JACMAN

**Description:**

This game will be a loose version of the famous PACMAN game. It will have three modes.

First mode: Original Gameplay: The original gameplay objective reaching a high score with three lives while running away from the ghosts.

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.

Third mode: Shooting Mode: there will be a shooting version of the original game which will allow both sides to be able to shoot at each other up to certain distance. The ghosts will by default start with a gun while pacman/player will have to earn the gun either through getting a certain high score or waiting for a “gun power up”. Each time the player shoots at a ghost, the player receives 20 points but 20 points will be deducted if he/she gets shot by the ghost. If the player hits the ghost, the ghost will go back to the start to be revived. In the case that the player does not have a gun and is shot, then the player’s score will decrease by 5 points each hit. A ghost is able to hit the player multiple times however a player can only hit a ghost once. If the player’s score goes into the negatives then he/she has lost the game and the highest score achieved during the gameplay will be recorded.

**Database:**

The database will include three tables, one for each mode.

First mode table will have three columns, the player’s user name, which can be anything in length ranging from 1 up to 12 alphanumeric characters and it will be stored as text, and the high score positive integers and the primary key are: rankings which are integers from 1 to 25 as well as the user name.

Second mode table will have the same columns as first mode table and in addition it will have a column that represents how many average amounts of points the user gets every ten seconds.

Third mode will have four columns, the player’s user name, the high score achieved during the gameplay, the ending score which could be negative integers and the primary keys are: rankings and the user name

**Input Devices:**

During the gameplay, the keyboard will be in use, more precisely the arrow keys and if in shooting mode, the button Z will act as the firing button.

The mouse can only be used if the user wants to exit the game by pressing the ‘X’ button on the screen.

In the menu it will only be mouse will work to make the selections between the different modes.

**Sprite Classes:**

Player/Ghosts Class:

* \_\_Init\_\_
  + Self.image
  + Self.rect
* Update
  + Border handling
  + Self.rect.top
  + Self.rect.left

Gun Class:

* \_\_Init\_\_
  + Self.image
  + Self.rect
  + Self.bullet
* Update
  + Self.rect.top
  + Self.rect.left

Extra\_Points Class:

* \_\_Init\_\_
  + Self.image
  + Self.rect
* Update
  + Self.rect.top
  + Self.rect.left

**Non-Sprite Classes:**

Dots Class: (the little white dots that appear thought the playing field)

* \_\_Init\_\_
  + Self.image
  + Self.rect

**Collisions:**

Whenever the pacman collides with the dots in the field he earns 10 points. If he collides with a larger dot, the Extra\_Points class, he receives 20 points at the same time the ghosts turn blue and if the pacman is able to eat them within a time limit he earns 100 points for each. If he eats the different fruits that will appear randomly throughout the game, he will earn 200 points for each. When he collides with the gun, Pacman will receive the gun and is able to shoot at the ghosts. Whenever a bullet collides with the Pacman, he will either lose 5 or 20 points depending on the whether or not he has a gun. If the bullet collides with the ghosts then pacman receives 20 points per ghost. If at any time the ghosts collide with pacman then pacman will lose a life.