

Concept statement:

For my midterm project, I am planning to create an arcade game based on a similar approach of the asteroids game and expand the behaviors and formation of the original asteroids class. The user will play as “my hand” and keep hitting the “asteroids” (in other shapes of hands/animal paws/your boss’s hand etc.) with high five to eliminate the number. The game will have different levels (about 3 or 4 levels) featuring different kinds of “asteroids” with different movements and behaviors. The game will also have a score class for counting up scores and to control the states, and a timer to countdown the timing. I might also add animation support by using the p5.play library.

Precedent Analysis:

Asteroids

Player: positioned at the center of the screen. Control spaceship by using arrow keys (left/right) to change rotation and another key for bullets

Asteroid/UFO class: floating around and checking collision with player’s spaceship, can be destroyed when hit by bullets. Asteroids will break into smaller pieces after being hit.

Score: counting up the number of asteroids/UFO that player has destroyed

Level: each level adds up the number of asteroids and increases their speed. A new level state will be called when all the asteroids has been cleared

Lives: Player will lose a life when being hit by asteroids/UFO, the game ends when player loses all the lives

[https://en.wikipedia.org/wiki/Asteroids_\(video_game\)](https://en.wikipedia.org/wiki/Asteroids_(video_game))

Galaga

Player: positioned at the bottom of the screen. Control spaceship by using arrow keys (left/right) to change position and another key for bullets

Enemy class: have a formation while arrives, can be destroyed when hit by bullets. Will shoot back bullets to player.

Score: counting up the number of enemies that player has destroyed

Level: each level has different types of enemies with different formations. A new level state will be called when all the enemies has been cleared

Lives: Player will lose a life when being hit by enemy (either being hit by the bullet or being collided with the enemies), the game ends when player loses all the lives (have a bonus awarding system and a hit/miss ratio statistic at the end)

<https://en.wikipedia.org/wiki/Galaga>

Tutorials that I’m looking at:

Space invader: <https://www.youtube.com/watch?v=biN3v3ef-Y0>

Asteroid: Pt1 - <https://www.youtube.com/watch?v=hacZU523FyM&t=371s>

Pt2 - <https://www.youtube.com/watch?v=xTTuih7P0c0>

P5play asteroids:

<http://p5play.molleindustria.org/examples/index.html?fileName=asteroids.js>