

Android - Fall 2012

Assignment 2

Now that you are a little more familiar with the built in views and layouts, you are going to create your own custom view. The Android SDK provides lots of really useful views and controls, but it does not have everything. There may come a day when you need something that does not exist. Our goal with this assignment is for you how to make your own views should that situation arise.

NOTE: You will be using your view on the NEXT ASSIGNMENT. Make sure that you do a good job on this assignment or it will hurt you on the next.

You will be extending the View class to make your own custom view. This view can be anything. It can even be a control that already exists (like a slider), so long as it has functionality beyond the existing control.

Your view must expose some kind of listener interface (similar to the OnClickListener) that can be used by the Activity. For example if you were making a light switch, you would need to have an OnSwitchFlippedListener, or something like that.

In addition to your view, you will make an Android app that serves as a demo for that view. This app should allow the user to test the functionality of your view.

Requirements

1. You must extend the View class. You may not extend Button, or ImageView or any other subclass of View. Any and all functionality of your view must be made from scratch.
2. Your view must expose one or more listener interfaces. Build it as if it were part of library. It should be simple enough that another student could use your view.
3. Your view must be capable of being dynamically sized. This means you must override the onMeasure() method.
4. You must do your drawing from scratch. This means using image resources AND using the canvas drawing calls to make your view. (you must do use the canvas)

Restrictions

1. No xml layouts.
2. Cannot extend any class other than View.
3. Your view cannot contain instances of built in views. This means you cannot use addView(...) to put a button inside your view.

Grading

This assignment will be graded similarly to the previous assignment. If you make a view from scratch that sizes dynamically and uses an interface to inform the activity

of relevant events, you will get a B+. If your view is elegant, smooth, pretty, and (most importantly) useful you will get an A.

Please be creative and make something that is functional, useful, and attractive. One of the strengths of iOS is that the interface is clean, attractive, and natural to use. Lets try to elevate Android to that same standard.