Name: _____

ROSE-HULMAN INSTITUTE OF TECHNOLOGY **CSSE490 Android Application Development**

Lab 7: AdapterViewTutorials

The purpose of this lab is learning about some different AdapterViews. This should complement the work we did in lecture. The goal is to get a big picture overview of why Adapters and AdapterViews are so useful in Android programming. The Google tutorials (developer.android.com) make for a great (and fun) introduction. This lab is also short because you have a sprint coming up.

_____ Part A: Grid View
_____ Part B: Auto complete
_____ Part C: Spinner

In order to check off this lab open your emulator or phone and your instructor will check off the parts. It takes too long to load each one from Eclipse. Open all apps so that they have been recently opened then just long press on the home button to quickly jump between apps to check them off.

Part A. Grid View

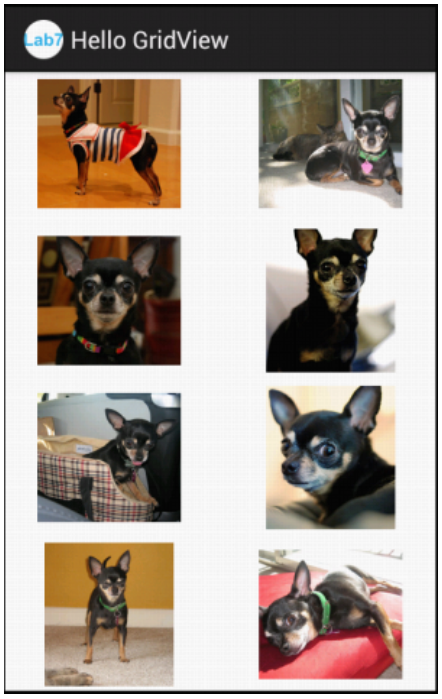
The Grid View tutorial shows you how to arrange the views differently. Really it's not that different than a ListView. ListView fills the entire width with each view, GridView lets you put multiple Views on the same horizontal row. When that row is full it goes to the next row.

This tutorial uses a custom BaseAdapter since it wanted more than toString values. It uses ImageViews as the view of choice but GridView can do much more.

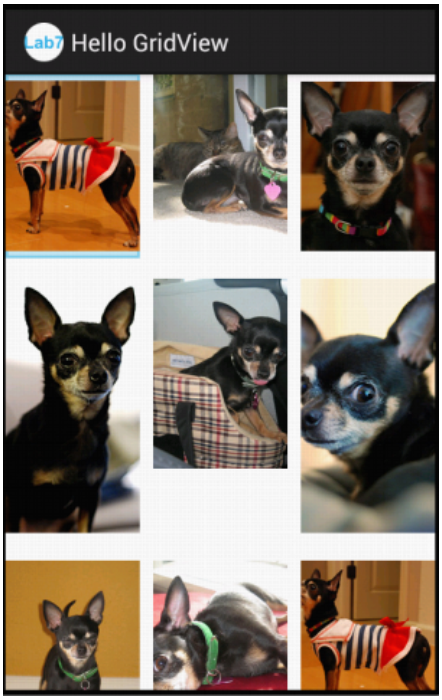
First get it working by finishing the provided code. Then start playing.

Notice that you needed to repeat images in the array to get the nicely-scrolling image above.

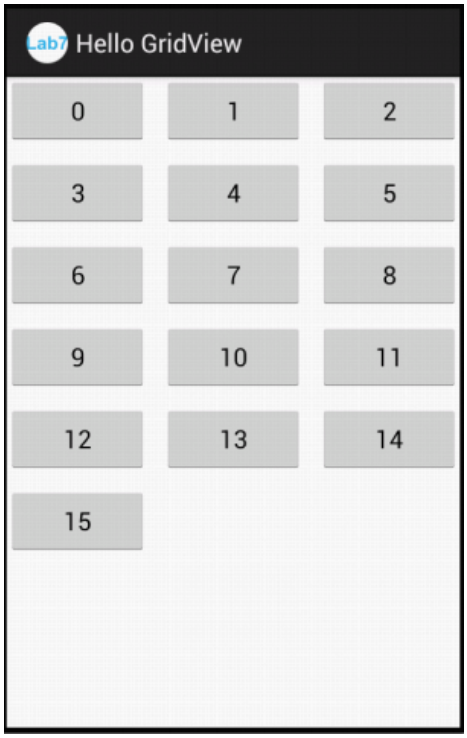
First change try changing the size of the images from 85 x 85 to 160 x 160. Then play around with the number of images per row in main.xml. See what it looks like with 2 columns (and remove the column width). See if you can make this.



Then, call setAdjustViewBounds with true and with false, like they suggest after step 6 in the tutorial:



And for your final trick discard all of the image stuff and make buttons. Make 16 buttons with 3 columns. For your checkoff show this image to your instructor with Buttons instead of images.



The point? A GridView can contain any view, just like ListView can. Button grids can be handy too.

However, be warned :you'll find that your onItemClickListener no longer works (no Toasts appear). It appears that the buttons consume the clicks before the gridview ever sees them. The solution is to create an OnClickListener in your adapter's getView() method:
http://stackoverflow.com/questions/8183609/onitemclicklistener-not-triggered-on-android-gridview
http://www.stealthcopter.com/blog/2010/09/android-creating-a-custom-adapter-for-gridview-buttonadapter/

Part B. Auto Complete

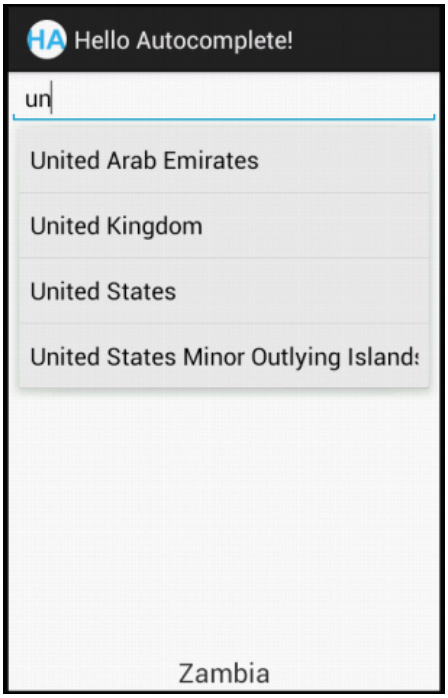
Alright, the title of this lab is "AdapterView" Tutorials and an AutoCompleteTextView is not 'technically' an AdapterView. It's a subclass of EditText not AdapterView, but the approach to using an AutoCompleteTextView is VERY similar to the AdapterView concept. Plus it's a good tool to add to your toolbox of skills.

Read the segment on Text Fields here (interesting stuff about keyboards):
http://developer.android.com/guide/topics/ui/controls/text.html

At the bottom, you'll also see a skeleton of an example using autocomplete, which uses an adapter. Name your project **HelloAutocomplete**. Go through the tutorial, and also have it display the most-recently-selected country at the bottom of the screen. When you finish the tutorial it

should look like this. By the way, you can find a pre-made string-array resource with all the countries at this link. Glad you don't have to type them all!

http://stackoverflow.com/questions/6788013/android-string-array-with-all-countries-in-different-languages



Part C. Spinner

I'm not sure where the name 'Spinner' comes from, but this widget, similar to a DropDownList or ComboBox, can be a very handy UI component. Do the tutorial. This tutorial is also interesting because it uses a convenience class method instead of a constructor for the ArrayAdapter. When the array is predefined and stored into a string-array reference that's a very slick way to go.Make sure a Toast message when each planet is selected.