. User documentation (instructions on how to use your program):

Instructions:

1. Click and open the file saved as FINALGAMEcode.py

2. After the file opens run the program in the file.

3. After the program which in this case is the game opens, the interface that appears is a MENU which is programmed in the form of a mode. In the MENU there are three clickable options : PLAY, INSTRUCTIONS and SCORES, each of these options are also programmed in the form of modes.

4. Depending on which option the user choses to click, the program changes the mode. For instance, if the user clicks on PLAY, the next thing that appears on the screen is a different mode which comprises the grid of the game, where the user can play. Similarly, if the user clicks on INSTRUCTIONS, all the instructions appear on the screen set at a different mode

5. If the user has clicked PLAY, a grid, which is the maze will appear which is structured in the basic format of a pacman grid. A pacman with automated motion moves around the maze, but in times of changing direction a key has to be pressed to carry it out. Right Click - to make it move to the right, Left Click- to make it move to the left, Upwards key- to make it move up, Downwards key- to make it move down.

6. As the automated pacman moves, the main purpose is to eat all the yellow dots to go to the next level, while making sure that it does not collide with a "ghost" on the way. The "ghost" over here are the green-black moving objects on the maze.

7. There are 3 levels in this game, for which to go the next level each time the user has to make the pacman eat all the yellow dots with respective to the number of ghosts there. In each level, the number of yellow dots decrease but the number of ghosts increase, increasing the chance to collide.

8. 'While playing the game, if the user has lost the game i, e, when "GAME OVER" message appears on the screen, it means that the game is over.

9. If the user wins i,e, a YOU WIN message appears on the screen, it means the user has won the game.

10. Each time the user finishes a certain level, a message saying "NEXT LEVEL" appears on the screen, to direct the user that the next level has started.

11. 11. In the mode where user plays the game, there is another clicking option called BACK, which the user can use to go back to the MENU.

. Reflection:

1. Structuring our program:

2. We made a list of the major goals that we have to achieve in terms of making the basic program run. Firstly, to create the grid, pacman, ghost and interfaces. Secondly to provide motion to the pacman and ghosts, Thirdly, creating all the conditions for the motion and levels and lastly, adding sound and extra details to the code. We followed the order mentioned above for working on our program and we kept on debugging constantly.

3. Challenges:

4. We faced the following challenges:

5. 1) Creating the motion for the ghosts.

6. 2)Adjusting the mode when we move to the next level.

7. 3) User preference about the motion of the pacman.

8. Solutions:

9. We obtained the following solutions:

10. 1)We gave motion to the ghosts creating a pre-defined path to the ghosts. We also used a random function and gave coordinated in the range based on the packman's motion, creating the chance to collide.

11. 2) Debugging helped us make the modes work efficiently.

12. 3) We did a user study, with our game. We asked 10 students to play the games, while 6 gamers preferred having an option to make the pacman move all the way by clicking, which is one step at a time, other 4 gamers preferred having the conventional pacman movement, which is what we have now (the automated motion of pacman). Why we decided to keep the automated motion is because we asked to course assistants to try and they suggested us to stick to the conventional way of moving pacman, since it is very important to make the basic things function properly.

. The actual timeline of the development of your project:

We worked on the project for 2 and half weeks. First week, we created the grids, interface, pacman and ghosts. Second week we added motions, levels, created more modes and features. Third week, we combined the the different save codes we had, started working on a single file, checking if it works efficiently, adding sound and lastly the final debugging.

A text file listing all the external resources we used: websites, images, sounds, code libraries, and the names of all the people who helped us:

Websites we have used for code libraries, images and sounds:

1) www.piazza.com

2)https://www.qatar.cmu.edu/portfolios

3)http://allaroundcmuq.wordpress.com/author/allaroundcmuq/page/2/

4)http://alumni.cmu.edu/s/1410/alumni/index.aspx?sid=1410&gid=2&pgid=368

5)https://docs.python.org/2/library/winsound.html

People who have helped us:

1) Yousuf Akhlaq

2)Mariamma Thomas

3)Maher Khan

CMU Pacman Team

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