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Tasks:

In the project, I worked on the foundations. Due to my previous group not being present at all I knocked over a large chunk of the assignment by myself. Upon joining group 14 they eagerly jumped in to finish off the rest of the project.

Upon joining Group 14 I had implemented an object-oriented approach to the task as that is what I saw as the best way to complete the task. I had implemented a class for the player, the asteroids and the bullets.

Developing the spaceship class was fine, however I had difficulty implementing the diagonal movement. Originally, I failed to get the ship to move in any direction on the canvas besides north, south, east, west, north east, south east, south west and north west. To solve this I implemented the use of the sin(..) and cos(..) functions which were used to determine the ships heading.

The asteroid and bullet classes each provided challenges of their own. I had trouble developing the bullet class since I couldn’t determine the bullet’s origin (the upper mid vertex of the ship). I solved this mainly by trial and error, but I determined that the origin was determined by a complicated formula involving the size of the ship, its x position, the sin of the heading of the ship, its y position and the cos of the heading of the ship.

The asteroid class was relatively simple, it was very similar to the ship class but with randomly assigned x and y positions and headings. I had trouble determining a way to implement collision detection, but luckily for me, Nathan was able to implement the collision detection.

My remaining tasks involved “quality of life” improvements such as: ensuring that the asteroids didn’t spawn on the player, drawing the asteroids as complex shapes and updating the edge detection for each class.