

Technical Documentation

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1. Introduction

1.1. Purpose:

The purpose of this document is to explain the purpose and functionality of everything within our program. It'll be explained clearly in order for the reader to gain a better understanding of what is occurring. Lilianna and I (Abel) worked together on each file, implementing pair programming and switching off as driver.

Abel:

- Set up the the layout the of the the maze game
- Worked on applying the A* algorithm to the game
- Made the win pop up screen
- Tied up loose ends for the game (restructured code)
- Fixed bugs like being able to walk through walls and helping with the “New Game” and “Hint Button” functionality.

Lilianna:

- Implemented the maze generation
- Implemented the “New Game” feature
- Enabled the visibility of maze walls within the A* algorithm
- Restructured code for efficiency and readability
- Maintained documentation of code within Github
- Fixed major bugs dealing with the New Game and Hint button

1.2. Definitions, Acronyms or Abbreviations

None are needed

2. Technical Documentation

2.1. Important files:

The most important files would be:

- MazeGenerator.pde: sets up the whole game and allows for resetting the path to the cheese and generating a new maze. Need it to see the entire game.
- Cell.pde: Creates the mazes for the game, without it there is no game.
- searchAlg.pde: will find the path from the player to the cheese, without it there is nothing related to AI in this game

2.2. Source Code Documentation:

- Buttons.pde (Abel and Lilianna): Sets up the appearance of the buttons and their click-ability. If a certain button is clicked it'll make a call to a specific function related to either New Game or Hint.
- Cell.pde (Abel and Lilianna): Creates the initial grid for the maze and starts eliminating cell walls from the starting position of the player. It also handles the display of the cells in the open and closed set and showing the path from the player to the cheese.

- Cheese.pde (Abel and Lilianna): Sets up the cheese image to be later displayed and randomizes the location when a new game is clicked.
- MazeGenerator.pde (Abel and Lilianna): Sets up everything in the game (the design/look), the maze can be seen and every other feature within the game. It also handles resetting the maze and path from the player to the cheese, in order for the new game and hint button to work. Also allows for movability within the game.
- searchAlg.pde (Abel and Lilianna): Contains the A* algorithm which finds an efficient path from the player to the cheese.
- Mouse.pde (Abel and Lilianna): Sets up the player in the game.
- winScreen.pde (Abel and Lilianna): helps display a pop up when the player reaches the cheese to show that they won.
- Images and Gif (jerry.png, queso.png, win.gif): Must be within this file in order to see the player, cheese, and the win pop up.