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 Scenarios

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