

CSCI 205 - Software Engineering and Design

Final Project - Super Omar.io

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## **User Manual**

### **General Problem Statement**

For our project, instead of solving a specific problem, we decided to create a game. We wanted to build a custom version of the famous platform game Super Mario. We wanted the game to be easily recognizable as being based off of Super Mario, so many of its features are the same. Each level has a background environment with platforms that the player can stand on. All the graphics are pixelated, and the player has a simple running animation. As the player moves through the level, they must avoid falling off of the platforms and running into the enemies moving back and forth on each platform. Just as in Super Mario, the player can kill enemies by jumping on top of them, and collect objects for extra energy. To finish the level, the player must get to and raise a flag.

However, even with all of these similarities, we still wanted our game to have its own identity and features. For example, our version is called Super Omar.io, and has its own unique backstory for the title character. All of the graphics in the game were created from scratch to follow this backstory, from the background to the player and all of the objects that the player can interact with. Our game level is also longer and more difficult than the first few levels of Super Mario. Our main goal with this project was to build a game that a user could play repeatedly in order to entertain themselves while bored, or more likely, trying to procrastinate. We hope that the difficulty level and eye-catching graphics make the game both fun and challenging.

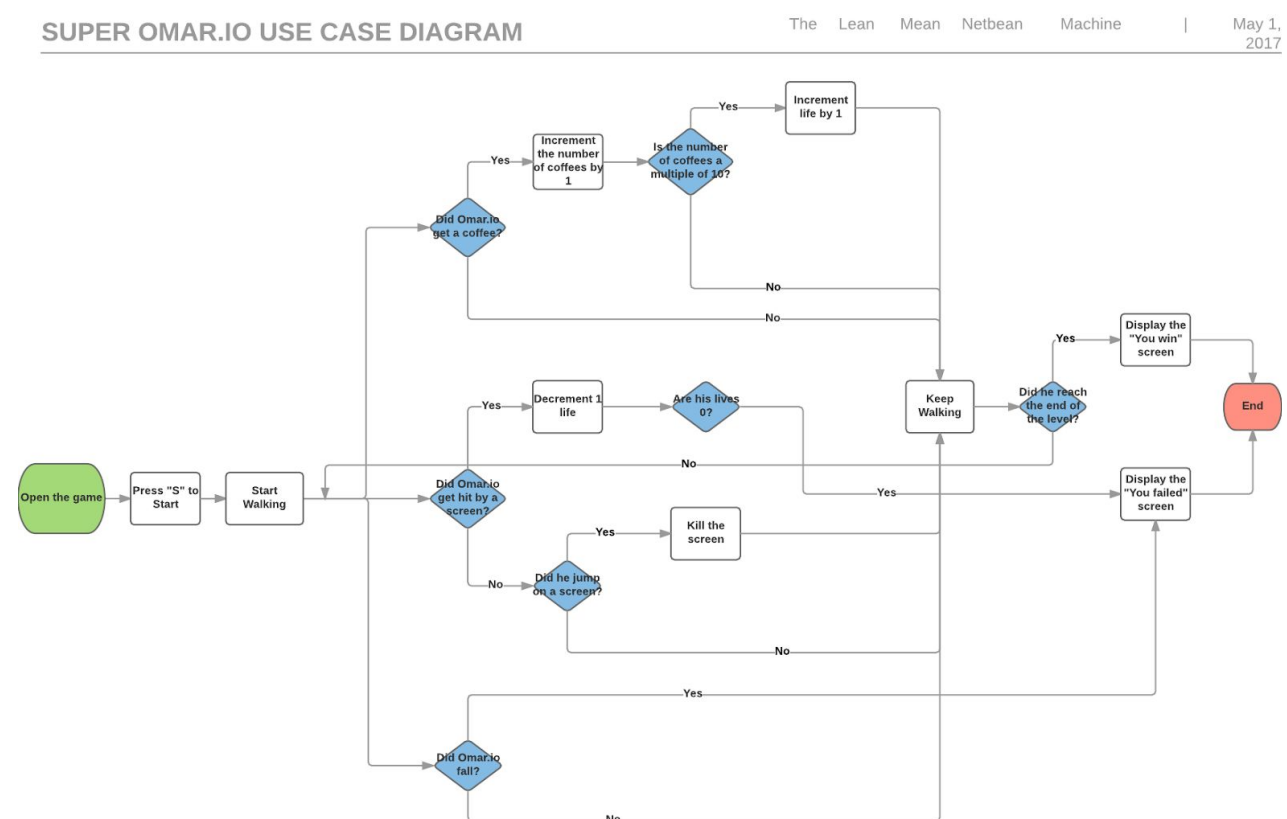
### **Background**

The main character in the game, and the character each user plays as, is named Omario. Omario has a detailed backstory. As a student at the prestigious Bucknell University, Omario is always stuck with an 8am class. This happens every semester, no matter how early he is able to sign up for the next semester's courses. Omario is terrible at getting to his 8am's on time. But in order to pass, he must first make it to class in Breakiron. As the player, your goal is to get through the platforms, past all the enemies and obstacles, to the flag in front of the pixelated Breakiron building at the end of the level. If Omario is up too late working through bugs in his code, it will be much more difficult for him to get to class on time. However, the more coffee he drinks in the morning, the more energy he will have to walk to class. Therefore, blue error screens of death represent the player's enemies in the game, and Starbucks coffees represent energy boosts. If the

player is able to reach the end of the level with at least one life remaining, they win and Omario passes the class. Otherwise, they lose and Omario fails.

## Motivation

Our motivation behind developing this game was that our team wanted to get very creative with the levels and what Super Omar.io can do, but at the same time depend on a structure of a game that was proven to be successful. So although the game is similar in mission to the original Super Mario game, we redesigned everything about the game, from the sprites, to the background, to the winning and losing mechanisms.



**Figure 1.** Use Case Diagram detailing how the player interacts with the other game elements

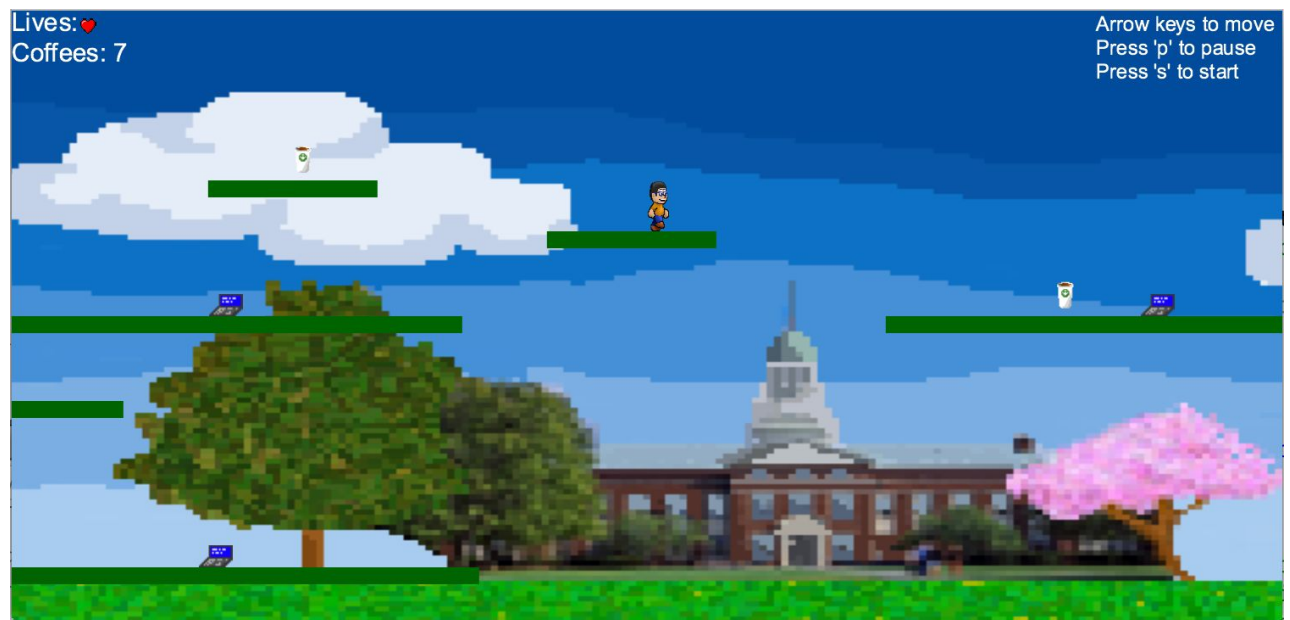
## Basic Game Elements

- Super Omar.io, the game's main character
- Blue Screen of Death, the main enemy in the game
- Starbucks Coffee, which powers Super Omar.io and gives him extra lives

- Background environment showing pixelated versions of the Langone Center, Bertrand Library, and Breakiron Engineering building
- Platforms that Super Omar.io can stand on and jump off of
- Bucknell flag representing the end of the level
- Display of the lives left and number of coffees the player has
- Start screen showing the title of the game
- End screen when Super Omar.io fails
- End screen when Super Omar.io passes
- Music to accompany the different screens

## **Game Instructions**

1. Open the game.
2. Press 'S' to start the game.
3. Move around with the arrow keys and jump with the up key.
4. Avoid getting in contact sideways with the blue screens of death.
5. Jump on the blue screens of death to kill them.
6. Collect Starbucks coffees for an extra life with each 10.
7. If you fall or get in contact with the blue screens of death you lose a life.
8. If you hit a blue screen of death your player will flash, indicating that you lost a life.
9. The number of lives left and coffees that the player has are both displayed in the upper left hand corner of the game screen.
10. If you lose all of your lives you lose the game.
11. If you reach the end of the game with at least one life left, you win.
12. The game can be restarted as many times as you want to play.
13. Press 'P' to pause the game, and 'S' to un-pause or restart the game.
14. The game window can be resized slightly without affecting game play.
15. The game can be scrolled both to the left and to the right, so Super Omar.io can go back to the beginning of the game to retrieve extra coffees if necessary.



**Figure 2.** Screen shot of the game in action, showing the different game elements