Getting Started

1. Clone our github.
2. Follow our instructions to build with WebGL here.

Namespace

Classes

AudioManager

Manages audio settings for the game, including music and sound effects (SFX) volume.

Bullet

Player projectile class. Uses Monobehavior to interact with enemies and move across the screen. Interacts with enemy HealthManagers to deal damage. Implements `Start`, `FixedUpdate`, and `OnTriggerEnder2D` Unity functions.

CameraController

Moves the camera around to follow the player. Implements `FixedUpdate()` to update its position smoothly.

CursorObj

Keeps track of the cursor's position in world space, and aligns it to the game grid.

Deparent

Utility class which moves the children of a GameObject out of the GameObject when it is initialized.

EndzoneTrigger

Implements Unity's `OnTriggerEnter2D` to detect when a player reaches the endzone, then makes Game Manager load the next level.

EnemyManager

Manages the behavior and interactions of an enemy character in the game. This includes pathfinding and attacking the player. Implements Unity's `FixedUpdate` to perform actions per frame, and also uses the IWeapon strategy for flexibility.

EnemySpawnpoint

Container to hold an EnemyManager GameObject

ExplodeWeapon

An implementation of IWeapon which choots out a burst of bullets when used.

GameManager

Singleton which oversees the game.

HealthManager

Adds health to a GameObject, allowing it to be damaged, and destroying it when health is set to zero.

HelpTile

IWeapon

Defines the Weapon Strategy, which is used by EnemyManager. Weapons keep track of their own cooldowns, and have some interfaces so the enemy can act depending on the weapon state (eg. run away if weapon is not ready).

Item

container class to hold an ID for serialization.

LeaderboardDisplay

Queries the backend to get and display the leaderboard data. Uses Unity's `Start` to do this on scene load.

LevelEditor

Manages the editor scene, including selecting the tile to paint, serialization, and making sure levels are of a valid format (eg. tiles must not overlap). Implements Unity's `Start`, `Update`, and `FixedUpdate` to interact with the user per-frame

LevelModel

LevelRequester

Makes calls to the backend to load levels.

LevelResponse

LevelSerializer

Serializes levels: Turns a grid of Tile s into a list of positions and their associated tile IDs.

MeleeWeapon

An implementation of IWeapon which directly damages the player when used, but has a short range.

Menu

Controls Scene loading and opening options within the main menu.

ObjectIndex

PaletteItem

Manages the tile painting feature when in the LevelEditor. Uses `Update` to "paint" the level scene per frame the mouse is down, and communicates with LevelEditor to update the level state accordingly.

PlayerController

Implements movement and shooting for the player, as well as player interactions with water tiles. Uses Unity's `Update` and `FixedUpdate` to respond to input per frame.

Projectile

Projectile launched by enemies, implements Unity's `FixedUpdate` to move across the screen per frame, and implements `OnTriggerEnter2D` to define collision logic.

RangedWeapon
An implementation of IWeapon which shoots a Projectile at the player.

SceneAudio

ScoreModel

ScoreResponse

SerializationTest
Class implementing unit tests for level serialization/deserialization.

Startzone

Tile
A struct so objects interacting with Tile can easily get its `GameObject` and `Transform`, eg. when serializing. GameObjects can't hold onto values otherwise, so sometimes Data classes are necessary in Unity.

Transition
Animates menus.

WaterTile
Slows the player down when a Tile with this Monobehavior collides with the player.