Pill Survival

Version Number   Version 1.0

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Date   *12/06/2023*

Table of Contents

Design History

- Version 0.1 (Initial Draft) - November 19, 2023
  - Enemies spawn on board.
- Version 0.2 - November 22, 2023
  - Refactoring
  - Removed Killer Bean
  - Added Sword Weapon
- Version 0.3 - Dec 1, 2023
  - Added PlayerData Singleton
  - Added Roaming Enemy
  - Added UI for the player's HP, EXP, and Level
  - Started Constructing the gameplay scene
  - Added an Enemy Spawner
- Version 0.4 - December 5, 2023
  - Added scaling
  - Added player-data upgrade list
- Version 0.5 - December 6, 2023
  - Added AudioManager
  - Implemented a list of upgrades.
  - Added Object Pooling
  - Added more enemies
  - Added functional Gameplay Loop
  - Added Titl
- Version 1.0 (First Release) - December 7, 2023

Section I - Game Overview

4.1 Game Concept

Defend yourself from an onslaught of enemies while gaining experience points and upgrading your stats. The game restarts when you die.

4.2 Feature Set

- Leveling System
- Stat Boost Upgrades
- Increasing difficulty
- Gameplay timer

4.3 Genre

Roguelike horde survival, with gameplay elements similar to "Vampire Survivors."

4.4 Target Audience

Aimed at casual players looking for quick, engaging gameplay sessions.

4.5 Game Flow Summary

Player fends off against hordes of enemies, enemies drop exp points which the player can absorb to level up and receive upgrades! As the game is played for a longer period of time, new enemy types are introduced, and spawn rates increase.
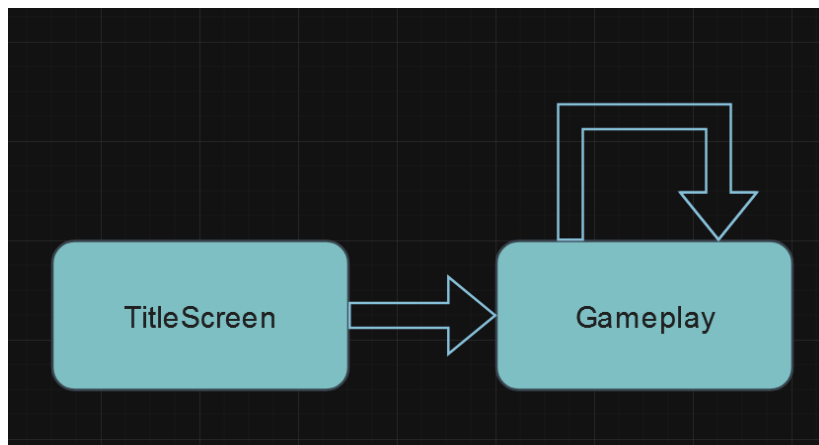
4.6 Look and Feel

The game utilizes only art assets available in the Unity engine.
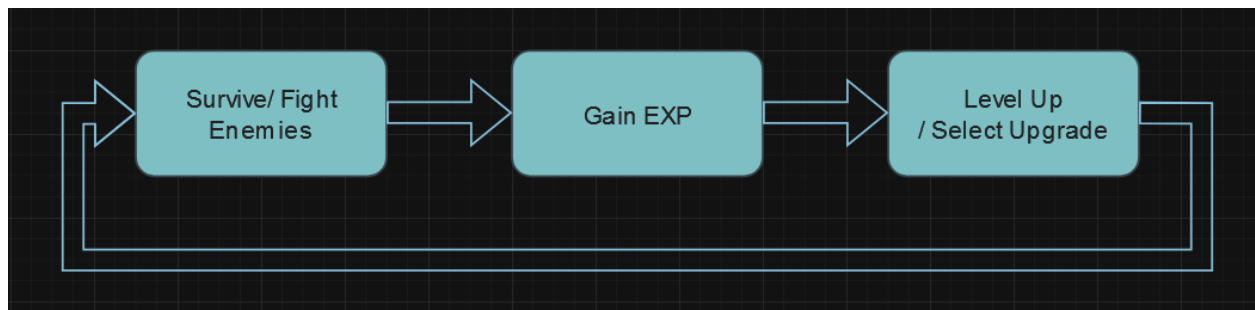
4.7 Project Scope

- Game only has two scenes, "TitleScreen" and a "Gameplay"
- Game contains 6 types of enemies, "Grunt", "Giant", and "Turret", "Ghost", "Tank", "Runner"
- Game contains 2 types of weapons, "Peashooter" and "Sword"

4.8 Project Diagrams

Scene flowchart

Gameplay loop flowchart

Section II - Gameplay and Mechanics

5.1 Gameplay

- Mission/Challenge Structure: Survive, defeat enemies, collect exp drops, and level up
- Objectives: Stay alive and upgrade your player.

5.2 Mechanics

- Movement: 2D plane
- Actions: Move, Attack
- Combat: Peashooter and Sword
- EXP Drops + Leveling Up
- Stat boost upgrades
- Time based difficulty

5.3 Replaying and Saving

Player dies when reaching 0 HP. The player has the option to restart the game upon dying.
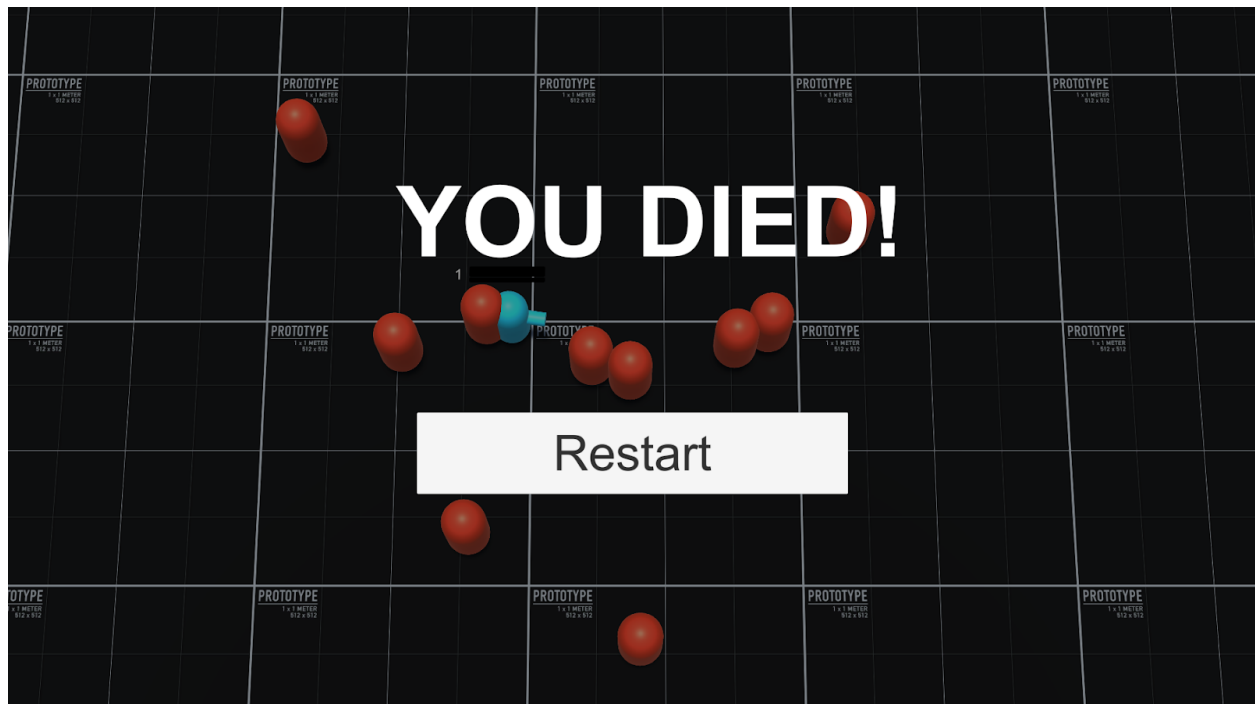
Section III - Interface

6.1 Menus

- HUD: Player health bar, Player EXP bar, Player level

- Menus: Titlescreen, Upgrade selection screen, Gameover screen
- Camera: Top-down perspective, camera follows player

6.2 Control System

- Keyboard Arrows/ WASD to move, Mouse cursor to aim, Left click to attack.
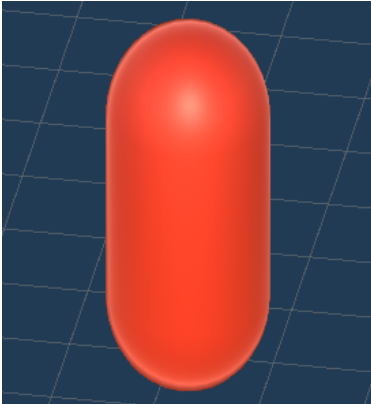- Controls are stated on the title screen

6.3 Audio

- Sound Effects: Enemy/Player Damaged, Exp Gained, Level Up, Sword Slashed, Projectile Fired
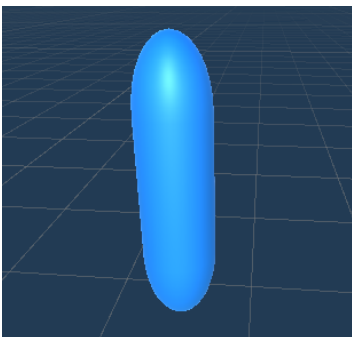
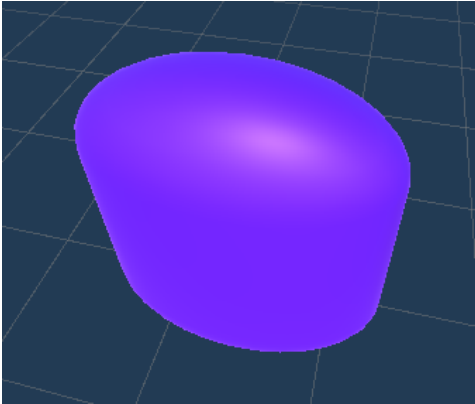# Section IV - ENEMIES

7.1 Grunt

- Standard enemy moves towards the player at an average rate
- Has 20 Health
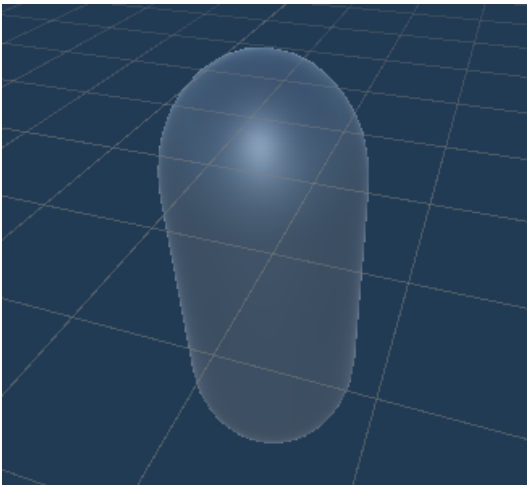- Drops 2 EXP

7.2 Runner

- Same as grunt but faster
- Has 18 Health
- Drops 2 EXP

7.3 Tank

- Slow and bulky, takes reduced damage from attacks
- Has 75 Health
- Drops 2 EXP

7.4 Ghost

- Has a 1 in 4 chance to not take damage from attacks
- Has 20 Health
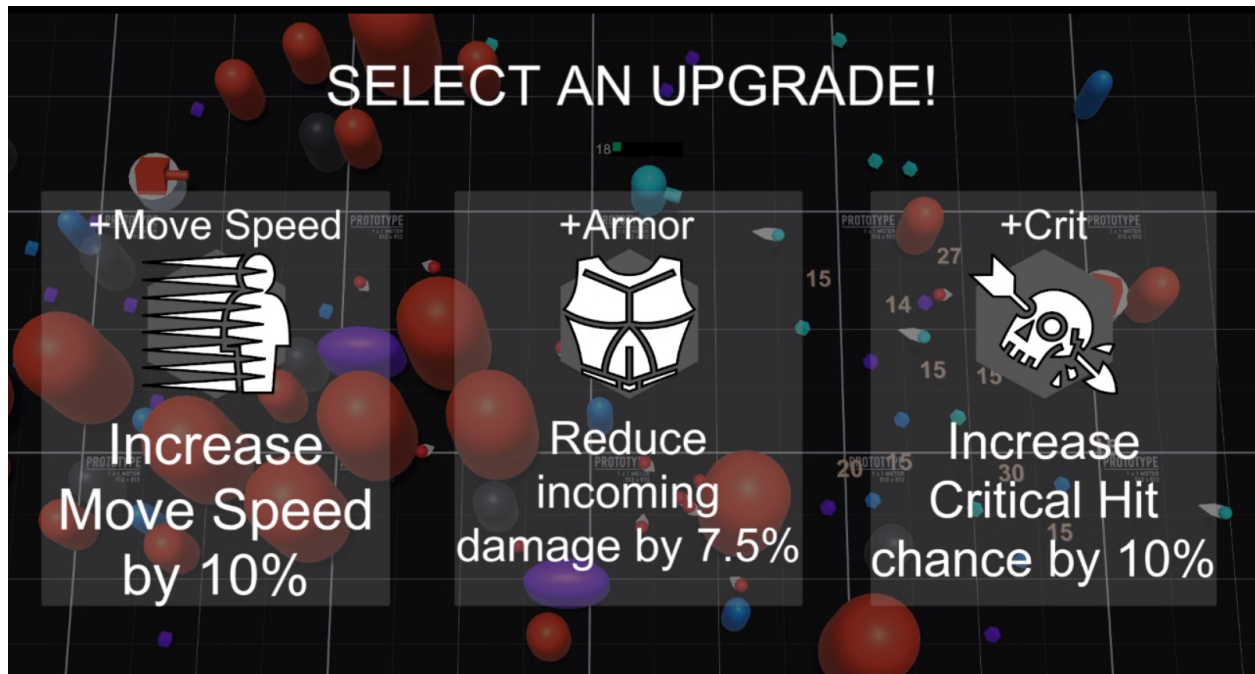- Drops 2 EXP

7.5 Turret

- Aims at the player and shoots a peashooter bullet
- Has 20 Health
- Drops 2 EXP

7.6 Giant

- Very slow and massive, has a big health pool
- Has 125 Health
- Drops 2 EXP

Section V - Upgrades
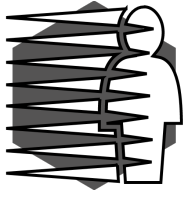

8.1 + General Speed

- Increases movement speed and attack rate by 5%

8.2 + Attack Speed

- Increases attack rate by 10%

8.3 + Move Speed

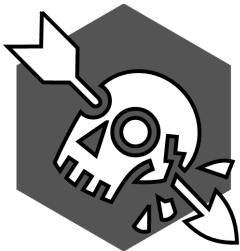- Increases movement speed by 10%

8.4 + Damage

- Increases damage by 10%

8.5 + Crit Chance

- Increases crit chance by 10%

8.6 + Life Steal

- Heals 1% of damage damage dealt to enemies

8.7 + Armor

- Increases damage by 12.5%

8.8 Peashooter

- Equips the peashooter (shoots bullets)

8.9 Sword

- Equips the sword (melee attack that deflects projectiles)

Section VI – Technical

9.1 Target Hardware

Windows OS PC

9.2 Development Hardware and Software

Unity, Visual Studio, etc.

9.3 Game Engine

Unity

9.4 Network

Single-player, no network features

9.5 Scripting Language

C#

Section VII - Secondary Software

10.1 Editor

Visual Studio Code

10.2 Installer

https://code.visualstudio.com/download

Appendices

11.1

- All 3D art and animations utilize Unity's built in graphics.
- Upgrade Icons come from https://game-icons.net/