguide (androidTest)
 - edu.udayton.cityguide (test)
- generatedJava
- res

Gradle Scripts

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
56
57     Integer.toString(R.drawable.willis));
58
59     break;
60   case 3: // Navy Pier (image)
61     itemIntent = new Intent(MainActivity.this, PictureActivity.class);
62
63   // add label text and resource id to the itemIntent as String extras
```

Select Deployment Target

Connected Devices

Nexus 5 Pie (Android 9, API 28)

Create New Virtual Device

Use same selection for future launches

OK

Click OK to confirm

```
93     if (itemIntent != null)
94     {
95       startActivity(itemIntent);
96     }
97   } // end onListItemClick handler
98 } // end MainActivity class
```

MainActivity > onListItemClick()

Click to open the web site for the Art Institute of Chicago in the device's web browser

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);
    // add label text and resource id to the itemIntent as String extras
    itemIntent.putExtra(PictureActivity.LBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);
    // add label text and resource id to the itemIntent as String extras
    itemIntent.putExtra(PictureActivity.LBL_KEY,
                        getResources().getString(R.string.txtWater));

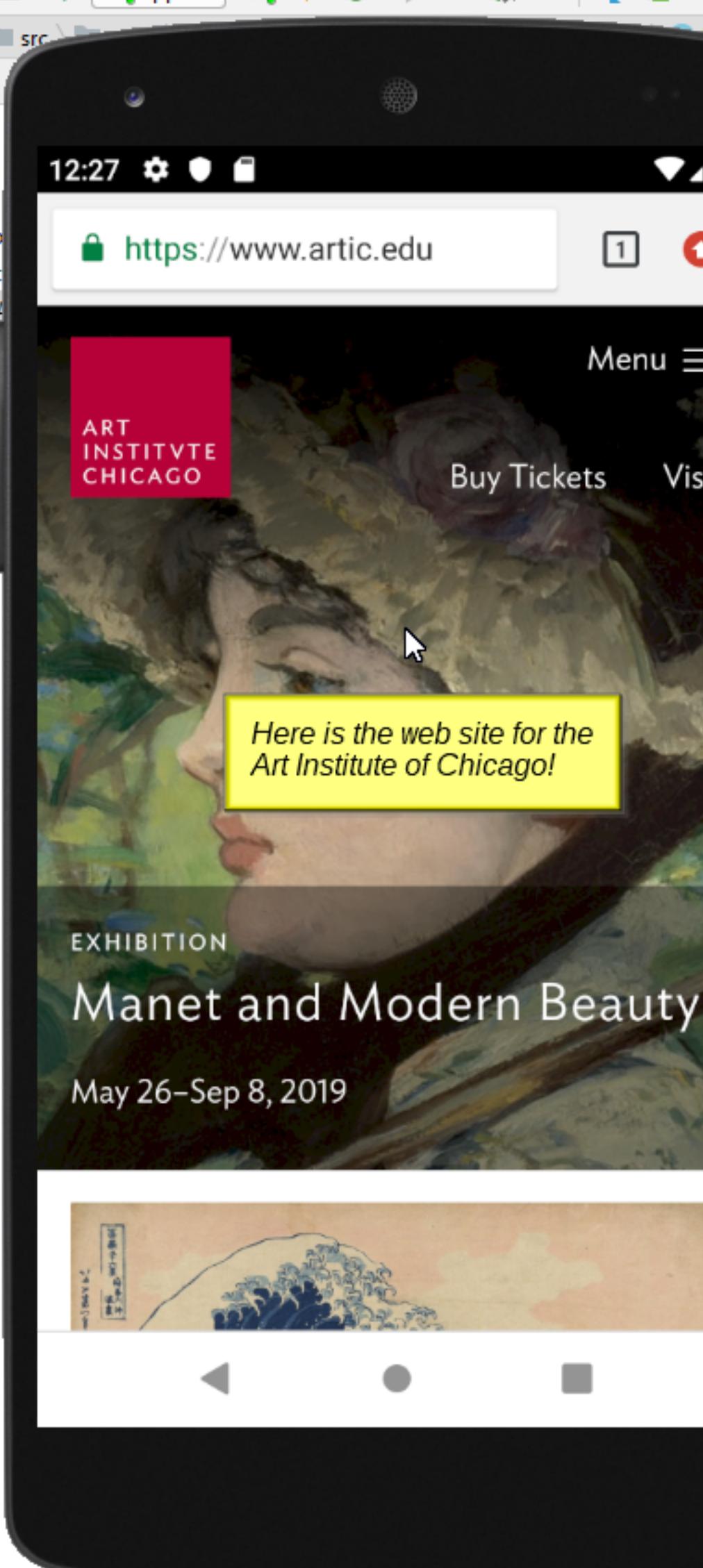
    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivity(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```



The screenshot shows an Android application running on a virtual device. The device screen displays a website for the Art Institute of Chicago. A yellow toast message is visible in the center of the screen, containing the text: "Here is the web site for the Art Institute of Chicago!". The device's navigation bar at the bottom includes back, home, and recent apps buttons.

activity_main.xml

MainActivity.java

activity_picture.xml

PictureActivity.java

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

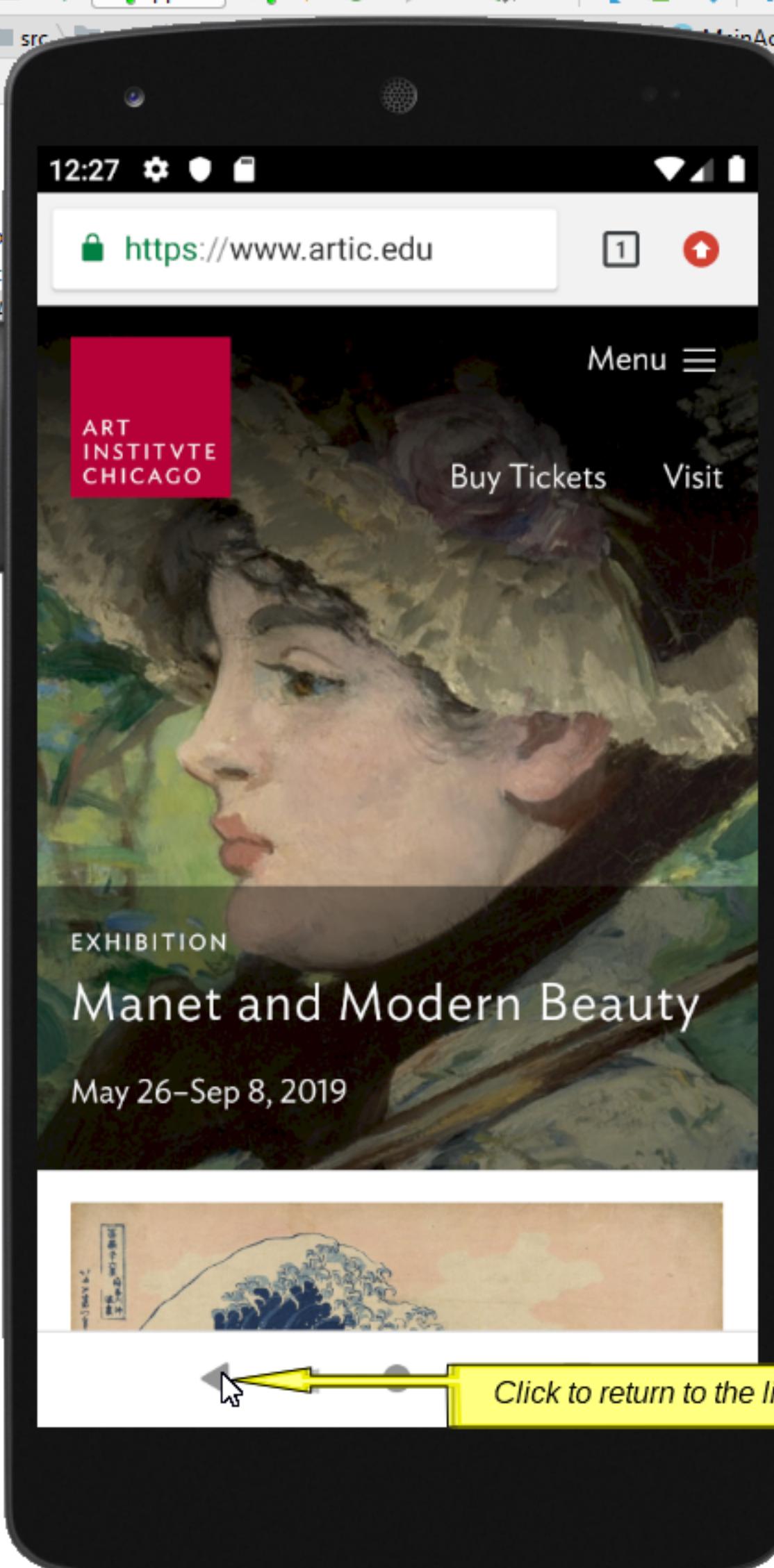
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

Click to open the web site for the Magnificent Mile in the device's web browser

```
activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java
```

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

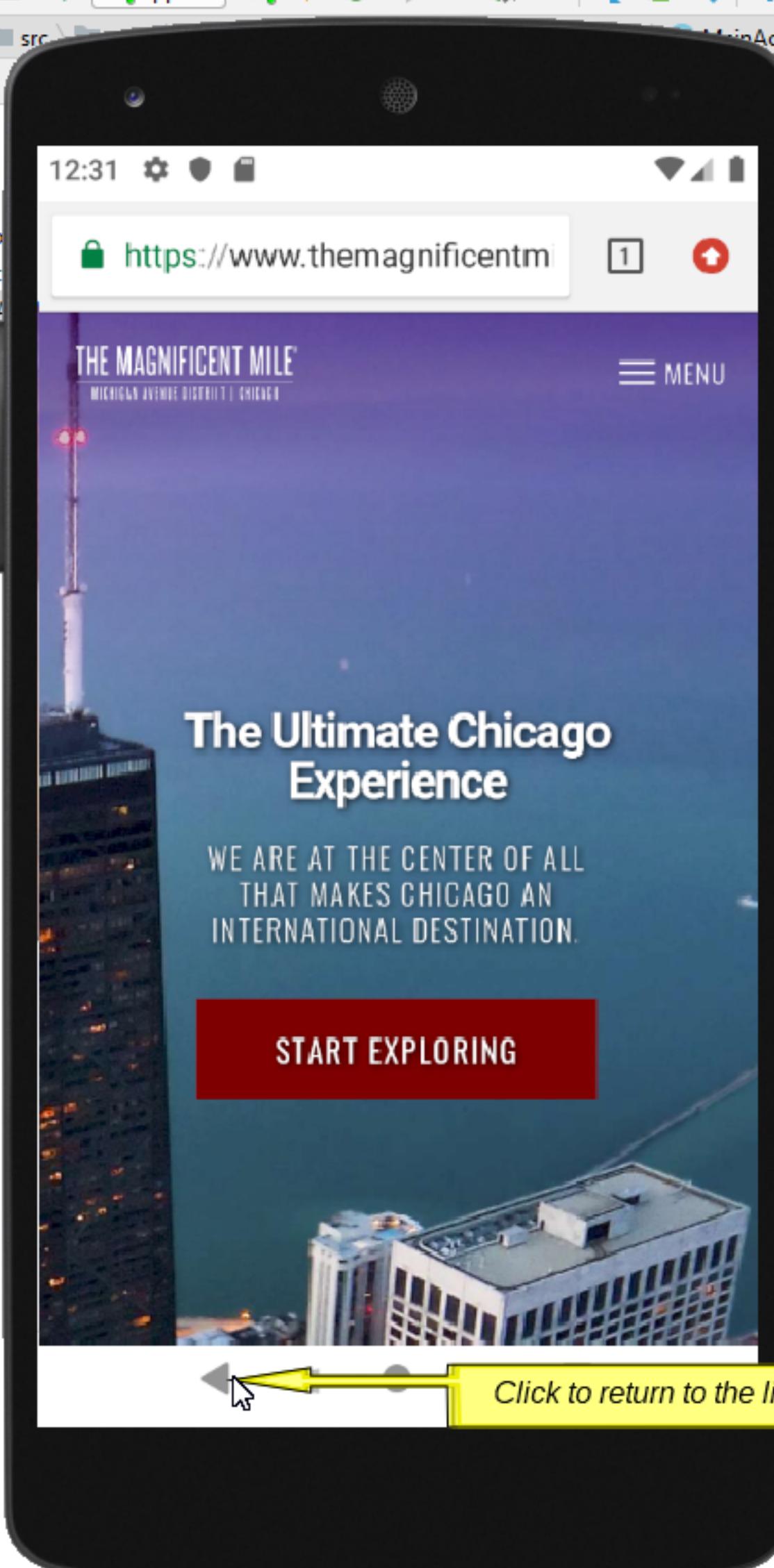


The screenshot shows a smartphone displaying a mobile version of the Magnificent Mile website. The URL in the address bar is <https://www.themagnificentmile.com>. The page features a large image of the Chicago skyline at night, with the Willis Tower (formerly Sears Tower) prominently visible. Text on the screen includes "THE MAGNIFICENT MILE" and "MICHIGAN AVENUE DISTRICT CHICAGO". A yellow callout box contains the text "Here is the web site for the Magnificent Mile!". Below the callout, there is a message: "WHAT MAKES CHICAGO AN INTERNATIONAL DESTINATION.". A red button labeled "START EXPLORING" is at the bottom. The phone's status bar shows the time as 12:31.

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        itemIntent.putExtra(PictureActivity.LBL_KEY,
|            getResources().getString(R.string.txtWillis));
|
|        itemIntent.putExtra(PictureActivity.ID_KEY,
|            Integer.toString(R.drawable.willis));
|
|        break;
|    case 3:      // Navy Pier (image)
|        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
|
|        // add label text and resource id to the itemIntent as String extras
|
|        itemIntent.putExtra(PictureActivity.LBL_KEY,
|            getResources().getString(R.string.txtPier));
|
|        itemIntent.putExtra(PictureActivity.ID_KEY,
|            Integer.toString(R.drawable.pier));
|
|        break;
|    case 4:      // Water Tower (image)
|        itemIntent = new Intent(MainActivity.this, PictureActivity.class);
|
|        // add label text and resource id to the itemIntent as String extras
|
|        itemIntent.putExtra(PictureActivity.LBL_KEY,
|            getResources().getString(R.string.txtWater));
|
|        itemIntent.putExtra(PictureActivity.ID_KEY,
|            Integer.toString(R.drawable.water));
|
|        break;
|    default:
|        Toast myToast = Toast.makeText(MainActivity.this,
|            "Invalid Choice Made", Toast.LENGTH_LONG);
|
|        myToast.show();
|
|        itemIntent = null;
|        break;
|    } // end switch
|
|    // start the activity via the itemIntent only if there is one
|
|    if (itemIntent != null)
|    {
|        startActivity(itemIntent);
|    }
|} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



The screenshot shows a smartphone displaying a mobile website for 'THE MAGNIFICENT MILE'. The website features a large image of the Willis Tower (formerly Sears Tower) at night. The text on the screen reads: 'THE MAGNIFICENT MILE' (Michigan Avenue District Chicago), 'The Ultimate Chicago Experience', 'WE ARE AT THE CENTER OF ALL THAT MAKES CHICAGO AN INTERNATIONAL DESTINATION.', and a red button labeled 'START EXPLORING'. A yellow callout box at the bottom right of the phone screen says 'Click to return to the list'.

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

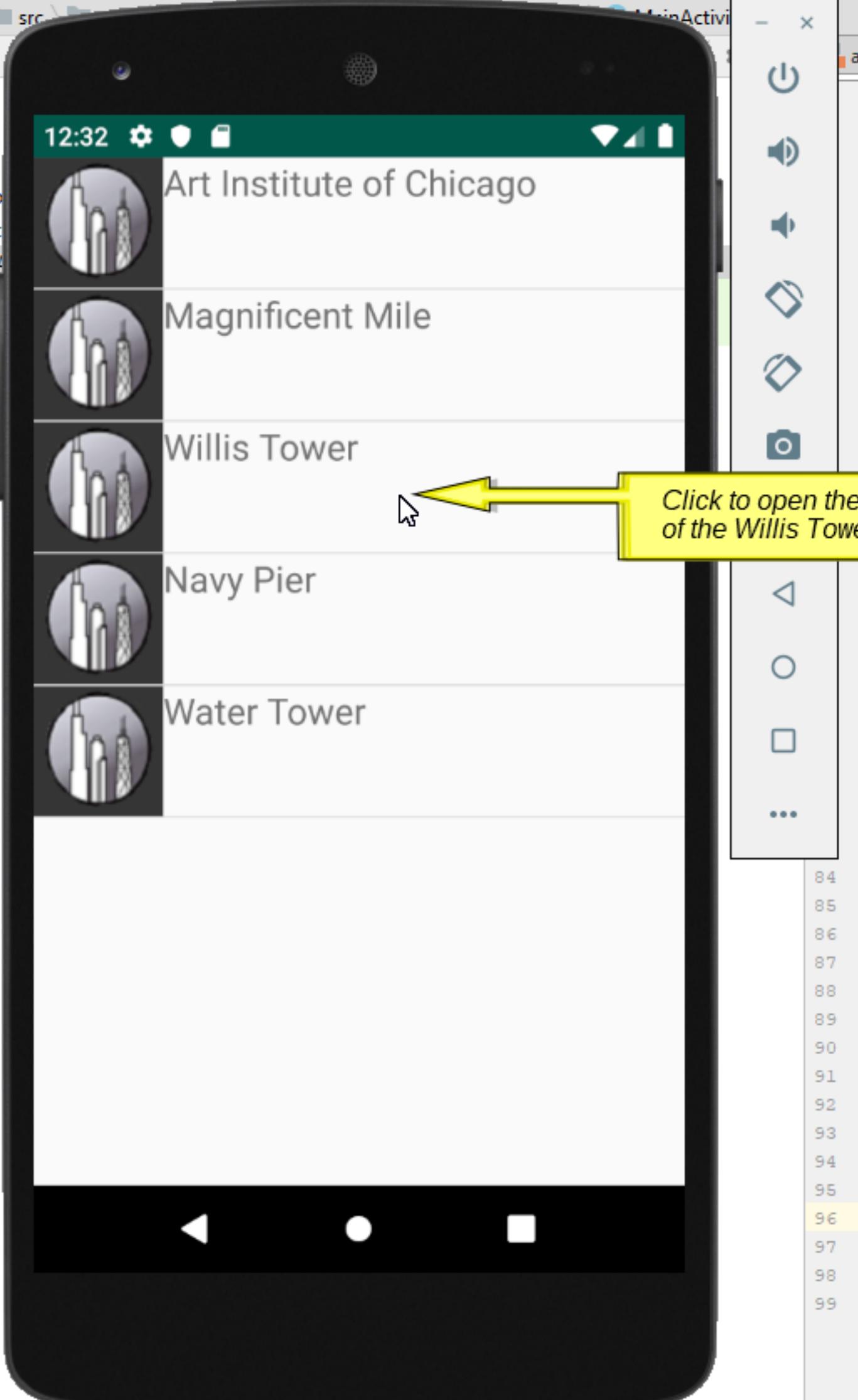
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



Click to open the picture of the Willis Tower

```
activity_main.xml x MainActivity.java x activity_picture.xml x PictureActivity.java x
```

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

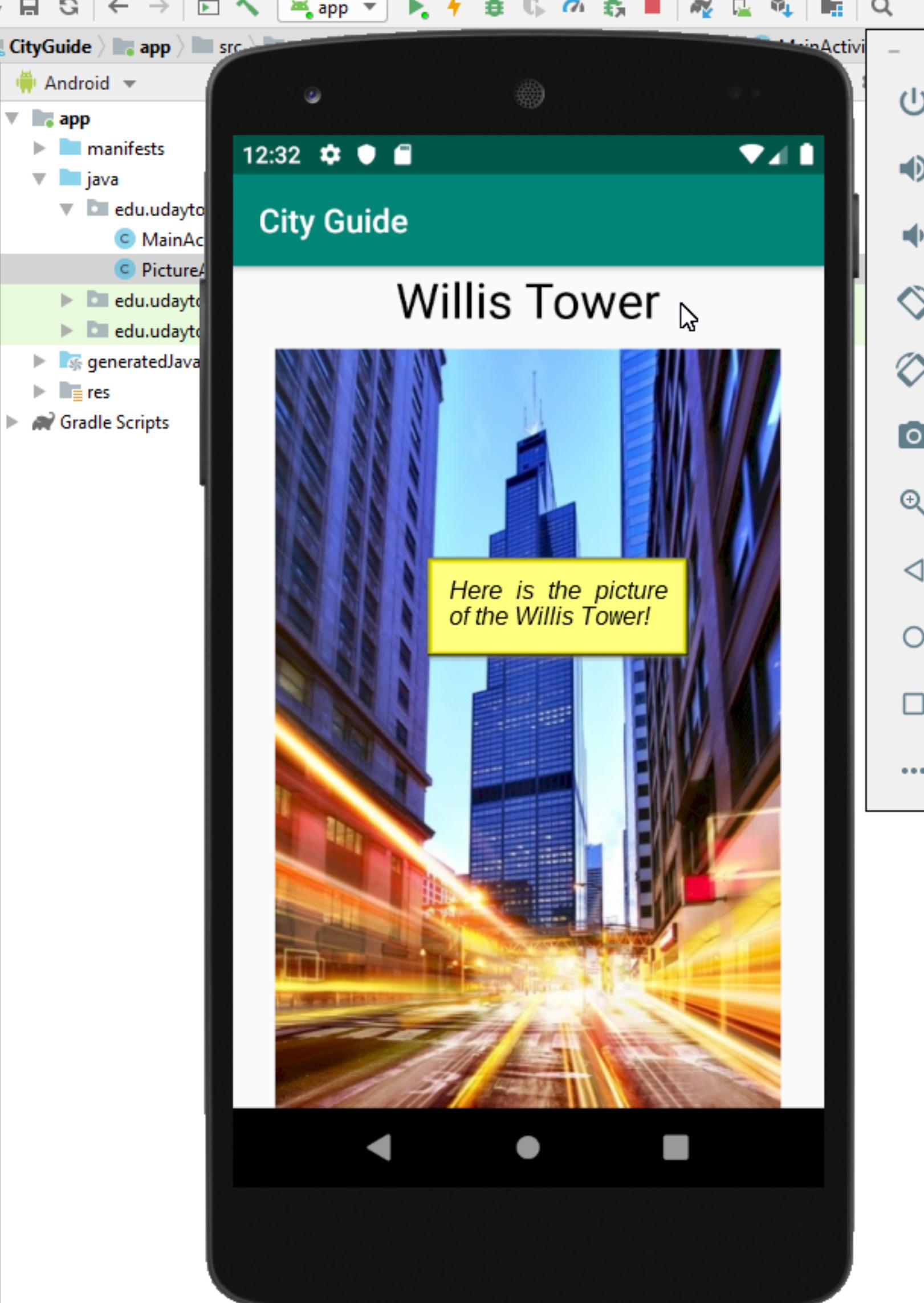
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()

A screenshot of an Android application titled "City Guide". The main title is "Willis Tower". In the center of the screen is a large image of the Willis Tower (formerly Sears Tower) in Chicago. A yellow rectangular toast notification is overlaid on the image, containing the text "Here is the picture of the Willis Tower!". The background shows a blurred city street at night with streaks of light from moving vehicles.

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        itemIntent.putExtra(PictureActivity.LBL_KEY,
                            getResources().getString(R.string.txtWillis));
        break;
    case 3:      // Navy Pier (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras

        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.pier));
        break;
    case 4:      // Water Tower (image)
        itemIntent = new Intent(MainActivity.this, PictureActivity.class);

        // add label text and resource id to the itemIntent as String extras

        itemIntent.putExtra(PictureActivity.LBL_KEY,
                            getResources().getString(R.string.txtWater));
        itemIntent.putExtra(PictureActivity.ID_KEY,
                            Integer.toString(R.drawable.water));
        break;
    default:
        Toast myToast = Toast.makeText(MainActivity.this,
                                         "Invalid Choice Made", Toast.LENGTH_LONG);

        myToast.show();
        itemIntent = null;
        break;
    } // end switch

    // start the activity via the itemIntent only if there is one

    if (itemIntent != null)
    {
        startActivityForResult(itemIntent);
    }
} // end onListItemClick handler
} // end MainActivity class
```



The screenshot shows a smartphone displaying the City Guide application. The title bar reads "City Guide". Below it, the text "Willis Tower" is displayed in large, bold letters. A large image of the Willis Tower (formerly Sears Tower) is shown against a backdrop of other city buildings and blurred lights, suggesting motion or a night scene. At the bottom of the screen, there is a navigation bar with a back arrow icon and a button labeled "Click to return to the list".

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

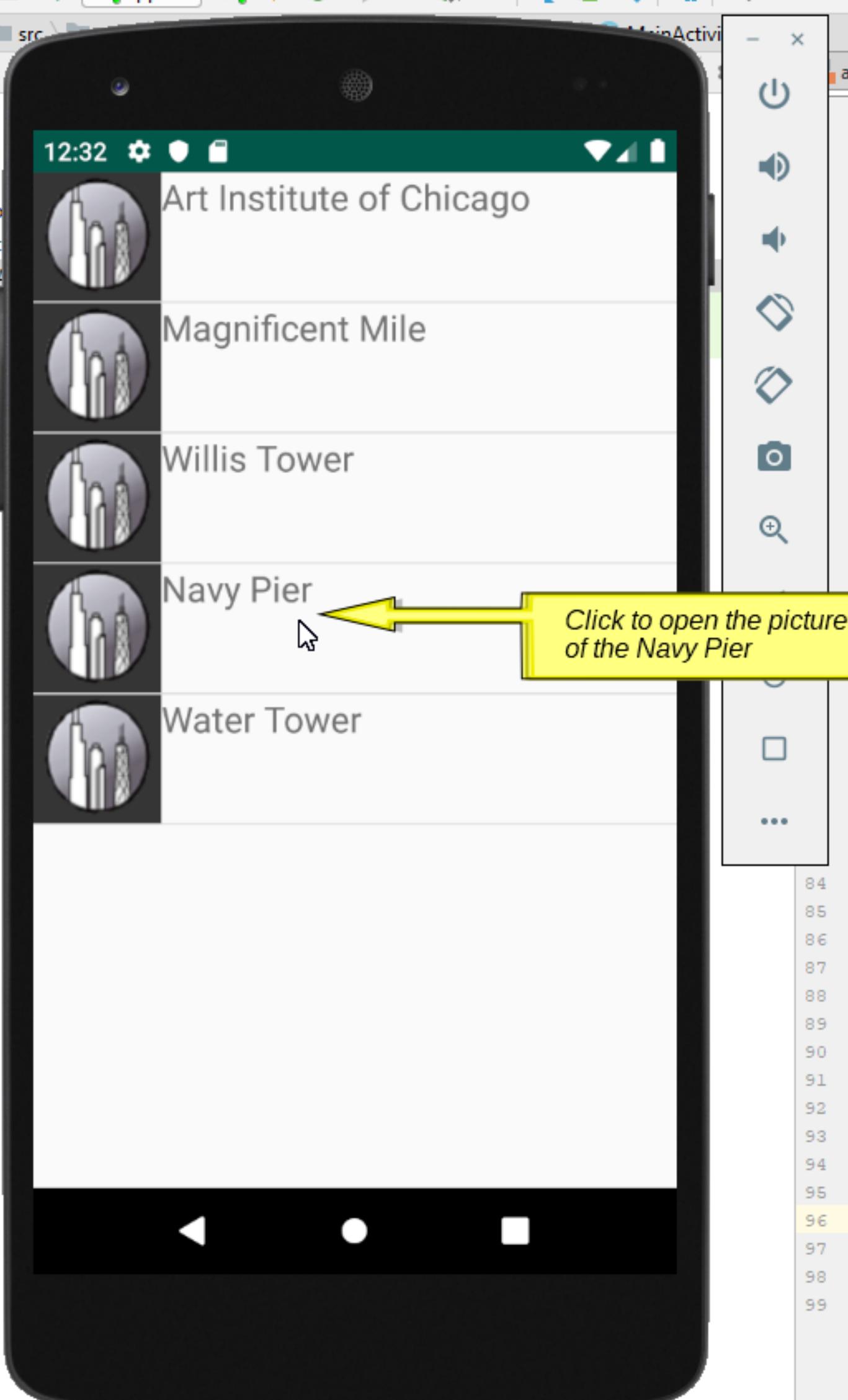
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



Click to open the picture of the Navy Pier

```
activity_main.xml x MainActivity.java x activity_picture.xml x PictureActivity.java x
```

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
                        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
                        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
                                    "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

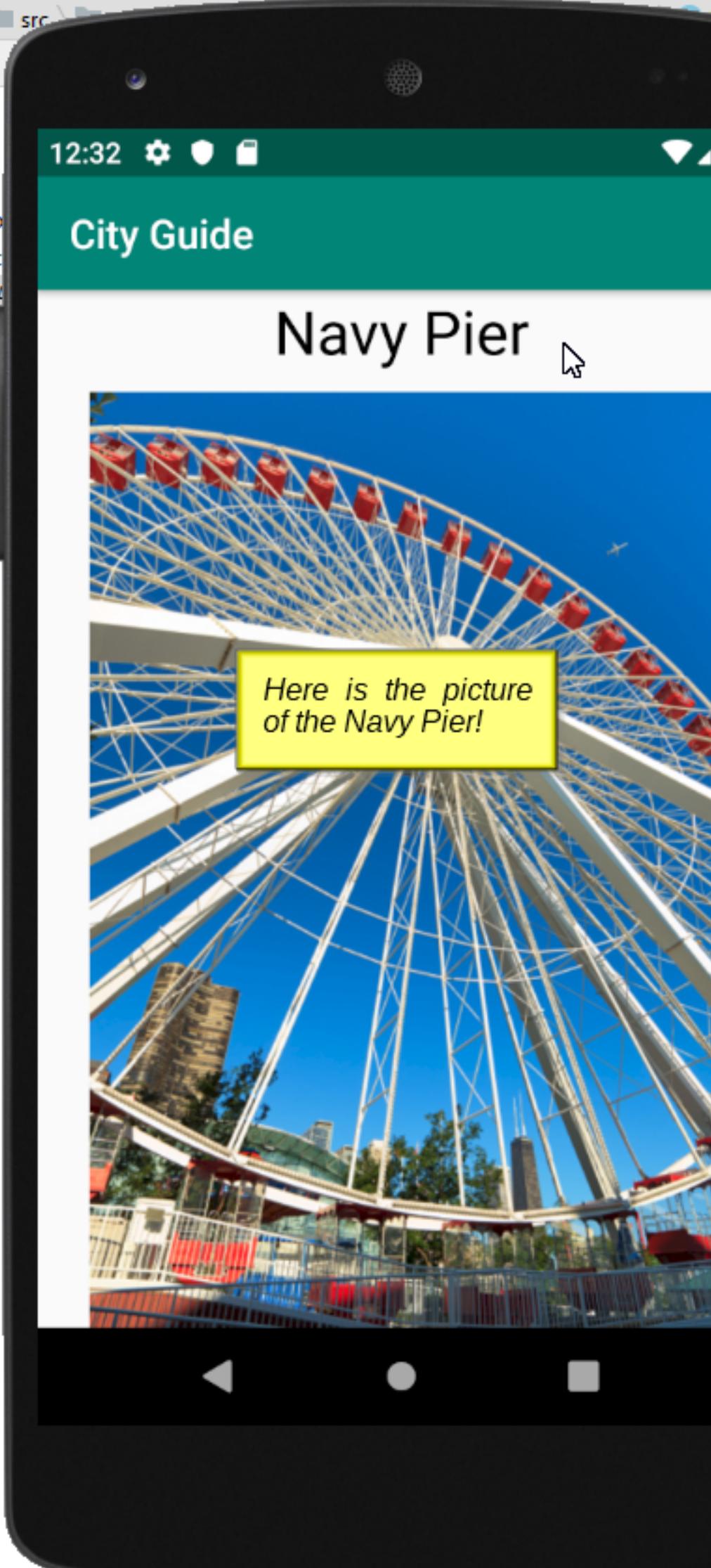
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



The screenshot shows a smartphone displaying the 'City Guide' application. The title bar reads 'City Guide'. Below it, the text 'Navy Pier' is displayed. A large image of a ferris wheel is shown against a blue sky. A yellow callout box contains the text 'Here is the picture of the Navy Pier!'. The Android navigation bar at the bottom includes icons for back, home, and recent apps.

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        Integer.toString(R.drawable.willis));  
    break;  
case 3:      // Navy Pier (image)  
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);  
  
    // add label text and resource id to the itemIntent as String extras  
  
    itemIntent.putExtra(PictureActivityLBL_KEY,  
                        getResources().getString(R.string.txtPier));  
  
    itemIntent.putExtra(PictureActivity.ID_KEY,  
                        Integer.toString(R.drawable.pier));  
    break;  
case 4:      // Water Tower (image)  
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);  
  
    // add label text and resource id to the itemIntent as String extras  
  
    itemIntent.putExtra(PictureActivityLBL_KEY,  
                        getResources().getString(R.string.txtWater));  
  
    itemIntent.putExtra(PictureActivity.ID_KEY,  
                        Integer.toString(R.drawable.water));  
    break;  
default:  
    Toast myToast = Toast.makeText(MainActivity.this,  
                                    "Invalid Choice Made", Toast.LENGTH_LONG);  
  
    myToast.show();  
  
    itemIntent = null;  
    break;  
} // end switch  
  
// start the activity via the itemIntent only if there is one  
  
if (itemIntent != null)  
{  
    startActivityForResult(itemIntent);  
}  
} // end onListItemClick handler  
} // end MainActivity class
```

MainActivity > onListItemClick()



The screenshot shows a smartphone displaying the "City Guide" application. The title bar reads "City Guide". Below it, the text "Navy Pier" is displayed. A large image of a Ferris wheel is shown against a clear blue sky. At the bottom of the screen, there is a yellow button with the text "Click to return to the list".

activity_main.xml MainActivity.java activity_picture.xml PictureActivity.java

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

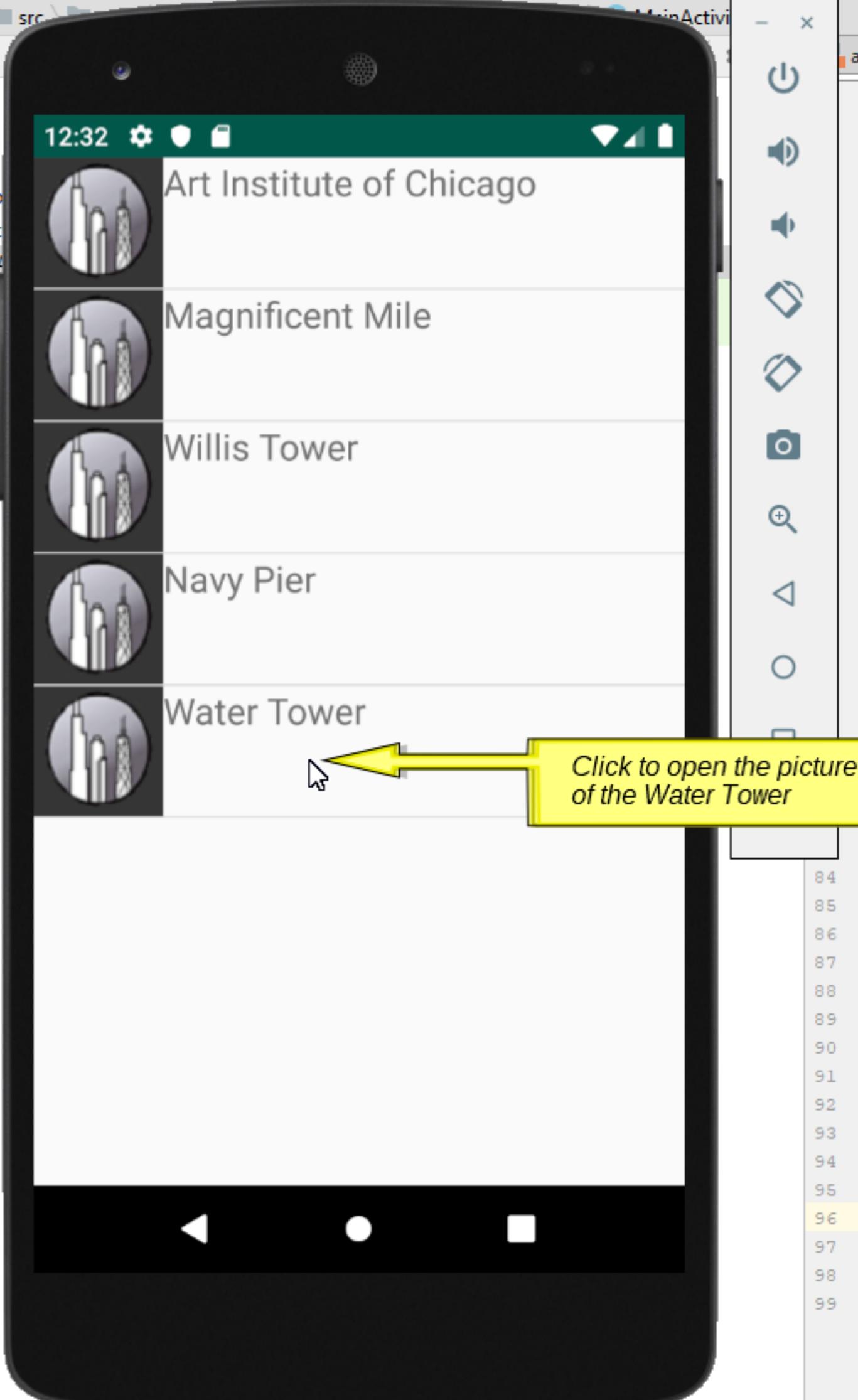
    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



The screenshot shows the Android Studio interface with the CityGuide project open. On the left, the Project tool window displays the app module structure, including Java files like MainActivity.java and PictureActivity.java. The main area shows a preview of an Android device displaying a list of landmarks. The 'Water Tower' item is selected, and a yellow callout bubble with the text 'Click to open the picture of the Water Tower' points to it. The code editor on the right shows the Java code for MainActivity.java, specifically the onListItemClick() method which handles the selection of a list item.

```
        Integer.toString(R.drawable.willis));
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivity.LBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivity.LBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

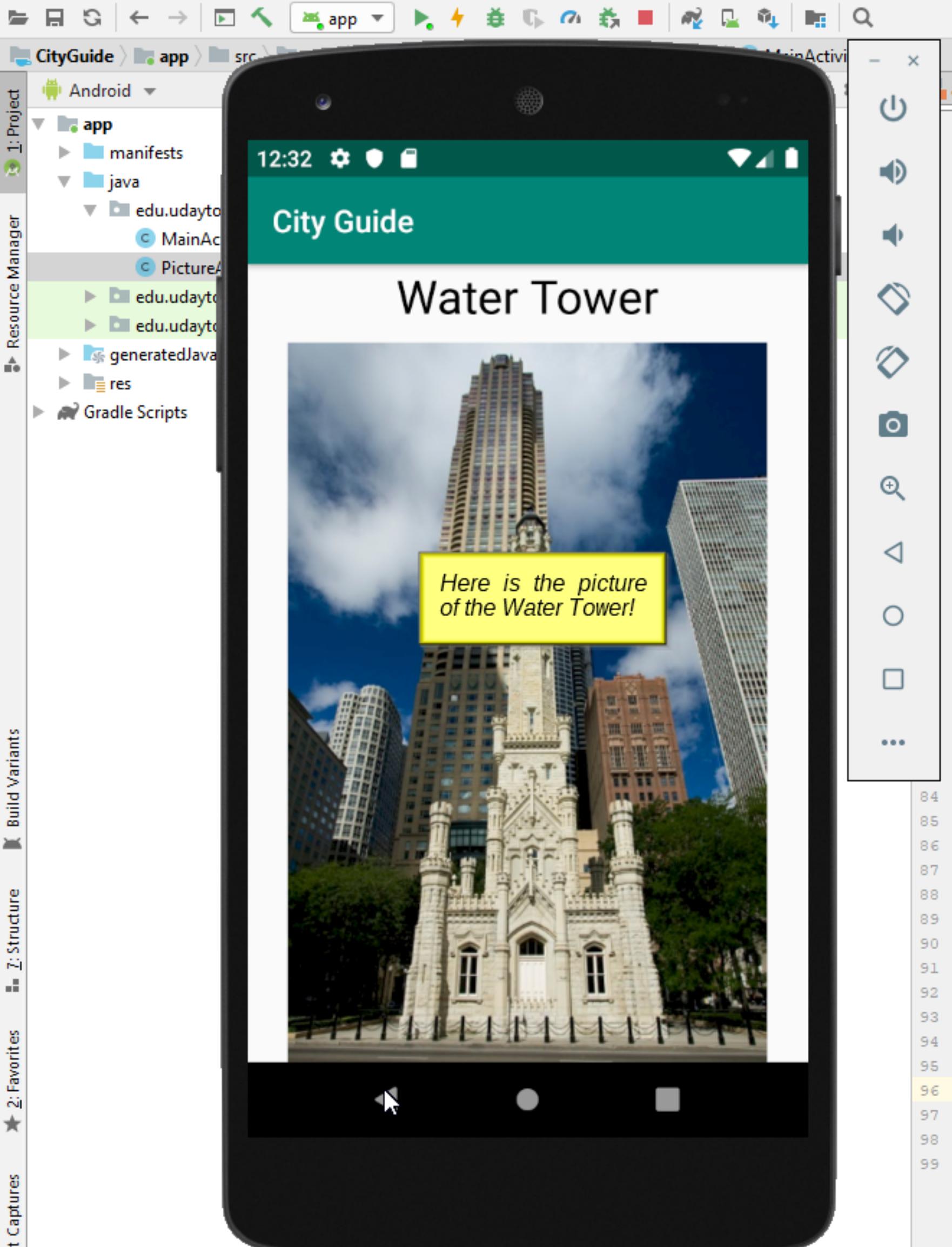
    myToast.show();

    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivityForResult(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```



```
activity_main.xml x MainActivity.java x activity_picture.xml x PictureActivity.java x
    ...
    break;
case 3:      // Navy Pier (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtPier));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.pier));
    break;
case 4:      // Water Tower (image)
    itemIntent = new Intent(MainActivity.this, PictureActivity.class);

    // add label text and resource id to the itemIntent as String extras

    itemIntent.putExtra(PictureActivityLBL_KEY,
        getResources().getString(R.string.txtWater));

    itemIntent.putExtra(PictureActivity.ID_KEY,
        Integer.toString(R.drawable.water));
    break;
default:
    Toast myToast = Toast.makeText(MainActivity.this,
        "Invalid Choice Made", Toast.LENGTH_LONG);

    myToast.show();

    itemIntent = null;
    break;
} // end switch

// start the activity via the itemIntent only if there is one

if (itemIntent != null)
{
    startActivity(itemIntent);
}

} // end onListItemClick handler
} // end MainActivity class
```

MainActivity > onListItemClick()



The screenshot shows a smartphone displaying the "City Guide" application. The title bar reads "City Guide" and the main screen displays the text "Water Tower" above a large image of the Water Tower in Chicago.

MainActivity.java

```
        itemIntent.putExtra(PictureActivity.LBL_KEY,
|           getResources().getString(R.string.txtPier));
|
|       itemIntent.putExtra(PictureActivity.ID_KEY,
|           Integer.toString(R.drawable.pier));
|
|       break;
|   case 4:      // Water Tower (image)
|       itemIntent = new Intent(MainActivity.this, PictureActivity.class);
|
|       // add label text and resource id to the itemIntent as String extras
|
|       itemIntent.putExtra(PictureActivity.LBL_KEY,
|           getResources().getString(R.string.txtTower));
|
|       itemIntent.putExtra(PictureActivity.ID_KEY,
|           Integer.toString(R.drawable.tower));
|
|       break;
|   default:
|       Toast myToast = Toast.makeText(getApplicationContext(),
|           "Image not found", Toast.LENGTH_SHORT);
|
|       myToast.show();
|
|       itemIntent = null;
|       break;
|   } // end switch
|
|   // start the activity via the itemIntent only if there is one
|
|   if (itemIntent != null)
|   {
|       startActivity(itemIntent);
|   }
|
| } // end onListItemClick handler
} // end MainActivity class
```

This concludes Lesson 5.
We have been successful in writing our app so that it is more manageable, less error prone, and more easily updatable than the approach shown in Chapter 5 of Android Boot Camp.
For instance, how much work would we have to do to update our app so that it displays 10 or 20 images instead of 3?