CSC 122: Gravity Simulator

Graphical User Interface

1 Introduction

In this lab, you will create a gravity simulator. The screen displays an explanse where the user can create planets by touching the screen. These planets have mass and therefore gravitate towards other planets and pull other planets towards themselves with their gravity. When planets collide, they form larger planets. Other features may include an increase in planet size depending on how long touch is held down and the ability to sling already created planets.

2 Objective

This lab will involve all previously learned material while requiring you to implement it in a graphical user interface (GUI).

3 Activity

The lab requires you build a GUI from scratch. There are many ways to go about this, but perhaps the most logical is to start by creating the screen which displays the space where the planets will be created and moved about. After the display is set up, methods that allow planet creation and define the planets qualities should be made. Last, the methods that simulate the movement/merging of the planets due to their mass and relative gravity are needed. There should also be a button to start the movement of the planets (planets can be made before start is pressed and gravity is taken into effect), a button to pause the movement and a button to lock/unlock the screen (prevent or allow touch events).

4 Conclusion

This lab should have been fairly difficult and tested all of the knowledge learned in CSC 120 and previous labs in this class. It should have also required the use of critical thinking in order to prepare the GUI.

5 Deliverables

Deliverables will be a directory including all files needed to make the program work. The specifics are unknown at the point since the project has not yet been finished.