

OPEN WITH
CAUTION

Shooty VR
[working title]

[non-working team]

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Version History

<u>Version</u>	<u>Change log</u>
V1.0	· Initial Draft

Game Overview

Shooty VR is a VR bullet-hell game where the player moves a small ship around a 3D space while shooting enemies and dodging attacks. Players fight through multiple waves of enemies and increase their cumulative score. Each wave is completed when all wave enemies are eliminated. The player loses when struck with an enemy attack, or attempting to leave the play area. The player will have access to a variety of power-ups and unlockable weapons along the way to take down enemies even more exciting.

Win/Lose Conditions

Each wave is completed when all wave enemies are eliminated. The player loses when struck with an enemy attack, or attempting to move the ship outside of the play area.

Game Controls

The players move their ship around using the Vive's controllers. They are able to grab the ship and control its movement in space. The trigger on the backside of the controller fires the gun/turret on the ship.

[How do players move? Shoot their weapons? Include a basic description of how players perform mechanics here. Think of this as a controller layout you've seen in your favorite game.]

Game Mechanics

- **Flying (Movement)**
 - The player can move and orient the ship by moving the controller.
- **Firing**
 - The player can fire the ship's weapon by holding the trigger.
 - The weapon's forward vector is determined by the orientation of the ship.
 - The weapon heats up with continued use. If the heat buildup, which is displayed to the player, reaches a certain point, the weapon enters the overheating state.
 - The overheating weapon cannot be fired until the heat gauge has fully depleted.
 - Heat decreases when the weapon is not being fired.
- **Enemies**
 - Enemy ships attack the player's ship.
 - Different enemy types attack in different ways and have different amounts of health.
 - **Standard ship** - acts as a turret firing single projectiles at the player.
 - **Buckshot** - larger ship firing multiple projectiles at the player at once.
 - **Splitter** - fires single projectiles, splitting into smaller, slower enemies upon death.
 - **Exploding enemy** - upon death, create a body explosion that can damage the player if their ship is too close.
 - An enemy is destroyed when its health is depleted.
- **Power-Ups**
 - **Shoot Faster!**
 - Firing speed is temporarily doubled.
 - **Request Backup**
 - The player can collide the ship with the Request Backup object to gain it's power-up.
 - A secondary ship appears that is controlled by the other controller in the same way of the player's main ship.
 - The secondary ship expires either after being hit or after a short duration.
 - **Shield**
 - Spawns in as a protective orb around the player.
 - Projectiles temporarily will not damage the player.
 - *Reach goal: used as a temporary one-hit kill melee option for damaging enemies*
 - **Area Bombs**

- Placeable bombs that will remain where they are placed in VR.
 - After a period of time, they will explode to clear enemies within a given radius.
- **Room clear**
 - Less common one-off power-up that clears any currently alive enemies from the stage. Spawning will continue.
- **Boundaries**
 - Play is restricted by visible room boundaries.
 - The player is encouraged to stay near the center of the room using elements in the room itself (for example, a podium).
 - Attempting to push the ship outside of the room will trigger the game over screen.

HUD Layout

***Particle Illusion is currently unavailable at the DMAC - for now, we have image references to what we want to create.**

All HUD descriptions are tentative, pending testing.

Score and wave will be displayed on a screen in the 3D world at a fixed location.

Power-ups and overheating/ammo (depending on the current weapon) will be displayed on a floating hud that is locked to the player's ship (see first example below).



^ This example from Redout shows a similar style hud that is locked to the player's ship. Here it shows health, energy, speed, and powerup. The size of the floating hud may have to increase in size as the ship is extended away from the headset to maintain legibility. Example from Redout.



^ Overheating element will show the player that the weapon is overheating and needs to cooldown for a few seconds. It will be displayed as a circular progress bar, similar to the red one on the left.



^ To aid players in knowing which enemy their ship is targeting, there will be a lock-on box similar to the one pictured above. Example is homing launcher in Grand Theft Auto V.

Level Layouts

Cylindrical room with enemies spawning at locations **in front of** the player.
Other objects may be placed around the level for the player to shoot.

[Include a mockup of each level, complete with a key and title for each. Be sure to label important areas like player starting point, win zone, collectibles, obstacles, etc.]

IPM Chart

[IPM Chart of how you are teaching mechanics players will use. Use the “Game Mechanics” section as a guide here.]

Asset List

Programming

- **Game Manager**
 - Waves/Spawning
 - Player ship spawning
 - Resetting the game when player dies
- **Enemy Objects**
 - Chaser behavior (pursues player until destroyed)
 - Turret behavior (shoots projectiles at player)
 - Area denial (creates blockades that stop player movement)
 - Splitter enemies.
 - Explosion damage radius.
- **Player Object**
 - Game behavior (shoots projectiles, destroyed when hit)
- **Scoring System**
 - Combo system
 - Player stats (survival time, high score, enemies destroyed)
- **Store/spendable point system (mtx concept)**
 - Purchasable upgrades, unlock guns, cosmetics, etc.
 - Achievable by shooting a spawned object hidden in the environment.
 - Customize laser sight color
- Steamworks integration (1000% unrealistic stretch goal)
 - Microtransactions

- Leaderboard

Art

- **Ship design/color (cosmetic)**
 - Osprey-style
 - Horizontal thrusters
 - UFO (single vertical thruster)
 - Wings/valkyrie
- **Guns can be changed to be more powerful, or cosmetically different:**
 - Laser shot (medium projectile output, standard damage)
 - Plasma railguns (medium projectile output, standard damage)
 - Miniguns (rapid projectile output, low damage)
 - Bomb launchers (slow projectile output, high damage - possible AOE?)
- **At least 3 enemy types.**
 - **Priority:**
 - Standard turret-like enemies that point and shoot at the player.
 - Slightly larger buckshot enemy.
 - Splitter ship & related parts.
 - Bomber
 - *Optional (if time):*
 - *Wall-mounted turrets.*
 - *Bombardment/kamikaze enemy - effectively a projectile on its own.*
 - *Area denial enemy (lasers, fields, etc).*
 - *Final boss.*
- **Game environment** - An enclosed pod for the player to move around in. This will represent the player's room in VR.
 - Podium for the player to have an understanding of where they are.
 - Dome-style room
 - Various objects, parked ships, guns, robotic equipment so they player can understand their orientation.
- **Companion/secondary ship.**
- **Shield.**
- **HUD.**
 - Score.
 - Power-up status (active/inactive).
- **Physical projectile.**
 - Or 2D particle systems to use in order to save frames.
- **Laser effects**

Audio

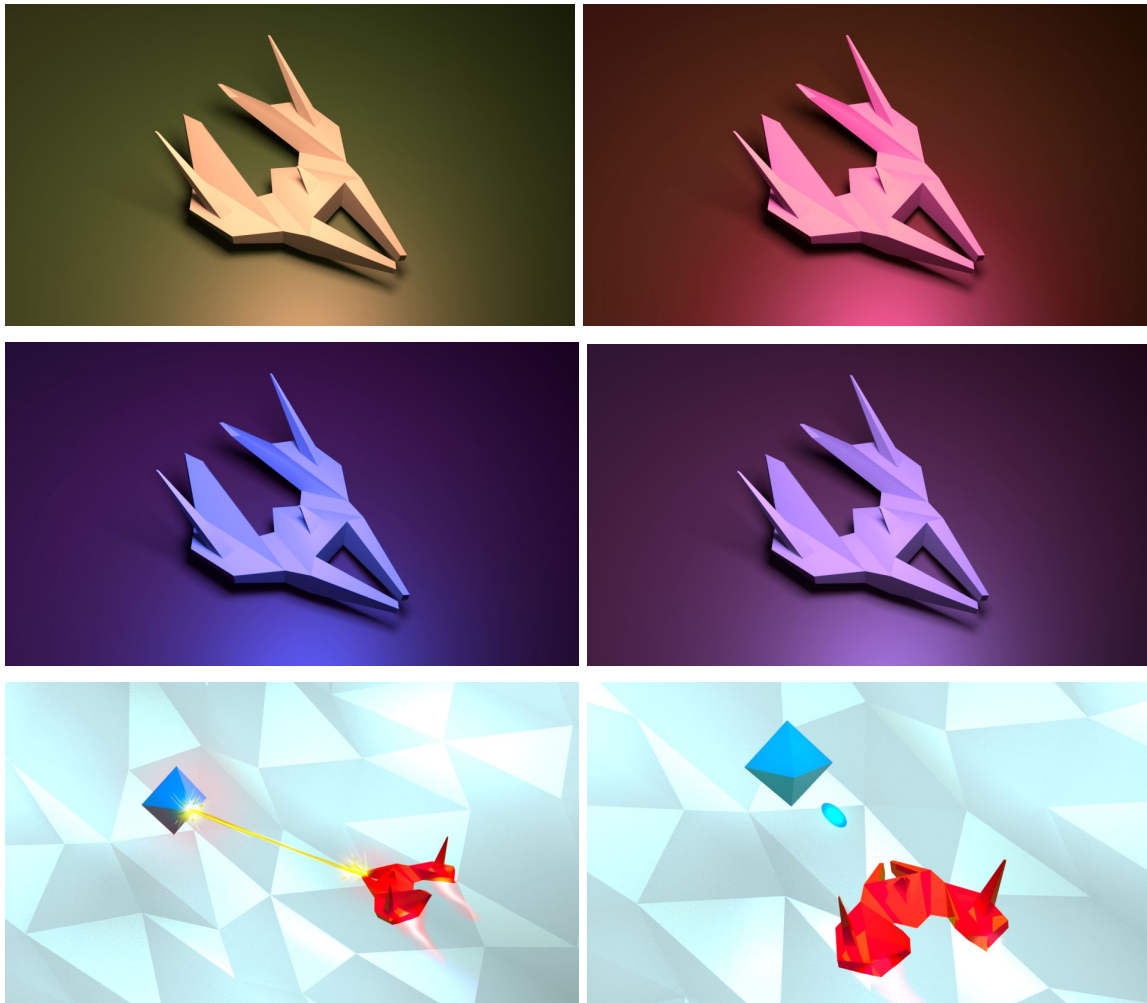
- **Background music tracks** - game and main menu.

- **Firing effects.**
 - Turrets/enemies.
 - Ships.
- **Damage effects.**
- **Residual noises.**
 - 3D audio for the hum of the player's ship, and any others that may be used.
- **“Game Over”**

Level Design

- Levels will consist of enemy waves that increase in difficulty and enemy variety.
- Objects within the environment will be shootable to obtain separate [purchasable] points for unlocking content (guns, projectile upgrades, ship cosmetics, etc).

Early Concepts



Revised Ship Concepts

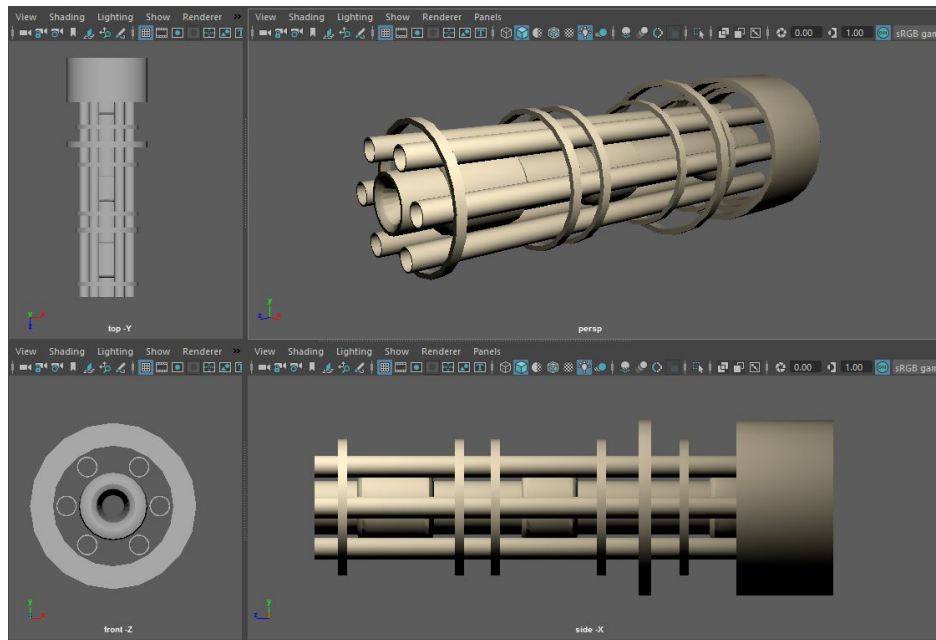
Guns

(all images depict the gun that would be placed on the left-hand side of the ship - they will be relatively small in VR.)

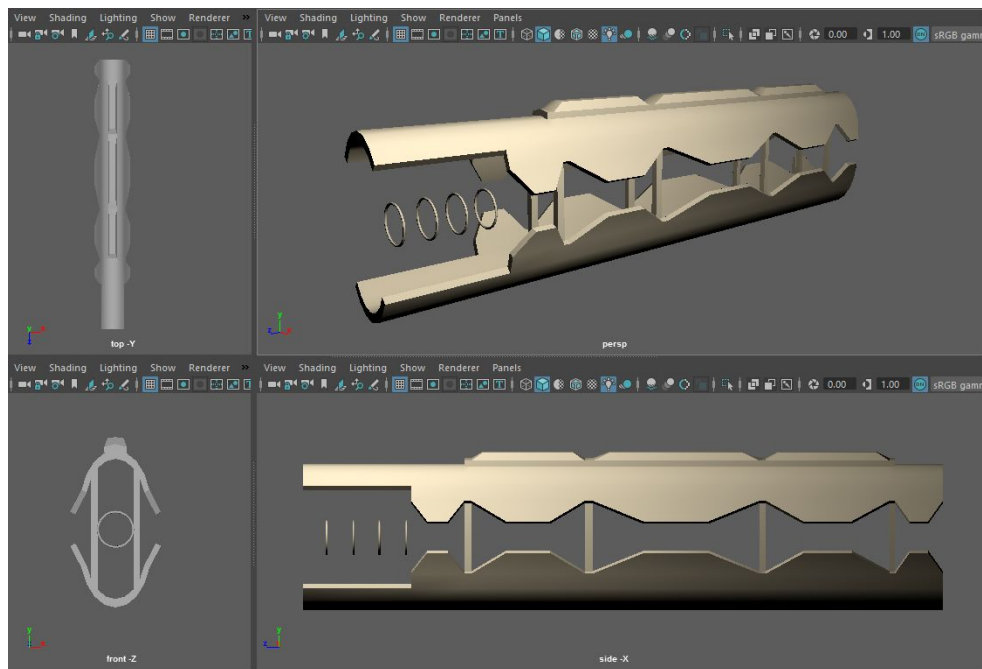
Laser shot (default lasers):



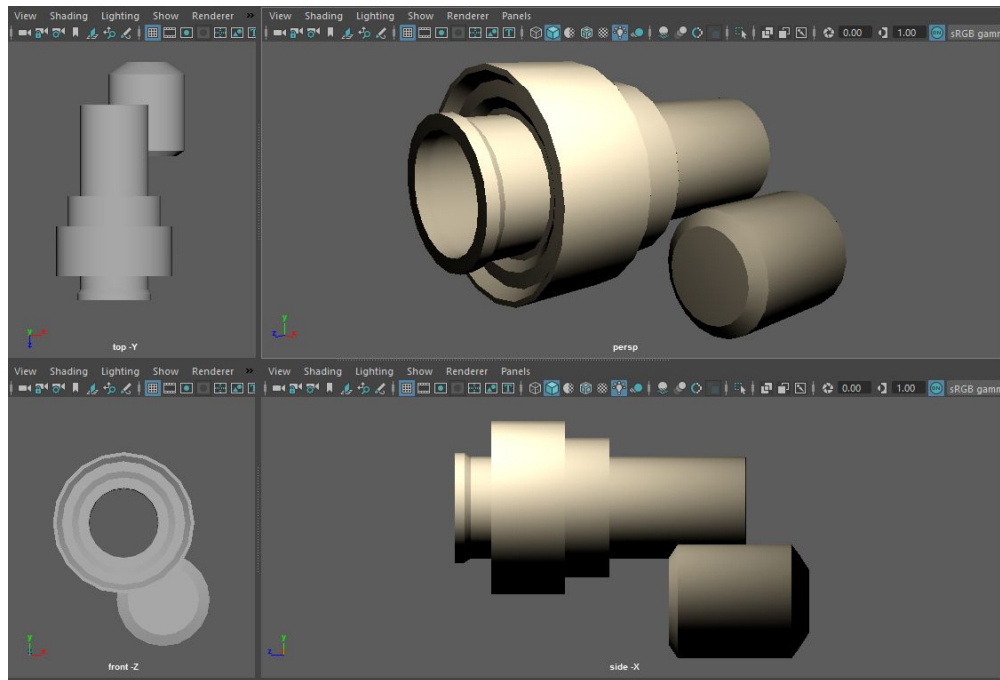
Minigun:



Railgun:

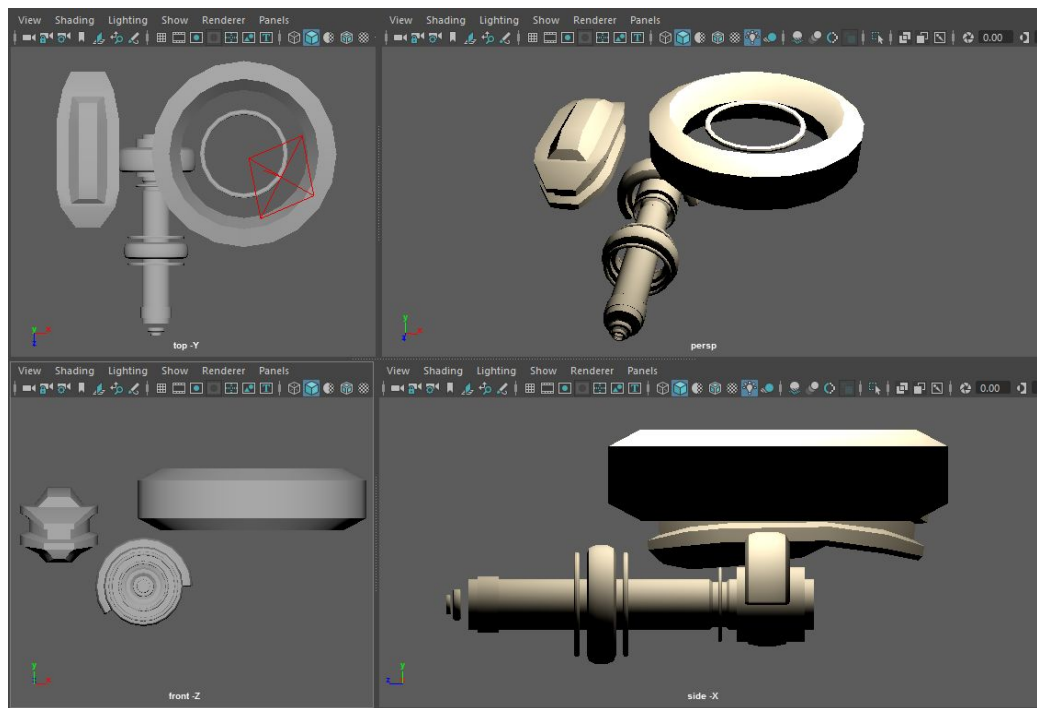


Bomb launcher:

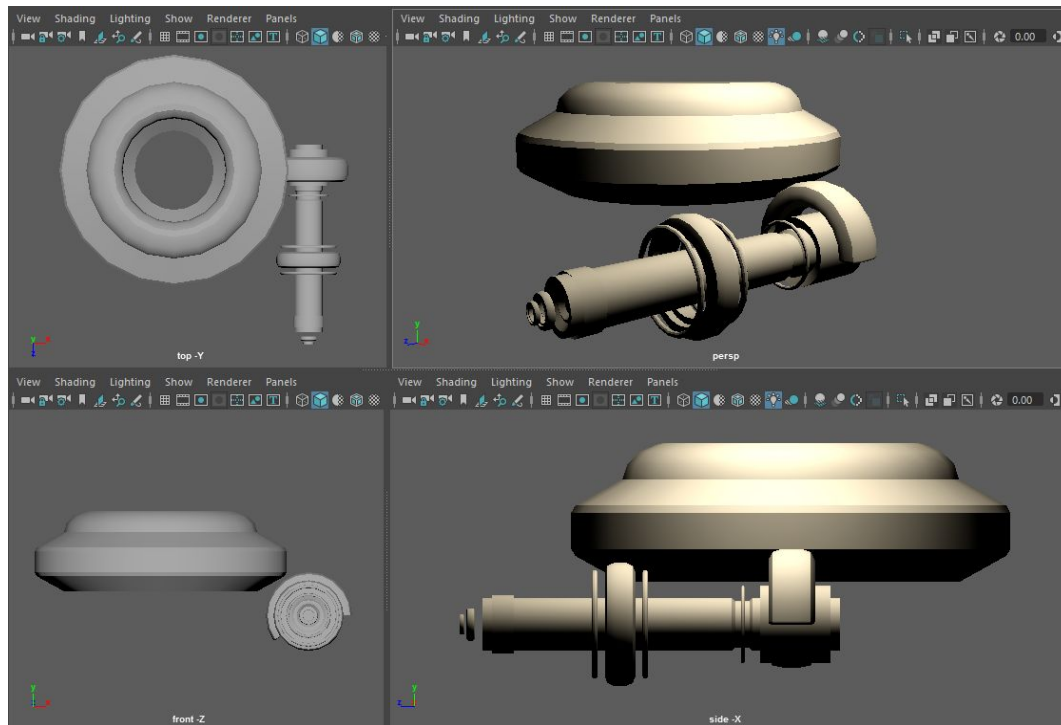


Ship exteriors (LEFT SIDE)

Osprey:



UFO:



Horizontal thrusters:

