

FALL 2018 - NARGES NOROUZI

MOBILE APPLICATIONS

LECTURE 4

Resource: <https://developers.google.com/training/android/>

RECAP

- Views, view groups, and view hierarchy
- Layouts in XML and Java code

CONTENT

- Demo
- Event Handling
- Resources
- Screen Measurements
- Demo

REMINDER: CREATING AND LAYING OUT VIEWS

- Graphically within Android Studio
- XML Files
- Programmatically

DEMO

EVENT HANDLING

EVENTS

- Something that happens
 - In UI: Click, tap, drag
 - Device: DetectedActivity such as walking, driving, tilting
- Events are "noticed" by the Android system

EVENT HANDLERS

- Methods that do something in response to a click
- A method, called an event handler, is triggered by a specific event and does something in response to the event

HANDLING CLICKS IN XML & JAVA

- Implement handler in activity:

```
public void showToast  
(View view) {
```

```
    String msg = "Hello  
Toast!";
```

```
    Toast toast =  
    Toast.makeText(this,  
msg, duration);
```

```
    toast.show();
```

```
}}
```

- Attach handler to view in layout:

```
android:onClick =  
"showToast"
```

SETTING CLICK HANDLERS IN JAVA

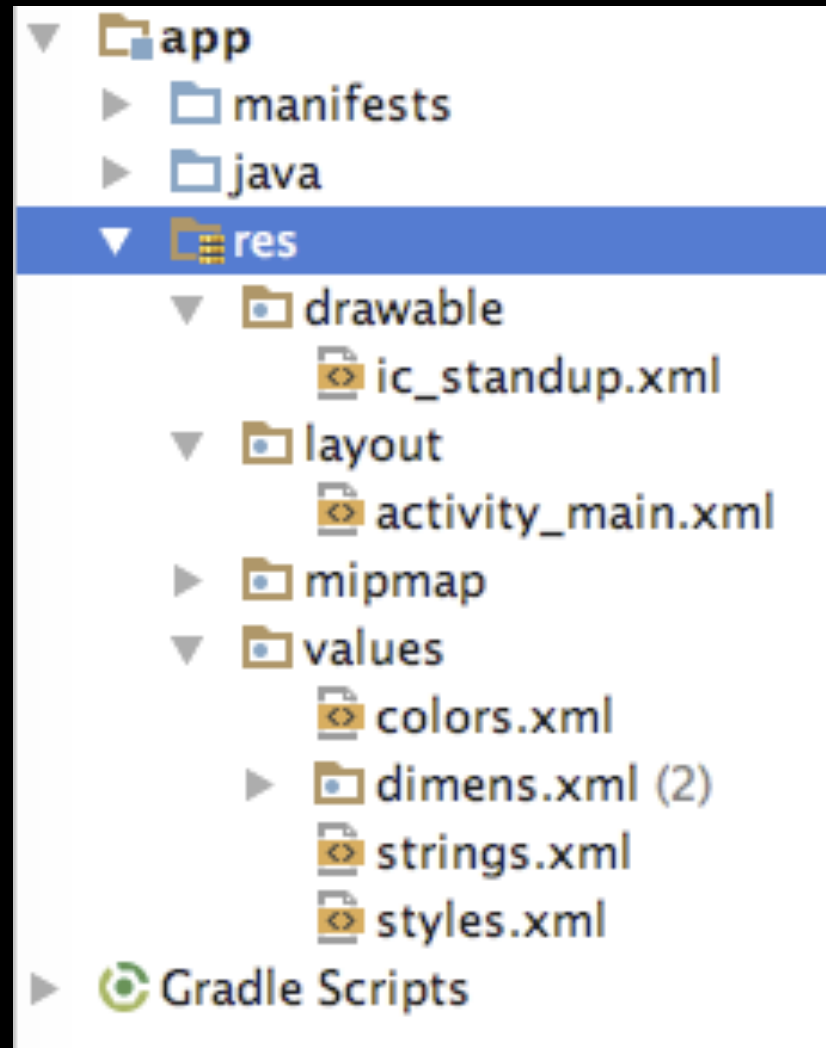
```
final Button button = (Button) findViewById(R.id.button_id);  
button.setOnClickListener(new View.OnClickListener() {  
    public void onClick(View v) {  
        String msg = "Hello Toast!";  
        Toast toast = Toast.makeText(this, msg, duration);  
        toast.show();  
    }  
});
```

RESOURCES

RESOURCES

- Separate static data from code in your layouts.
- Strings, dimensions, images, menu text, colors, styles
- Useful for localization

WHERE ARE THE RESOURCES IN YOUR PROJECT



Resources and resource files stored in res folder

REFER TO RESOURCES IN CODE

- Layout:

`R.layout.activity_main`

`setContentView(R.layout.activity_main);`

- View:

`R.id.recyclerview`

`rv = (RecyclerView) findViewById(R.id.recyclerview);`

- String:

In Java: `R.string.title`

In XML: `android:text="@string/title"`

MEASUREMENTS

- Device Independent Pixels (dp) - for Views
- Scale Independent Pixels (sp) - for text
- Don't use device-dependent units:
 - Actual Pixels (px)
 - Actual Measurement (in, mm)
 - Points - typography 1/72 inch (pt)

5 MINUTES BREAK

DEMO

QUESTIONS?

