Technical Specifications

For my first game project, I am going to replicate an Asteroid game.

1. GAME DESIGN

* Player goals and objectives

The goal of the game is that player maneuvers a space fighter and emits missiles to destroy all the asteroids.

* Challenge and conflict

The fighter can be destroyed when hit by an asteroid. When a large asteroid is destroyed by a missile, it breaks into multiple smaller asteroids, which can be broken into multiple even smaller asteroids, till the asteroid is small enough.

* Constraints and boundaries

The space fighter is only allowed to move within the screen by accelerating forward or rotating. It can only emit missiles at a fixed frequency. It will keep moving in one direction unless player applies acceleration in different direction. There is a period of time for the space fighter to cool down its skill.

* Resources

The space fighter has 3 lives and a special skill “leap”, which will simultaneously have the fighter appear at a different position.

* Detailed description of the rules, including win/low conditions

When the game is started, player is presented a scene in the space with a space fighter and a large asteroids. Player presses keys to control the space fighter in the following ways:

* Press “UP” to accelerate
* Press “DOWN” to leap
* Press “LEFT” to rotate left
* Press “RIGHT” to rotate right
* Press “SPACE” to fire

Player will lose a life if the space fighter is hit by asteroids and lose the game when running out of lives. If the space fighter made it to destroy all the asteroids within the screen, it will enter the next level with more asteroids.

1. SCENE DESCRIPTION

The game contains four screens, which are start screen, level screen, tutoraland game over screen.

Different screen has different sets of GUI components.

* Start screen

There is a background, a game title, and three buttons of different game modes.