

Phase 4 Report

2.1 The Game

Discuss how much you have been faithful to your original plan and design, and how the final product varies from that plan. Justify what has changed, and what are the most important lessons you have learned:

- We were quite faithful to all the classes we planned in our initial design and ended up implementing all of them (with some name changes) but we ended up modifying the organization of the classes and adding inheritance and abstraction into our design via superclasses.
- We did end up implementing almost all the attributes and methods listed under each class, but we also added more that we didn't think of initially.
- We also ended up making a couple additional classes that we hadn't declared before:
 - Stopwatch
 - Score
 - Added GameState classes
- In our original plan we divided the Rewards and Enemies into two separate superclasses
 - in our final product this changed and we had just one object superclass class for regular rewards, bonus rewards, and stationary punishments
 - this is justified because all these subclasses had a lot of overlapping functionality and required common attributes and methods, so we were avoiding code duplication
- We also ended up putting Player and Moving Enemies as subclasses under the same superclass Character, which we hadn't planned for ahead of time, but realized these two objects had many common methods and attributes required (unlike the Object class where the items were stationary, Player and Moving Enemies need methods regarding movement, collisions, and to navigate tiles etc). Again, this is justified because having a superclass avoids redundancy via repetitive code.
- We added a GameLauncher class to call GameScreen (initially called Board) to start the program

One of the lessons we learned over the course of this project was that following the principles of object oriented design can reduce much redundancy in code, make it easier for others to understand, and also make it easier to maintain and make further updates or changes to. We had the opportunity to practice working on a software project in a team, which required us to develop our communication and organization skills. We learned how to execute the stages of the iterative software development process taught in class, the challenges that can occur along the way, and how to problem-solve as a team. We also learned about version control and git. Ultimately, the

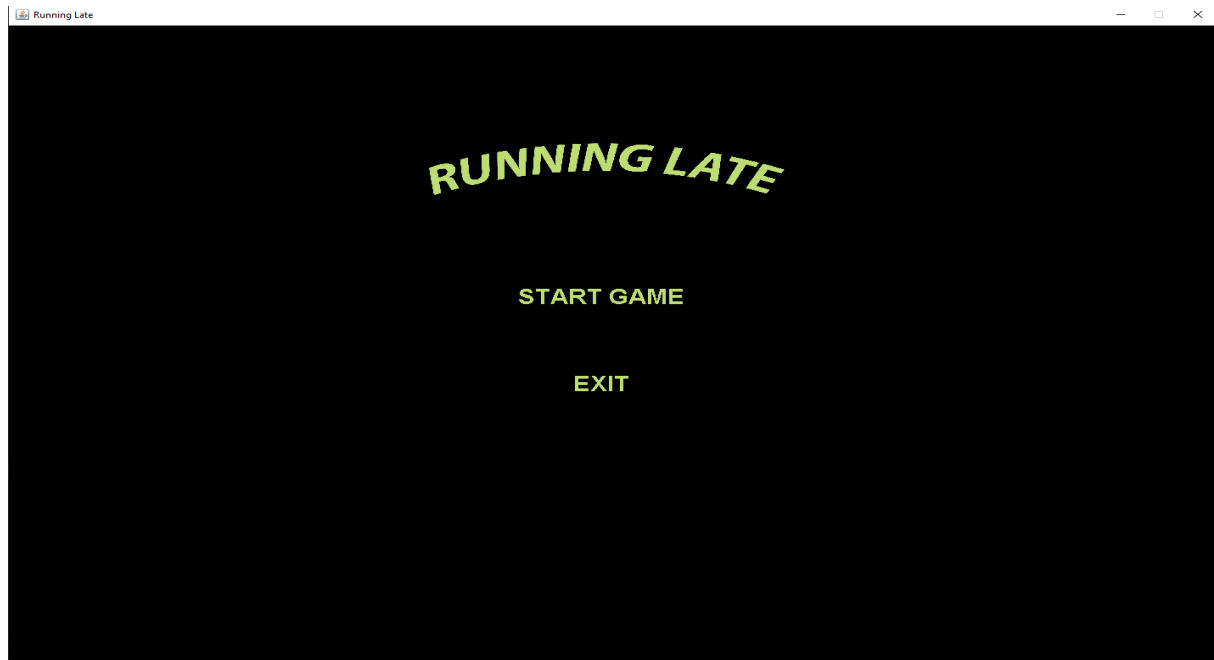
most important lesson we learned was project management and how to effectively work in a team.

Game Description:

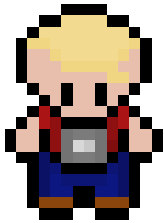
In *running late*, you are a student who has forgotten all their homework on campus. Not wanting to redo them all, you decide to sneak back in to try and get them all back but you soon realize that you aren't alone. There are teachers everywhere, and security guards patrolling the area making sure no students are around. Your goal is to collect all of your homework and leave without getting caught! The rules are simple, you must collect all homework pieces scattered through the map in forms of paper. You will gain points for each hw you collect and also for collecting the red books that will appear throughout the map for a certain amount of time. Don't run into any teachers as they will deduct points from your score. Make sure your score doesn't fall below zero or that you don't get caught by the patrolling guards chasing you throughout the map or else you'll lose the game. Once you've collected all your hw, only then will the exit activate at the bottom and you will be able to leave campus and win the game!

2.2 Tutorial

Open the `running_late.jar` file to get started on the game. After successful launch, it should run the program leading you to the Main Menu screen. Here you will find the title “Running Late” and two buttons highlighted “Start Game” and “Exit”.



Before we get started, you should know that to move the player use the *up*, *down*, *left*, and *right* keys. Otherwise, below is a legend to understand what each sprite/object is:



Player (You):

This character sprite is you, and will be your best friend in navigating towards victory!



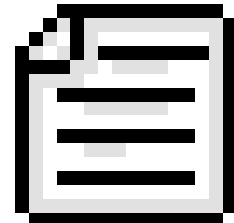
Moving Enemy:

These are the opponents of the player capable of moving. Avoid them since coming into contact will mean “Game Over”.



Idle Enemy:

These are the stationary opponents of the game. Avoid them since coming into contact repeatedly will result in negative score; meaning “Game Over”



Assignment Papers:

These are the objects you need to pick up to obtain points. Collect all of them to activate the “Exit” tile.

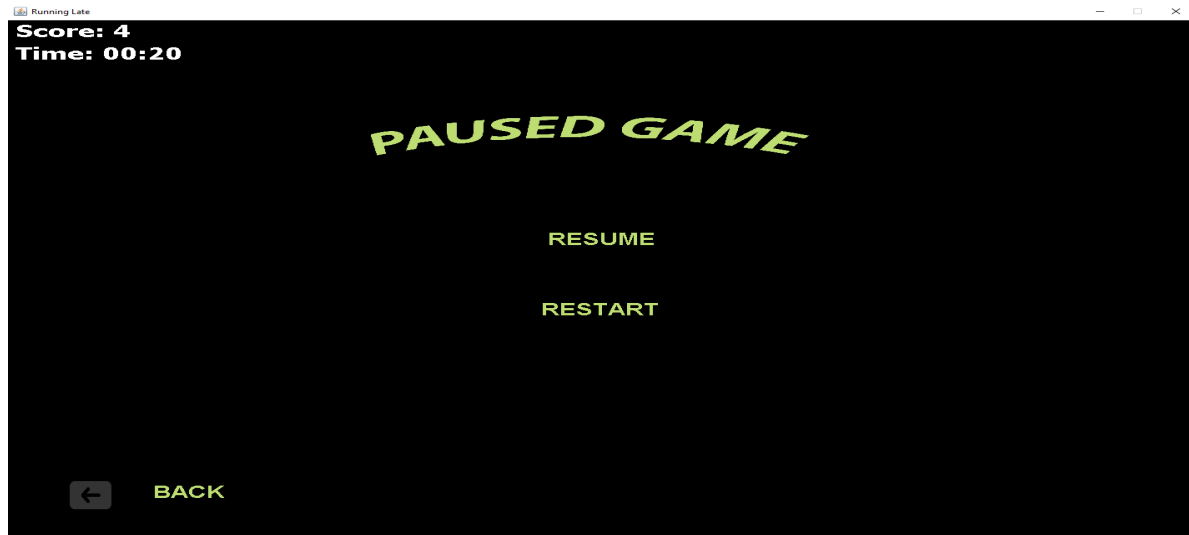
Otherwise, the other other interactable objects are the exit tile and bonus rewards (books). Assuming you don’t want to close it after opening, click “Start Game” to get started.



While playing the game, you will notice that there are grey tiles shaped in different ways. These are the walls designed to give the map a unique layout. Use them to maneuver your way past the

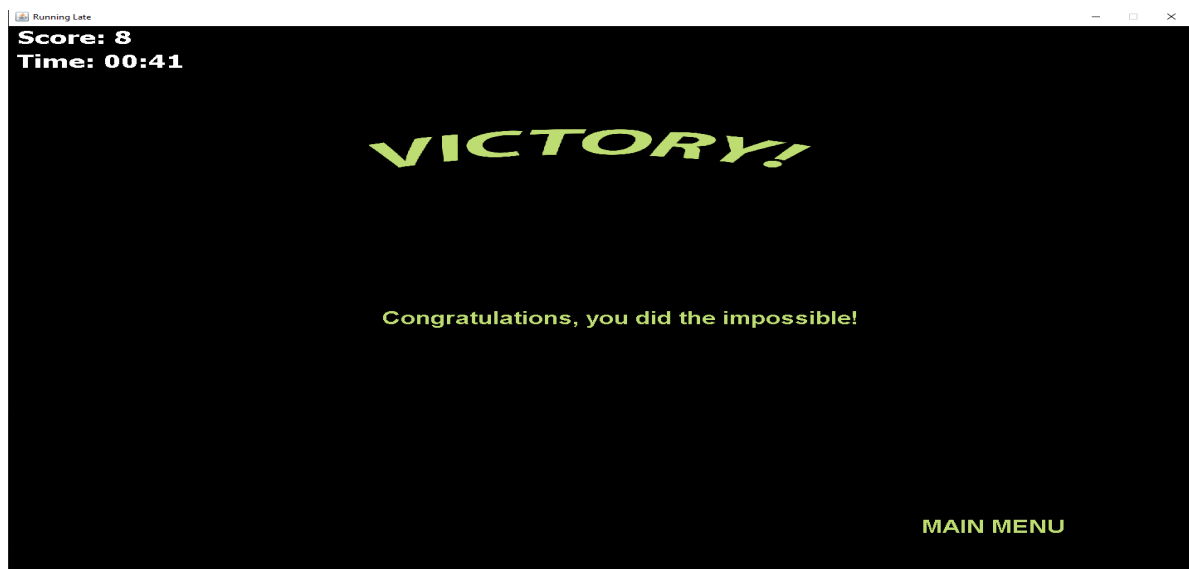
moving enemies, as they are quite fast! A word of advice I can give you to win the game, is to bait the moving enemies as close to you as possible then move around them!

If you get scared or need a break, don't worry you can pause the game by clicking the "Esc" key on the keyboard.



The buttons displayed are relatively self explanatory, but otherwise you can see your score and time to keep track of your progress!

When you successfully reach the exit with the required documents, you have successfully completed the game! To continue simply click on the Main Menu button to return to the landing page.



If you lose, do not be discouraged as it is only the beginning! Your stats will display and you can click on the Main Menu to return to the landing page, or New Game to start a fresh run.

