[REDACTED]

Home Fudge
A game inspired by Homeworld and Space Engineers

Goal of the Prototype
The basic idea of the Game Prototype is to have a Destroyer equipped with:
- One Gatling Turret for Point Defence (PD)
- Two missile launchers
- Two beam weapons

The ideal case for the Game Prototype would be to have two Destroyers in a battle with each other using Fudge's Network ability for two players and an AI variant of the battle. The worst-case scenario is to have the Gatling Turret player-controlled to destroy incoming asteroids. This Prototype will look into Fudges Performance and capabilities. There will be many Vector3 Calculations for Bullets, Aiming and Movement. This will decide how many moving Objects are rendered on the scene.

Basic Gameplay

Key binds
Movement:
- W   Pitch Down
- S   Pitch Up
- A   Yaw Left
- D   Yaw Right
- Q   Roll Left
- E   Roll Right
- C   Forwards Thrust
- V   Backwards Thrust

- ~~Alt~~   Switch Movement Mode

- W   Forwards Thrust
- S   Backwards Thrust
- A   Left Strafe Thrust
- D   Right Strafe Thrust
- Q   Roll Left
- E   Roll Right

Weapons:
- 1   Gatling Turret
- 2   Beam Laser
- 3   Rocket Pod

- Left Mouse   Fire
- Right Mouse Aim lock (Gatling,RocketPod)

Debug:
[REDACTED]

[REDACTED]

Gameplay flow

Bronze Prototype for the worst-case scenario. Asteroids will be randomly spawn around the Player ship. With a random Wight to how many small-, more medium- and some large- asteroids spawned. The Spawn rate of asteroids will increase exponential over time. Large Asteroids brake up to one or tree small Asteroids. Asteroids will reaper on the other side after going out of bounds. The world is a Sphere with a radius of 25 Kilometres. The Player will also be teleported to the opposite site if he moves to the Skysphere. The best tactic is to move around the centre and not move near the borders of the world. The borders will hide Asteroids and the Player has less reaction time to destroy or evade them.

Silver Prototype for the best-case scenario. The Asteroids are similar to the Bronze Prototype, but they will be stationary to preserver performance. All Asteroids have a simple Sphere hitbox. [REDACTED]

Gold Prototype same as Silver but additionally multiplayer player will compete or play together against AI Enemies. [REDACTED]

Stats

Weapons:
  1. Gatling Turret
      a. Turn Speed   = [REDACTED]
      b. Reload Time   = 1.5 Seconds
      c. Fire Rate   = 8 rpm
      d. Magazine Capacity = 30 Rounds
      e. Bullet Velocity = 800 m/s
      f. Damage   = [REDACTED] per Bullet
      g. Range   = 4.8 Kilometres

  2. Laser Beams
      a. Reload Time   = 3 Seconds
      b. Beam Time   = 2 Seconds
      c. Beam Range   = 1 Kilometres
      d. Damage   = [REDACTED] per seconds

  3. Rocket Pods
      a. [REDACTED]
      b. [REDACTED]
      c. [REDACTED]

Ships:
  1. Destroyer
      a. Health   = 1000 HP
      b. Thruster Strength = 400 m/s
      c. Maximum Speed   = 500 m/s
      d. Turn Acceleration = 10 rad/2
      e. Turn Speed   = 1 rad/s
      f. Mass   = [REDACTED] Tons
  2. [REDACTED]
      a. [REDACTED]
      b. [REDACTED]
      c. [REDACTED]

Asteroids:
  1. Large Asteroid
      a. Health   = [REDACTED]
      b. Maximum Speed   = [REDACTED]
  2. Medium Asteroid
      a. Health   = [REDACTED]
      b. Maximum Speed   = [REDACTED]
  3. Small Asteroid
      a. Health   = [REDACTED]
      b. Maximum Speed   = [REDACTED]

Some side Notes

What is REDACTED?
For this content REDACTED means just Work in Progress. All parts with REDACTED are subject to change.

Further Plans
If possible, I will stick to Fudge and expand HomeFudge more into a full Indi-Game. For when the performance drops to low it is possible to recreate some Math function of the FudgeCore system in C++ and link the Function to JavaScript using nbind. HomeFudge will stay in the Fudge engine if the above works. Otherwise, HomeFudge will move to Unity or Godot. That change will make the Game not playable in the Browser.