CS260 Intro to Java & Android 07.AndroidIntents

Winter 2018

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

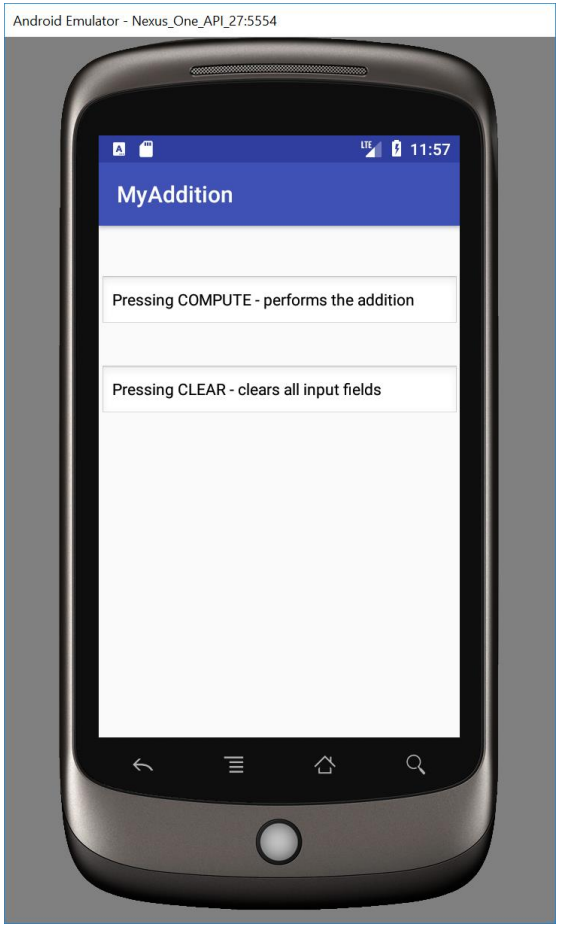
Intent Result

- 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

Problem

1. 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



Problem

- Copy MyAdditon and Addition from the CS260-01 Public folder and hook them up following the instructions on R – Creating JAR files and R – Add JAR to Android Studio