



Game Description

1DV437 Introduction to Game Programming

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Hover

My game is called Hover. In Hover the player controls a hovering spaceship equipped with a laser bolt cannon, which he can use to shoot down turrets. Turrets are spawned at random places in the game world, and are also equipped with laser cannons they can use to destroy the player.

Game Objectives

The goal of the player is to get as high score as possible before the game is over. A score is awarded for each turret destroyed, and the game is over either when the turrets shoot down the player spaceship or when the time runs out.

Feature List

The game will have the following features:

Player

- The spaceship can move forward, backward, stand still, turn left or turn right.
- The spaceship can shoot a laser bolt with the Space key.
- After a laser bolt has been fired the player has to wait some time before a new laser bolt can be fired (i.e. limited firerate).
- The laser bolts have a limited range and are destroyed after reaching max range.
- A sound effect shall be played each time a laser bolt is fired.
- The spaceship starts with 100% health, which is reduced by 10% each time a turret laser shot hits the spaceship.
- When the player is hit a sound effect and explosion animation is played.

- When the player is destroyed an explosion animation and sound effect is played.

Turret

- 15 turrets are spawned at random locations in the game world.
- Two turrets cannot spawn at the same location or too close to each other.
- Each time a turret is destroyed, a new turret is spawned at a random location.
- The turrets rotate slowly clockwise or counter clockwise (chosen randomly at spawn time).
- Each turret continuously fire laser shots with a limited firerate.
- The laser shots have a limited range and are destroyed after reaching max range.
- If the player spaceship gets close to a turret, the turret turn towards the player instead of rotating clockwise or counter clockwise.
- If the player escapes, the turret stops moving towards the player and goes back to rotating slowly clockwise or counter clockwise.
- A turret is destroyed if hit by a laser bolt shot by the player spaceship.
- When a turret is destroyed a sound effect and explosion animation is played, and the player is awarded 100 points.

Camera

- The camera follows the player from behind and a bit above the player spaceship.

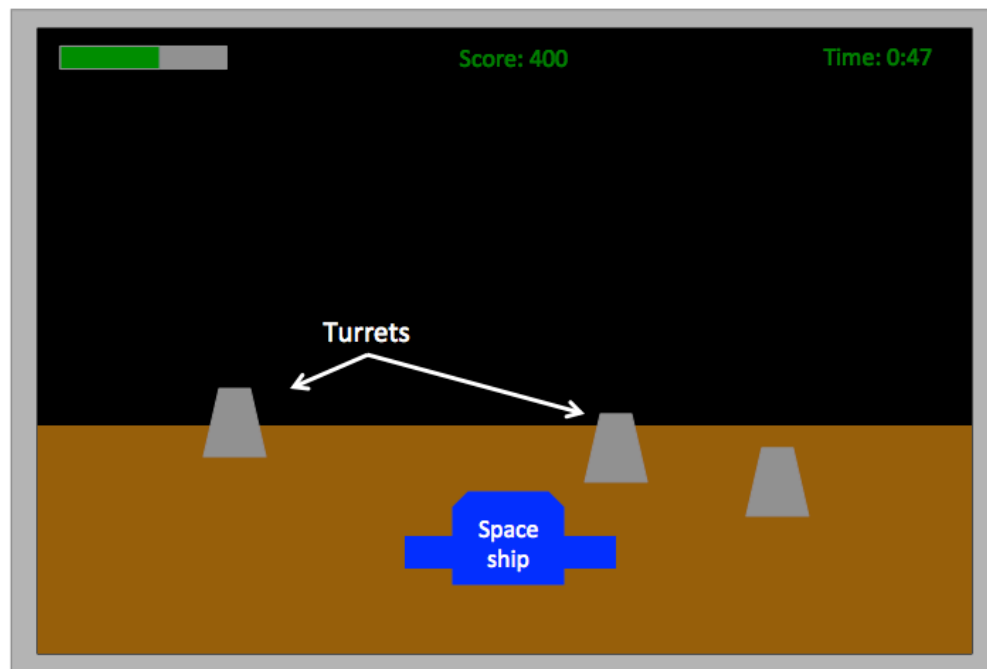
Game Controller

- Before the game starts an “Are you ready? Press Space” text is shown, and the game starts when the player presses the Space key.
- When the game is ended a “Game Over! Press R to restart” text is shown, and the game restarts when the player presses the R key.
- The player score is shown in the top center of the screen.
- The timer is shown on the top right of the screen. The game ends after 1 minute.
- A player health bar is shown on the top left of the screen. The color of the bar changes from green to yellow to red depending on how much health the player has left.

Game World

- The game world has a ground in the form of a large square.
- The ground has no height differences.
- The player cannot move outside the ground square (the ground square is surrounded by invisible walls).

Prototype of Game View



Assets

I will use the following assets from Unity Asset Store in my game:

- Hover9K for the spaceship
<https://www.assetstore.unity3d.com/en/#!/content/18797>
- Laser Construction Kit for weapon sound effects
<https://www.assetstore.unity3d.com/en/#!/content/15966>
- Ground Texture Pack for the ground texture
<https://www.assetstore.unity3d.com/en/#!/content/21376>
- Purple Space Nebula Skybox for the sky
<https://www.assetstore.unity3d.com/en/#!/content/25117>
- SciFi Base/Defense Tower as turrets
<https://www.assetstore.unity3d.com/en/#!/content/13295>

- Simple Particle Pack for explosions
<https://www.assetstore.unity3d.com/en/#!/content/3045>