

CS 301 Homework: Custom Coloring

For this assignment, you will implement a GUI that displays a picture of your choice and allows the user to interact with the picture in order to change the colors of its various elements.

No Starter Code

There is no starter code for this assignment. However, a `CustomElement` class and two subclasses have been provided on the course website. You may find this code helpful but you are under no obligation to use it or even look at it. Instances of these classes could be used to store each element of your drawing. You may wish to add additional subclasses of `CustomElement` to create a more attractive drawing.

Specification

- [15%] Design a tidy user interface that includes the following elements:
 - a large `SurfaceView` for displaying a drawing
 - a `TextView` for displaying the current drawing element
 - three `SeekBar` views for selecting the Red, Green and Blue components of a custom color. These should be labeled “Red”, “Green” and “Blue” using additional `TextViews`. And each `SeekBar` should allow the user to select a number from 0 to 255.
- [15%] When your app runs, it should display a custom drawing on the `SurfaceView` that contains at least six independently modifiable elements, each with a name. Additional, unmodifiable elements can be added if you like.
 - For example you might draw a breakfast with these elements: plate, juice, eggs, bacon, pancake, tablecloth.
- [25%] Each time the user taps one of these elements, the element's name should be displayed in the `TextView` assigned for that purpose. Furthermore, the `SeekBars` current positions should be adjusted to reflect the current color of the element. For example, if the user tapped a brown hat, the `TextView` would display “Hat” and the `SeekBars` would adjust so that the Red, Green and Blue `SeekBars` would have values corresponding to the hat's shade of brown.
- [25%] If the user adjusts any of the `SeekBars`, the most recently tapped element will change color to reflect the change. If the user has not tapped any element yet, your program should behave in a reasonable manner.
- [20%] Your program should conform to the CS301 Coding Standard. Make sure that each .java source file contains an appropriate header that includes your name and the date.

Turning in your Homework

You are responsible for following these instructions correctly and turning in your homework assignments properly. Failure to follow these instructions will hurt your grade. It also will frustrate those who are grading the assignment.

1. Include your name in a `@author` tag at the top of each .java source code file.
2. Please be certain that your project has a unique name so that all the student projects can be loaded into the same workspace.
3. Create a new repository on github.com for your project. Check your project into this

repository.

4. Complete the survey on the Moodle page to enter the URL for your github.com repository.

Do not make any changes to the repository after your due date. If you do, the assignment will be graded as if it had been turned in at the time of the latest change.