



CS260 Intro to Java & Android

07.AndroidIntents

Winter 2015

Application Organization

- The Android Architecture is designed so an application is composed of well-defined Activities
- One Activity is the main Activity launched by the launcher
- Each Activity is reachable via intents

Intent

- An intent is a message facility for late run-time binding between components in the same or different applications
- The main use is launching activities
- Intent information
 1. action – the general action to be performed
 2. data – the data to operate on

Starting new Activities

- Activities can be started:
 1. *explicitly* – a class to load is specified
 2. *implicitly* – an action to be performed on a piece of data is requested

Explicitly Starting An Activity

- One Activity shows up in the launcher
- Other Activities need to be reached somehow
- Intents are messages
- Android is about intents and receivers of intents
- Explicitly starting an Activity:
`startActivity(intent);`

Two Explicit Scenerios

Consider Activity (A1) launches Activity (A2)

- Question: Does A1 need a result from A2?
- If so, then launch A2 as a sub-activity so A1 knows when A2 is done
- If not, then launch A2 as a regular Activity

Explicit Activity Startup

- Activity startup requires:
 - an intent
 - a choice of how to start the Activity
- Remember, intents “encapsulate a request” for some other component (Activity right now) to do something

startActivity

- The easiest way to start an Activity is:

```
startActivity (new Intent (this, Classname.class) ;
```

The arguments for Intent in the above case are:

this – a Context of the application package implementing the class

cls – the component class that is to be used for the intent

Remember

- The previous statement will launch the Activity Classname
- You **MUST** make sure the Activity classname exists in the AndroidManifest.xml file

URLs

- Most of us are familiar with HTTP (Hypertext Transfer Protocol)
- HTTP is a system of verbs plus addresses as URLs (Uniform Resource Locator)
- addresses indicate a resource such as graphic, Web page, server-side application, ...
- verb is what should be done
- e.g. `<form action="http://site" method="post">`

URIs

- Remember, an intent is an action plus data
- In some cases, the data is expressed with a URI (Uniform Resource Identifier) which is a “string of characters” that identify a name or resource

Intent Result

- e.g. new Intent (Intent.ACTION_VIEW, “content://contacts/students/0016”)
- Passing the above intent to Android results in Android finding and starting an Activity capable of viewing the specific resource

Today's Problems

1. Add an alert using `alertBuilder` that displays some kind of alert if either of the additional operand files are blank
2. When the Button `HELP` is pressed in the main Activity of your Calculator application, you are to start an Activity that displays the following:
Pressing `COMPUTE` - performs the addition
Pressing `CLEAR` - clears all input fields
3. Finish Assign #3 if not already done
4. Start on Assign #4