Homework 9: Custom View

Due Monday, 7/27 @11:59am

Question 1 (10 points): Write a fragment called "DemoFragment". Each button in this fragment should lead to the demonstration of one question (or one sub question) in this homework.

Question 2 (30 points): In this exercise, you will use the provided files.

Instruction:

- Copy all the files to the corresponding folders.
- You need to modify the name of the custom views in all the layout files (the name includes a package name which may be different between yours and mine).
- If you use my AndroidManifest.xml, you need to change the package name inside this file to the name that you choose for your project; otherwise, you will see errors.
- In the drop-down menu, you should see three items, each corresponding to one of the following tasks. You will be given the code for the first item at the beginning; after you finish the first task, you will be given the code for the 2nd and 3rd items (you need to uncomment some code in ExerciseMainActivity.onNavigationItemSelected() to continue on tasks 2 and 3).

Tasks:

1) In the provided "Canvas Exercise" code, there are several problems (a correct version should look like Figure 1). First, the logo is not in the correct place. Second, the scale does not show up. Third, the hand points to the 0 degree (it should point to 315 degree, like in Figure 1). Fourth, there is no shading in the circle. Please correct the provided code, so the result looks like Figure 1. Search for the keyword "Exercise" in the code to find the places where you need to pay attention to.

2) In the "Thermometer Exercise", when you slide the SeekBar, the needle in the thermometer view should point to the correct position. You can look at the thermometer fragment, and see what function is triggered when you slide the SeekBar. You just need to put the right code inside that function.

3) In the "Rotary Knob Exercise", the knob does not turn when you swipe on it. First, fix this problem. Second, make the two knobs synchronized (i.e., turning one knob causes the other one to turn to the same angle)

Question 2 (60 points): Implement a custom view that functions like a rotary knob, and write a fragment that displays 3 such rotary knobs (one big and two small). See the attached figure for a sample fragment layout. Your custom view should support the following features that need to be demonstrated in the fragment:

- When swipe on the rotary knob, the knob should turn, and the lights should be turned on/off accordingly.
- A TextView in the fragment should display the angle of the knob.
- When the big knob is turned, the smaller ones should be turned to the exactly the same angle.
- The color of the lights can be specified in the layout file. In the three knobs that you include in the layout, you should use three different colors for their lights.

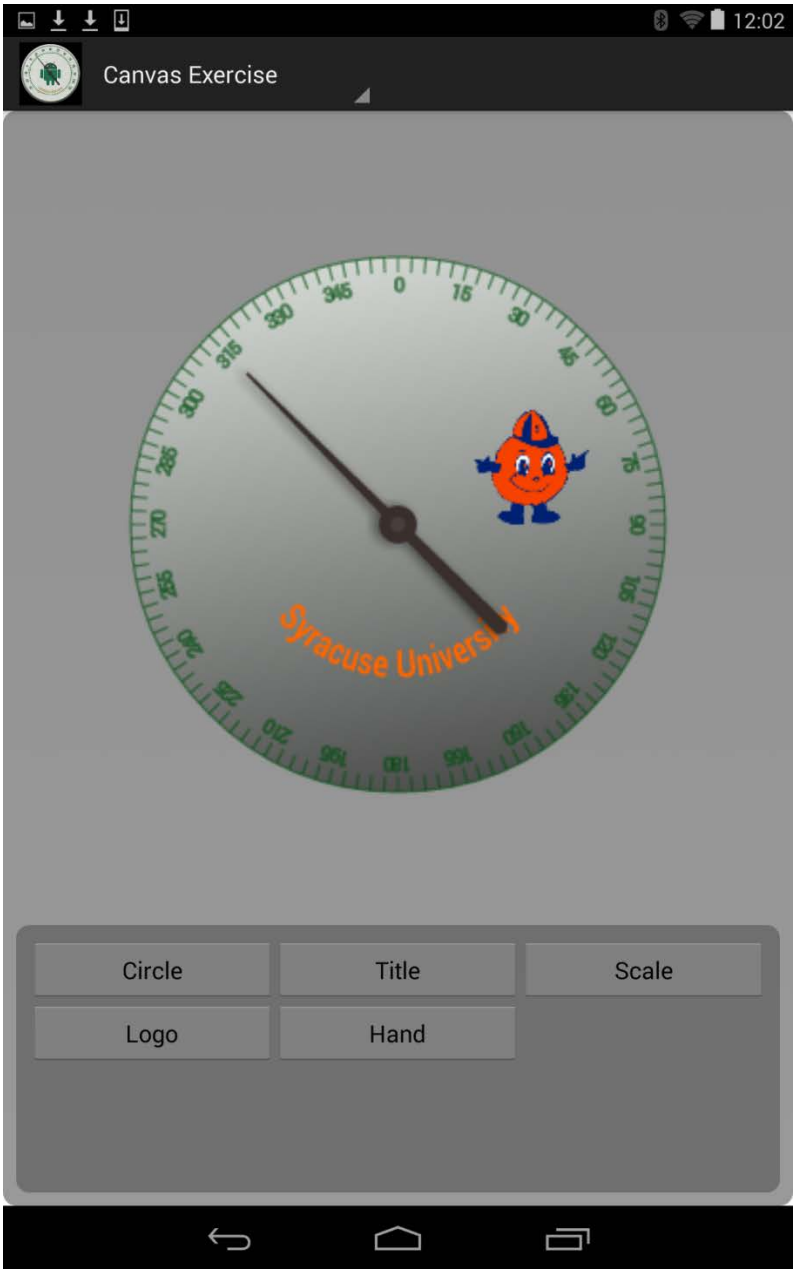
12:02
Canvas Exercise
Syracuse University
Circle
Title
Scale
Logo
Hand

Figure 1

Figure 2: Rotary Knob