Game Jam 1 Report

01.12.2021
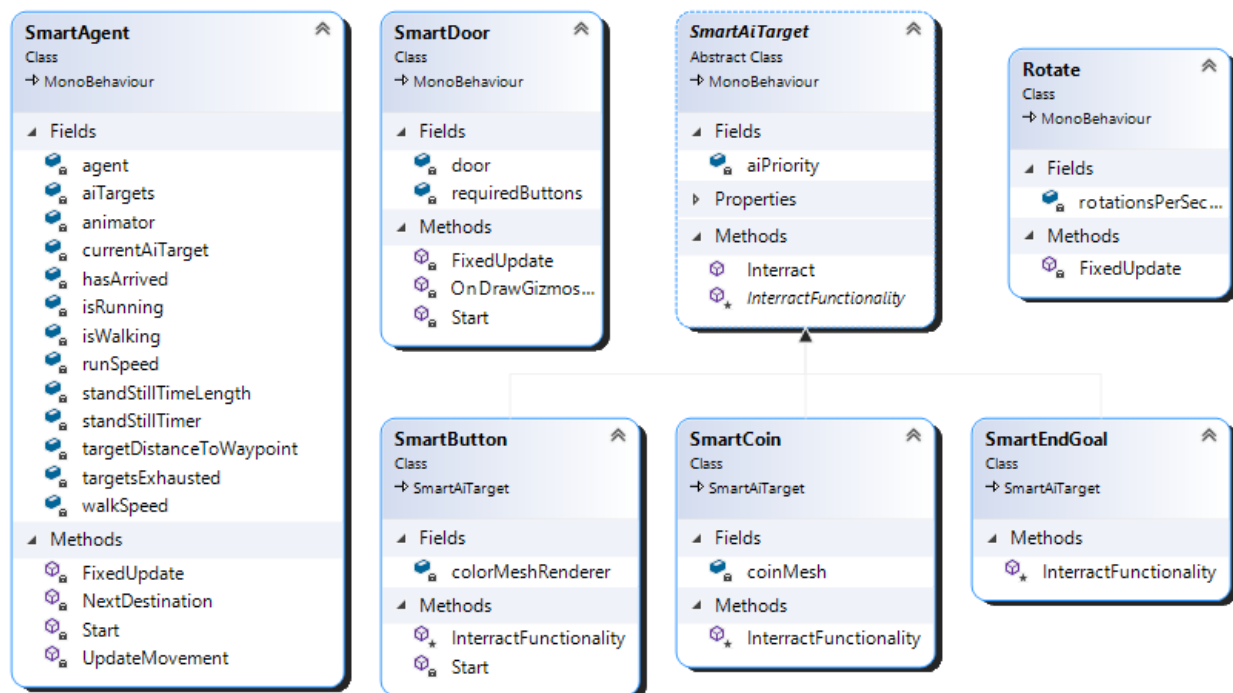—

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Contents

Task 1

Techniques I used to create Interactivity

I used a physics-based character with a Rigidbody which maintains momentum and allows for interesting movement and interaction with fluid particles. To trigger certain things to happen, I used colliders set to trigger, linked to a function in a script.

UML

Smart AI

SmartAgent

The SmartAgent script is attached to agents. It has a priority system set up so that it will pick navigate to and pick up higher priority targets first before lower priority targets.

SmartDoor

The smart door opens when the agent stands on the appropriate button.

SmartAiTarget

smartAi targets are the objects that the SmartAgent navigates to. It will navigate to highest priority SmartAiTargets that are navigable first, before moving on to lower priority targets. The the smart coin has the highest priority so that the smart ai will collect all the coins in the room before moving on. The button has the next highest priority, so that once all the coins in an area have been collected, the ai will go to the button to open the door to the next room. The end goal has the lowest priority so that all other AI targets will be interacted with first before the ai finishes the level.

Rotate

The rotate script rotates an object. This is used on a spinning obstacle for the AI.

Basic Door
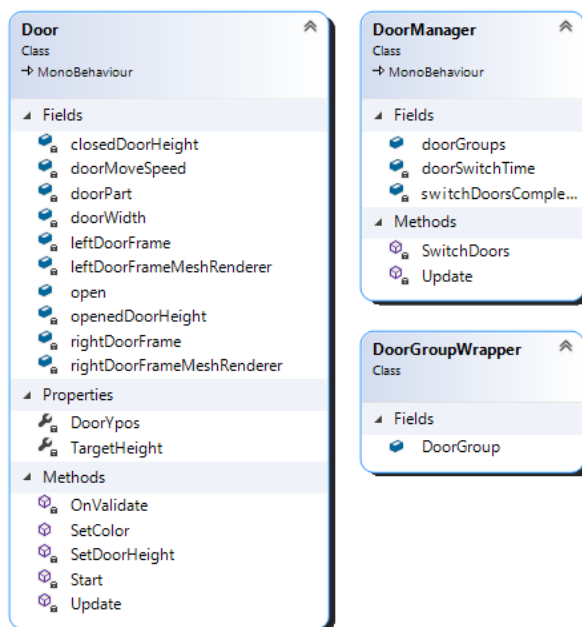
Door

The door is composed of a big door part in the middle and two door frames either side. the door's size and settings can be changed in the inspector and it can be opened and closed by changing the *open* bool.

DoorManager

The door manager randomly opens and closes doors such that each group of doors in doorGroups has one door open, allowing there to always be a path between sections of the maze if the door groups are set up properly.
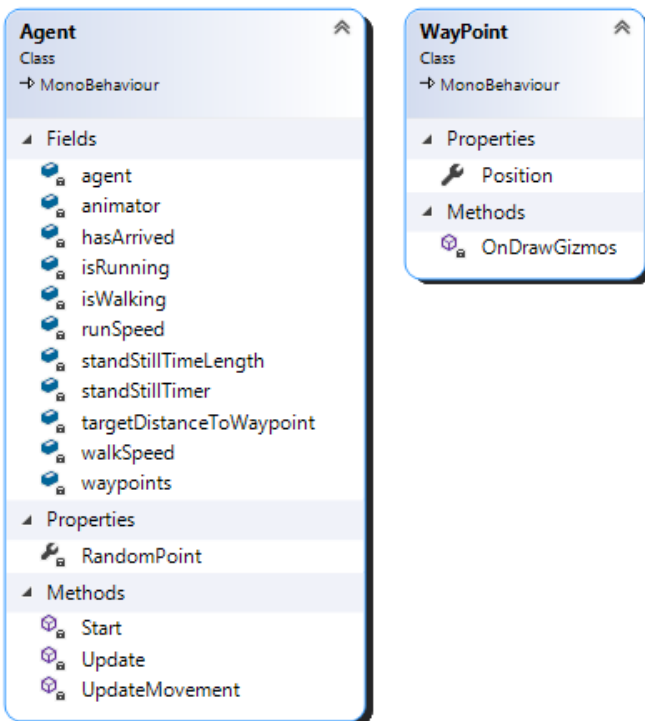
PlayerController
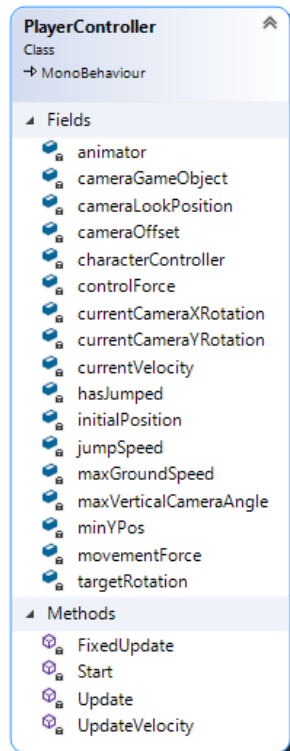
PlayerController

The playercontroller handles the controls, physics, movement and animation of the player character.

Basic AI

Agent
Class
→ MonoBehaviour

▲ Fields
  - agent
  - animator
  - hasArrived
  - isRunning
  - isWalking
  - runSpeed
  - standStillTimeLength
  - standStillTimer
  - targetDistanceToWaypoint
  - walkSpeed
  - waypoints
▲ Properties
  - RandomPoint
▲ Methods
  - Start
  - Update
  - UpdateMovement

WayPoint
Class
→ MonoBehaviour

▲ Properties
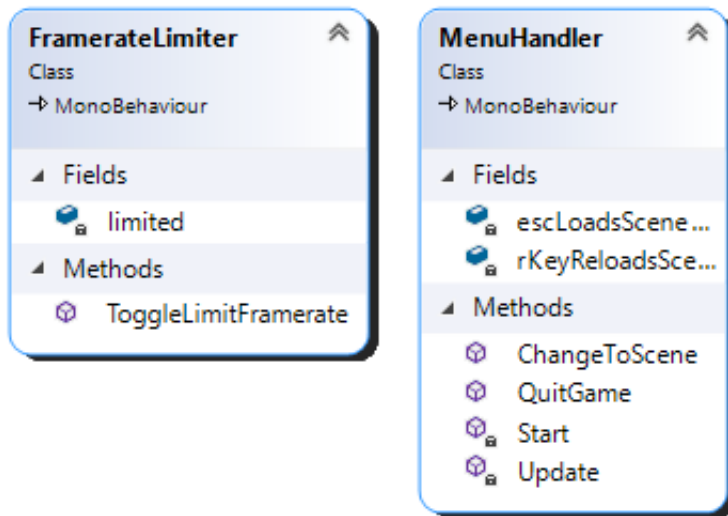 - Position
▲ Methods
  - OnDrawGizmos

Agent

The Agent script handles the navigation, picking of waypoints and animation of an ai navmeshAgent

Waypoint

The waypoint script is used by Agents to navigate to random locations around the map.

Menus

FramerateLimiter

Toggles whether the framerate is limited to 30fps when ToggleLimitFramerate() is called.

MenuHandler

Handles the changing of scenes, pausing and quitting. Ui buttons call the functions in this script.

List Of Libraries Used

- UnityEngine
- System.Collections.Generic
- System.Collections
- UnityEngine.SceneManagement
- UnityEngine.AI
- System.Linq