# Phase 4 - Report

**The Game:**

- <u>Overall Idea:</u> The game's, Catch the Code's, theme or background story is of a coder getting trapped into the computer memory. Confined by barriers of binary code and walking on the memory tiles, our coder has to collect all the rewards i.e., pieces of code such as: HTML Tags, Semicolons, and Curly Brackets. The coder has to avoid getting caught into the Internet traps (punishments) and avoid running into the enemy i.e., the backspace key. The coder may even collect the bonus reward of a laptop. The ultimate goal of the coder is to reach the end tile and exit the memory with all pieces of code collected.

- <u>Design Changes:</u> The overall game idea didn't change at all, but the implementation model (the UML Diagram) went from being an amateur diagram of just the basic 8 classes we were able to identify in the first phase to one with 20+ classes (added during the implementation phase 2, testing phase 3, and refactoring and increasing code efficiency during phase 4) that made use of the various associations and relationships between objects and classes that we were taught of in class. Removing and adding classes (modifying the class structure and hierarchy as well) was needed in order to firstly make the game work, and secondly, improve the code readability and understandability along with increasing modularity and efficiency.

- <u>Lessons Learned:</u> As mentioned in our slides as well, we faced some difficulties during the implementation (Phase 2). We were somewhat lost as to where to begin from, and once we all did our individual work we had a hard time integrating the classes and had to change a lot of code. Thus, maybe starting ahead of time and assigning some time to research before directly going in to write the code would have been a better idea. Finding the work assigned to each one of us somewhat challenging, we all looked up different resources to learn from or draw ideas from and thus ended up having singular pieces of code and we didn't know how to make it all work together.
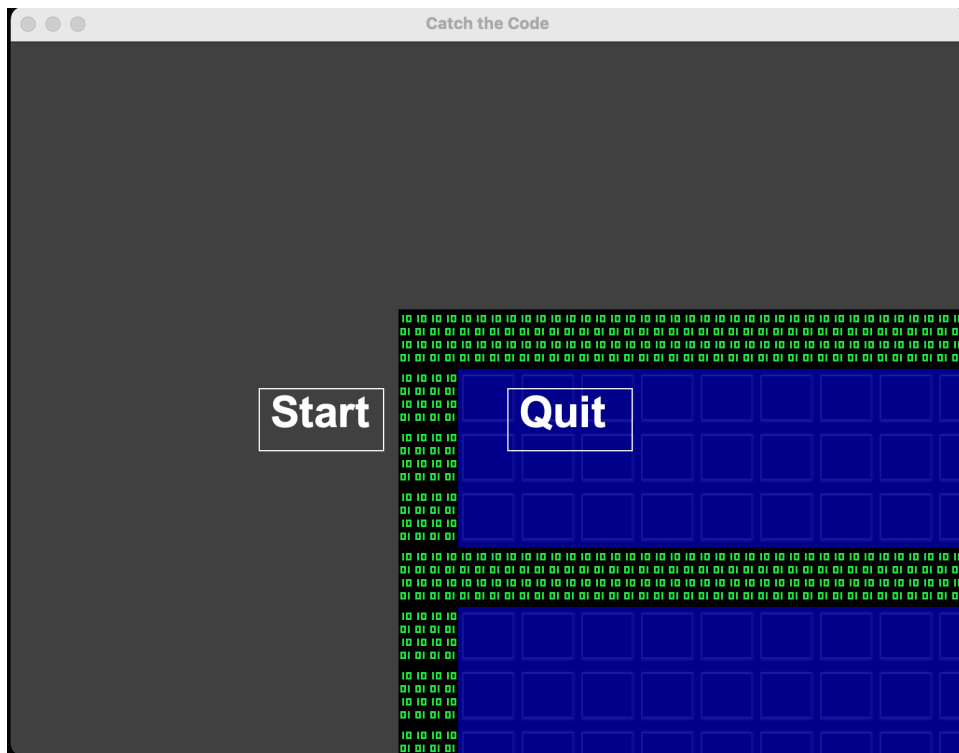
**THE TUTORIAL/DEMO:**

***Video Tutorial Link of Catch The Code:***
https://youtu.be/6KCctidLeOo

**Use Cases:**

- **Start the Game**



- 
- Description: clicking the start button starts the game.

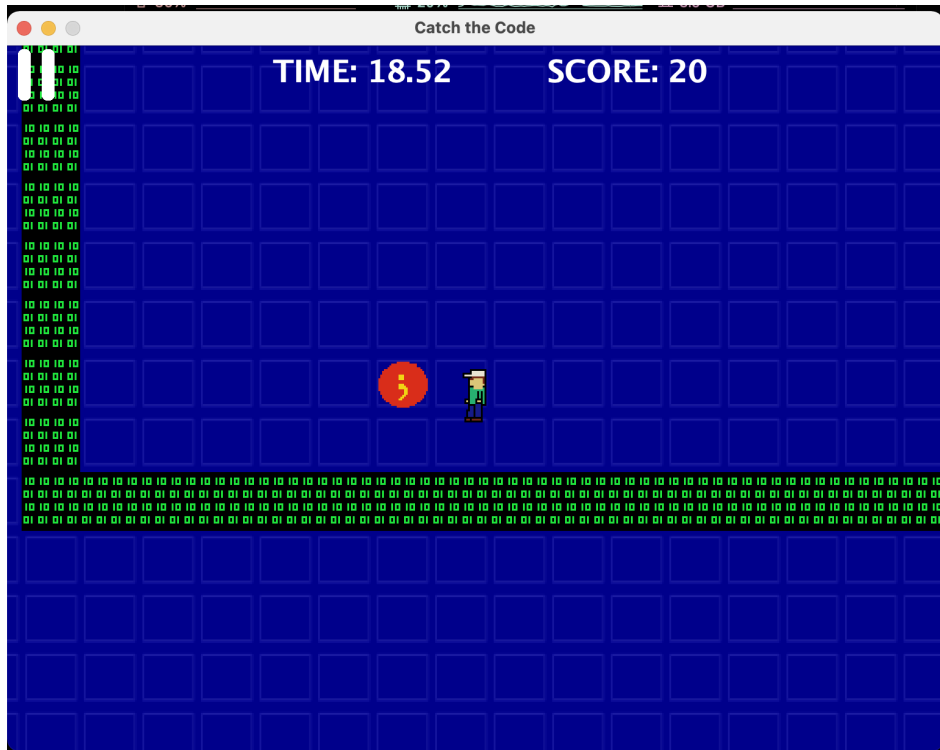- **Stop, Resume, End the Game**



-

- Description: pressing the "p" key on keyboard pauses the game, pressing the "r" key resumes the game, and clicking the "Quit" button will end the game.


- **Save the Game**



-
- Description: press the "s" key to save the game to local drive.

- **Win The Game**

- 

- 

- Description: collect all rewards and go the end tile, and will win the game

- **Lose the game**:

○ Case 1:



○
○ Description: player steps on a trap and score goes below 0, player will lose the game.
○ Case 2:



○
○ Description: player interacts with the backspace bar (enemy), player will lose the game.