

Project Plan and Description

Game Description

The base game will consist of four screens: a title screen, the game screen, and two end screens

- **Title Screen:** The title screen will have two buttons: one to start the game and the other to quit the game. Clicking the start button brings the user to the game screen and clicking the quit button exits the application.
- **End Screens:** The two end screens, depending on the outcome of the game (win or lose), will display a button to quit or restart the game. Clicking the restart button brings the user to the game screen with a reset game board and clicking the quit button exits the application
- **Game Screen:** When first accessed, the game board is displayed in its initial state. There are no moving parts yet as the movement of the other pieces are dependent on when the user finishes their move. The game board itself has a couple of pieces that are fundamental to the game. The premise of the game is to collect all of the potatoes before you exit the maze while avoiding some enemies and traps along the way. There are also optional buffs that the user can collect in the form of cheese placed on the board. The cheese gives the user a speed boost when activated. The enemies that the user needs to avoid are the moving bats. If touched, the user loses all of their hearts and the losing end screen is displayed. The traps, when stepped on, only costs the user one heart. The game is timed and starts when the user makes their first move and ends when they reach the finish area with all of the potatoes collected. Once the user reaches the finish area, the winning end screen is displayed.

Project Plan

Our goal is to meet on a weekly basis to discuss and plan for further development of our game. Before initiating construction, we will start by meeting in person and discussing the concept of the game and conducting research to learn about the possible tools we may need to successfully construct this game. Our second phase would be coming up with our own ideas and sketching them out to create variations of the concept that we would like to potentially build. Then comes the team feedback, where we will meet online and discuss and explain the rationale behind each of our own ideas and why it may be successful. Once everything has been approved and have decided on which idea stands out the most, we will start designing the user interface for it to interpret on how it may actually look when launched. Every week leading up to the date of deployment, we will try to design a feature for the game. We will also be meeting at least once a week in person to discuss our progress and to keep each other accountable. There will be occasional times where we will do pair programming to develop higher quality code and reducing errors. On top of meeting in person, we will also be communicating on WhatsApp and Discord if we have any questions that need to be answered.

Use Cases

Use case: Start game

Actor: Player

1. The system displays all selection buttons.
 2. The player presses the “START GAME” button.
 3. The system flash to the game screen.
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Use case: Quit game

Actor: Player

1. The system shows the “GAME OVER” screen, “YOU WIN” screen or title screen.
 2. The player selects the “QUIT” button.
 3. The system stops running.
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Use case: Move the mouse

Actor: Player

1. The system displays the game screen.
 2. The player controls the mouse by press “up, down, left and right” keys on the keyboard.
 3. The mouse will move when the player give instructions.
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Use case: Play the game

Actor: Player

1. The mouse owns 3 hearts when game start.
2. The player controls the mouse to collect all the potatoes and avoid the moving bats. If caught by them, the mouse loses all hearts and game over, then the system will show the “GAME OVER” end screen.
3. The player controls the mouse to collect all the potatoes and avoid the trap. If trapped, it will cost the mouse 1 heart and game continues.
4. The player controls the mouse to collect all the potatoes and meet the “cheese” buff, this buff gives a speed boost when the player activates it.
5. The player collected all the potatoes, then the finish area will open.
6. The player gets to the finish area, the player wins and game ends.
7. The system displays the “YOU WIN” end screen

Use case: Restart game

Actor: Player

4. The system shows the “GAME OVER” screen, “YOU WIN” screen or game screen.
5. The player selects the “RESTART” button.
6. The system flashes the screen to title screen.

Use case: Game Timer

Actor: System

1. The system start timing when the player moves the mouse.
2. The system end timing when the player wins the game.
3. The system presents the total time on the “YOU WIN” end screen.