**Report**

**Description:**

This game is a loose version of the famous PACMAN game. It only has two modes.

First mode: Original Gameplay: The original gameplay objective reaching a high score with three lives while running away from the two ghosts. The blue ghost walks randomly towards its target which can be anything from where the Pacman is to an empty spot on the board. While the red ghost always comes after Pacman unless Pacman eats the large cookie. Then both ghosts find the farthest point on the board from Pacman in order to survive. If Pacman eats the blue ghost, it will immediately go to the ghost house; however if Pacman eats the red ghost it will eventually go to the ghost house but not before it finishes the route it has received. The game ends if there are no more cookies to be eaten or Pacman has no more lives left.

Second mode: Time Trial: there will also be a time trial version without the ghosts in which the Pacman will try and get the highest score possible within the time limit. The time limit is 45 seconds with enough cherries, which are time bonuses of three seconds. The game will end if either there are no more cookies to be eaten or the time becomes zero

Third mode: Shooting Mode: Is not available at the current time

**Instructions:**

In the menu screens, navigate with the mouse. Click with the left button inside the grey squares to access the next menu screen. If you click to start the game, the only time you can use the mouse is to exit the screen. Use the arrow keys to control the Pacman through the maze. Once the game has finished enter your name in the menu screen and press enter to submit your name.

To play the game open *menu.py*

**Bugs/limitations/missing features:**

There are several bugs in the program. In the original game first bug is the sprite collide rect function works some of the time. There are periods where the ghost goes over you and nothing happens.

In the old, original Pacman after you eat the ghosts they go back to the house however the red ghost will only go back after it has finished its own ‘mission’. This is not a bug but an additional feature.

A missing feature is the music playing in the background. This is mainly because I could not decide on what music I should play.

Another missing feature is the display of the high scores for each mode. This is because I ran out of time and cannot do the query from the database.

And finally the last missing feature is the shooting version of Pacman. I could not get this to work mainly because I still had finished the original game with the AI ghosts. The ghosts were the most difficult part of this assignment because each ghost had its own personality and I tried to make it as close to the original as possible but failed. Even now that the ghosts are moving around freely, the AI needs a lot more work.

**Future steps:**

In the future I hope to perfect this project by adding the missing features, finding out why some of the time, the collision works between the Ghost and Pacman and cleaning up my code to be a little more effective time and cpu usage.