Project Overview

Asteroids is a game where the player controls a ship and shoots waves of asteroids that come towards them from multiple directions. The player uses the forward key to accelerate and the left and right keys to rotate anticlockwise and clockwise respectively. Every few seconds an enemy ship comes flying in from the side and shooting it provides the player with bonus points.

The basic goal of this project is to make a clone of this game. I will be using C++ with SDL. The basic game should allow the player to move around, collide with asteroids and die and shoot the asteroids.

Stretch goals include having a simple AI that tries to shoot the player back, I would also like to add a menu with options, the ability to choose ships and maybe even a scrollable background with an expanding world.

I will be using object oriented programming for the game and plan to purely use vector graphics in the game. I will be using mathematical concepts such as matrices and vector algebra to draw and move game objects on the screen. This means that for collision I will be using the separating axis theorem to be able to calculate collision between polygons.

I also plan to store information about the ship dimensions in a file to allow for easy access and modification.