General Infrastructure

Audio

Audio Loop

Plays Audio Loops

SFX Sounds

Plays SFX Sounds

Called via Event System

Game Data

Certificate

Displays Certificate in Menu and on Win

Certificate Data

Scriptable Object

Holds relevant Data for Certificate

Save Data

Called via Event System

Gets and Saves Data from Player Prefs

Managers

Audio Manager

Plays Main Theme

Event Manager

Event System in the Game

TURN:

NextTurn, Addition, Shield

AUDIO:

PlayDrag, PlayDrop, PlayGo, PlayHover, StopHover, PlayEnergy, PlayShield, PlayError, PlayDeath, PlayWin

ENERGY:

AddEnergy, RemoveEnergy, EnergyCost, RemoveCost

DATA:

CountGame, CountTrain, DeleteAll, ResetInGame, Shield, Dash, Energy, Death, Save

DASH:

DashActive, Countdown

ERROR:

Error (+ int which one)

PLAYER:

HitBorder, LeftField, HitObject, HizHazard

BUTTON:

+-Button

DRAG: Start, Stop Start Screen

Functionality of Start Screen and Main Menu

Game Manager

Scene Navigation

Don't Destroy on Load

Turn Manager

Central Hub for Each Turn So That Things Happen In Order

Holds Reference For All Active Spawns

Holds Reference For All Active Spawns

Randomisation

Randomises Rotation of Hazards by 90 Degrees

Randomises Starting Position of Spaceship

Player Stats

Reference to whether Shield is Active

Reference to whether Dash is Available

Reference to Costs of Different Calculation Types

Player Win

Holds Reference To Which Round Constitutes As Win

Sends Out Messages That Game Is Won

Gameplay Infrastructure

Player

Player

Handles Hit, Death, Out of Bounds

Called via Event System

Spaceship Anim

Makes Sure Spaceship Only Moves Once Animation Is Over

Spaceship Behaviour

Moves Spaceship According to Calculation Results

Paints Vector With Line Renderer

Objects

Background Scroller

Simple Background Scroller for Game Mode

Border Behaviour

Handles Collision With Border and PlayingField

OnTriggerEnter --> Hit Border

OnTriggerExit --> Left Playing Field

Numbers

Holds Ref to Number Sprites

Powerups

Sends Via EventSystem To Player When Powerup Was Collected

Object Behaviour

Sets Up At Location, Rotates According To Randomisation, Sets Number Display

Updates Every Turn, Becomes Active or Deletes Itself

Checks For Collision With Player -- > Sends Message

Spawner

Holds Reference to Spawns to be Spawned in the Game

Spawns Every Round - Checks If Any New Spawns Need to Be Activated

Interface

Display Last Calc

Saves The Last Calculation

Displays Last Caluclation On Player Death

EnergySlider

Adds and Removes Energy

Displays Current Amount on Slider

Plays "Animations" for Add and Remove

ErrorMsg

Displays all Error and Story Messages

Maths

Handles All Important Calculations For the Spaceship Movement

Input FF Buttons

All Button and Menu Behaviour for the Training Mode

Dropdown Menu To Switch Calculation Types

Buttons for +- and Switch Between Type of Matrix

Input FF Values

Collects All Calculation Values in Training Mode

Writes Result

Input Game Buttons

All Button Behaviour for the Game Mode

Dash, Help, +-, Clear All, etc.

Input Game Values

Collects All Calculation Values in Training Mode

Writes New Spaceship Position

Game Ready Checks, etc.

Interface Manager

Central Hub For Inputs and Calculation

Collects Inputs via Value Scripts, Then Sends to Maths for Calculation

Tells Spaceship Result and Turn Manager to Spawn

Number Drag

Sits on Number Fields

Holds Ref To Their Value

Handles Dragging Motion and Snapping Back

Number Slot

Sits On Calculation Elements

Once Number Is Dragged Onto It, Sets Value

OptionsMenu

Handles Functionality of the In-Game Menu

Mouse Position

Gets Mouse Position and Translates Into Coordinates While Holding Ctrl

Gameplay

