CSCI 325 Programming II – Final Project

DUE: Friday, April 25 – 2:00PM

This assignment will count as your final exam for this class. You will work together with your classmates to develop a medium-scale project. You will divide the labor for the project and keep track of all source code progress via a shared repository on GitHub. In addition to developing the project, you will give a presentation as a team discussing what you made and how you worked together to accomplish this. Below are a few options for projects, as well as a rubric for the assignment.

1. **Tetris Clone**: You will work together to develop a clone of the classic puzzle game Tetris. You will require all seven different tetrominoes found in the game and the ability to clear horizontal lines when they have been filled. You will also need a graphical element that displays all pieces on the game board, as well as the current score and total lines cleared. Finally, incorporate a way to end the game when the pieces reach the top of the game screen.
2. **Solar System Simulation**: Create a top-down graphical simulation for the solar system. Be sure to include all nine planets and the Earth's moon. Display the sun in the center of the screen with each planet orbiting around the sun. Detect when the mouse hovers over an object of interest and display a tooltip with the name of the object and a couple quick facts about it.
3. **Vending Machine Simulation**: Build a software simulator for a vending machine. Keep track of at least a dozen different items inside the machine. Display all items available for sale until they are out of stock, then clearly show that the machine is out. Finally, keep a log of all vending machine transactions that can be displayed when a button is clicked on the main interface.

Category	Points	Description
Specifications	125	All requirements are met in the code as described above.
OOP Design	75	Object-oriented code is designed intelligently. Encapsulation is employed to keep related variables and methods together in classes. Inheritance and polymorphism are used to capture elements that are shared between classes.
Documentation	50	Code is sufficiently documented via comments. All functions/classes have a short description of what they do. Parts of code (except very simple parts) have a brief explanation of their purpose. Files have header comments including author(s) and description. The repository features a README file providing an overview of the project and any necessary information for code compilation.
Presentation	50	How was labor divided between teammates? How did you design your project? Did you have to change anything from the plan? What did you struggle with while developing this project? Did you finish everything in the project? What did you learn?