TEAM UNITY PROTOTYPE 2 REPORT

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USER STORY AND SCENARIOS:

USER STORY | SCENARIO #1

As a child player, i want to play a game which i die and respawn fastly so that i wont bored while searching other players or waiting for respawn.

Eymen is a 10 year old child who spend his all day playing after doing his homeworks. He borned into the age of Internet so his attention span is very low. He doesn't want to wait for long times while playing. If so he will change his focus to another game or another activity which he doesn't want it because it will also take time to start another game.

Eymen started to search games through store and gives our game a try. After he get used to games controls he realized that he can play game with full focus because every second you can die because there will always be an enemy also if you don't pick special weapons you will die more because in that case enemy will take that weapons and they are more powerful so Eymen will die more. That system fulfills Eymens desires.

USER STORY | SCENARIO #2

As a teenage player, i want to play a shooter multiplayer game which i can play with my friends so that conflict could be between us not with AI.

Dilara is a 18 year old teenage who loves spending time with his friends so she invites or become guests of his friends a lot but other than that she is lonely at home. She also loves playing games with them. She realized that he can play online games with her friends so she don't need to be lone at home also.

She started to search games and sees our game. She realizes that she can play it and since it's a shooter game she and his friends will clash with each other which is a fun thing to do with friends. She downloads it and invites his friends and play it when she bored at home.

PROJECT BACKLOG:

| TASK	PRIORITY	STATUS	RATIONALE
Movement Mechanics	TOP PRIORITY	DONE	Since, we are developing a game there is nothing more important than gameplay mechanics. These mechanics are the reason for user to play our game.
Weapon Mechanics	TOP PRIORITY	DONE	
Shooting Mechanics	TOP PRIORITY	DONE	
Map Design	HIGH PRIORITY	IN PROGRESS	Map is the place where all of action will take place on. So, it is a high priority task.
Development of In Game UI	HIGH PRIORITY	IN PROGRESS	Easy to interact button placement is a requirement for us. User shouldn't have any problems with buttons and their functions.
Development of Menu UI	MEDIUM PRIORITY	IN PROGRESS	Menu UI is less important than other tasks since user will spend most of his/her time on playing game not staying in main menu.
Lobby System	HIGH PRIORITY	IN PROGRESS	Easy to interact lobby system is a requirement for a multiplayer game.
In Game Networking	TOP PRIORITY	IN PROGRESS	We are developing a multiplayer game. So, networking is a core task for us. We don't want user to experience any technical issues.
In Game Collision Handling	HIGH PRIORITY	DONE	Smooth movements are important for our game.

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Game Stats	TOP PRIORITY	IN PROGRESS	Since, our game is a shooting game kill and death counts are crucial .Players need to see their game stats for a competitive gameplay.
Player Rotation Mechanics	TOP PRIORITY	DONE	Players have to be able to aim easily and correctly .
Player Respawn Mechanics	TOP PRIORITY	DONE	Players should respawn after they're dead. This is too important for fast and fun gameplay.
Bullet Movements and Collisions	HIGH PRIORITY	DONE	Bullets should move fast enough to hit the other players and destroy when touch an object. That is important for convincing gameplay.
Effects	MEDIUM PRIORITY	IN PROGRESS	It is a nice feature to add to the game. But, it is not that important.
Sound Options	LOW PRIORITY	IN PROGRESS	Players would want to be able to on/off sound and music. But, is not that important.

DIAGRAMS:

CONTEXT MODEL:
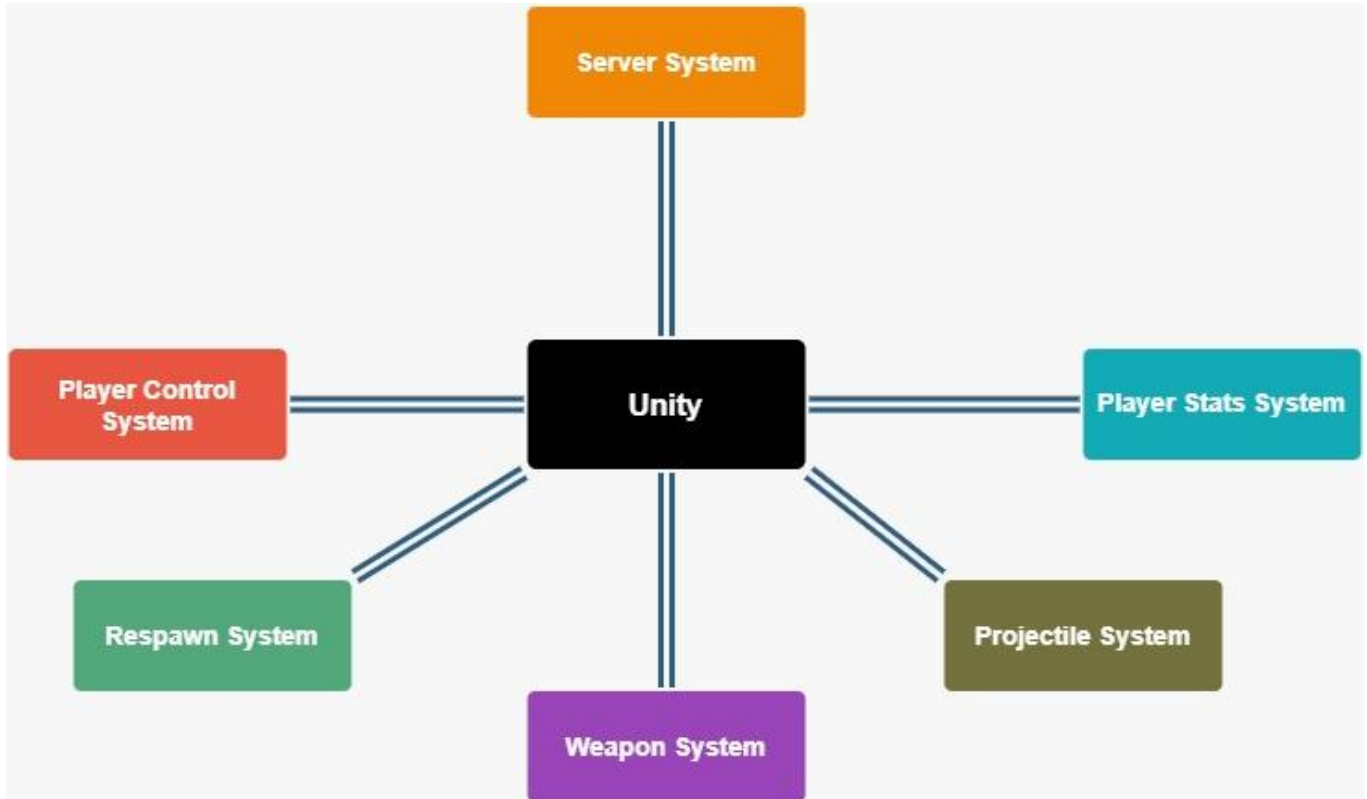
PROCESS MODEL:
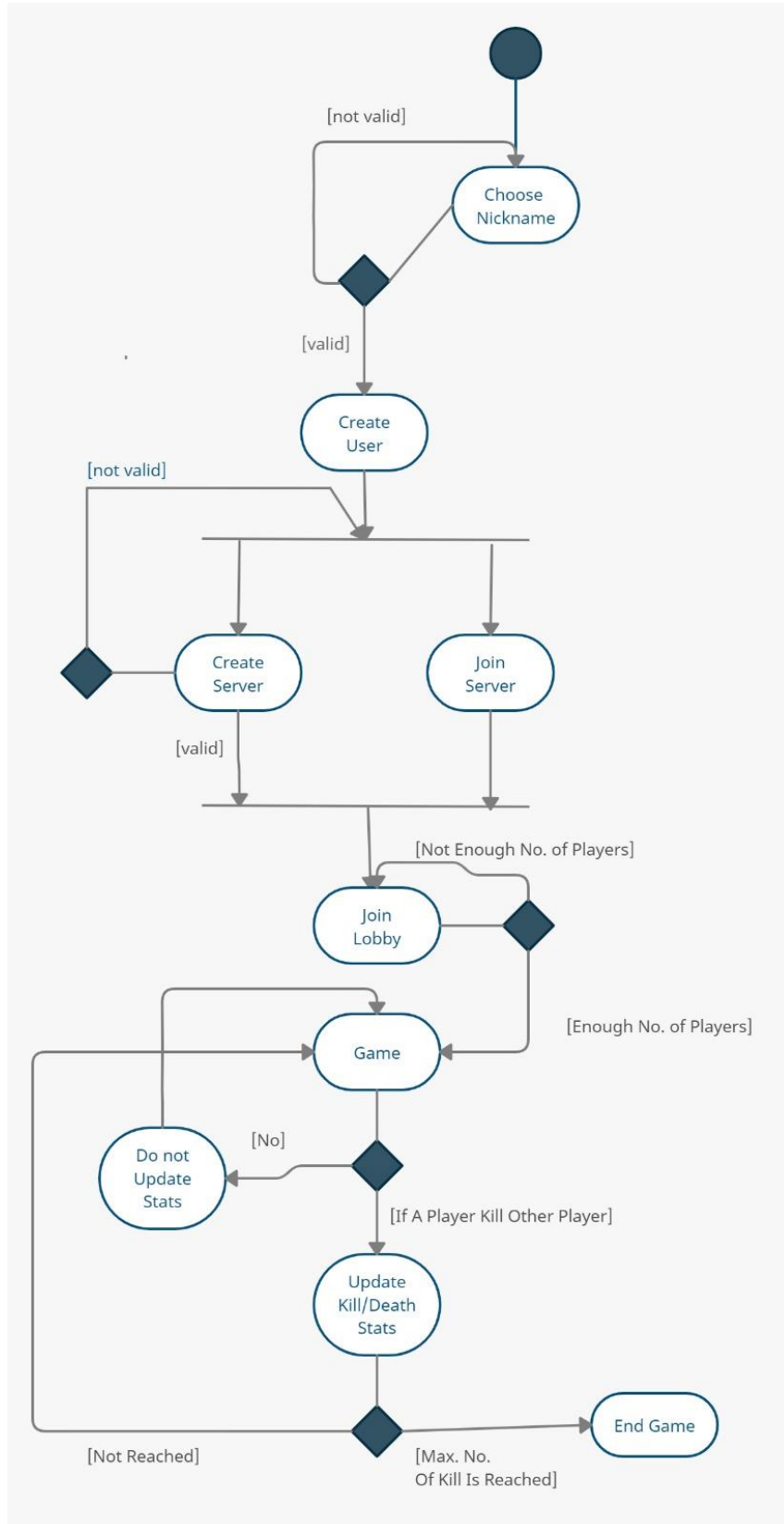
USE-CASE DIAGRAMS:
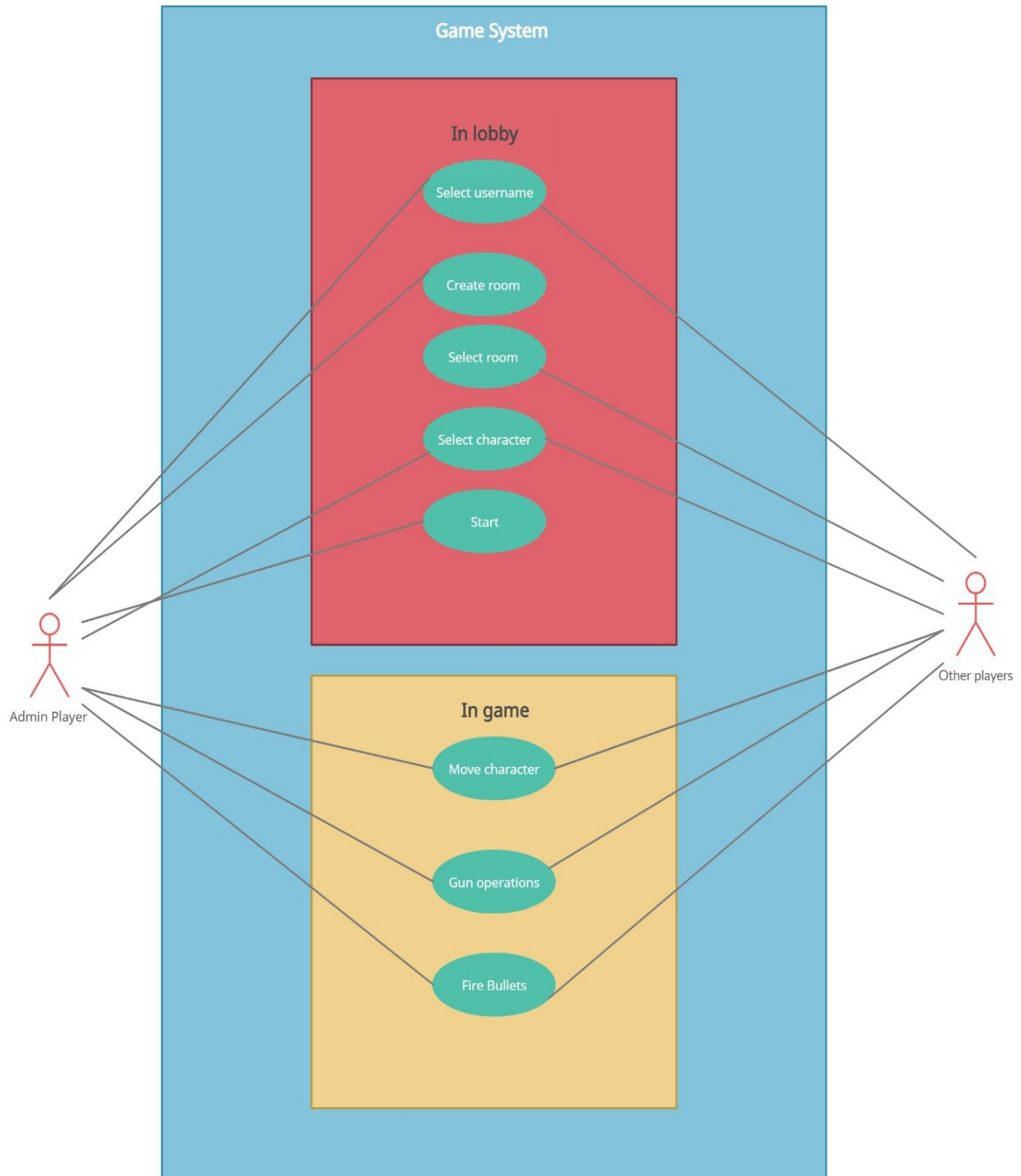
USE CASE TABLES

System	Game System
Use Case	Select Username
Actors	Admin Player,Other players
Data	Username of the players are stored in the game system and are hidden to appear in-game.
Stimulus	Players communicate with the system and request their usernames to be stored
Response	Usernames are stored in the system
Comments	Usernames must be more than 1 letter

System	Game System
Use Case	Create room
Actors	Admin player
Data	The admin player determines a room name and this name is stored in the system.Players who want to connect to the room are connected by seeing this name
Stimulus	Room creation section connects to unity server and creates the room that allows other players to connect
Response	Player data is sent to unity server
Comments	Room name must be greater than 1 letter

System	Game System
Use Case	Select Room
Actors	Other players
Data	Unity server sends room information to other players. The data of new players joining the room are kept in the system
Stimulus	Other players establish a communication link with the unity server and request their information to be forwarded
Response	Player information is sent to unity server
Comments	In this section, users can see each other's names

System	Game System
Use Case	Select Character
Actors	Admin Player,Other Players
Data	The data of the characters selected by the players are stored in the database
Stimulus	The character selection system communicates with the unity server.Request the transmission of character data
Response	The characters chose by the players are seen by other players
Comments	5 character can be selected

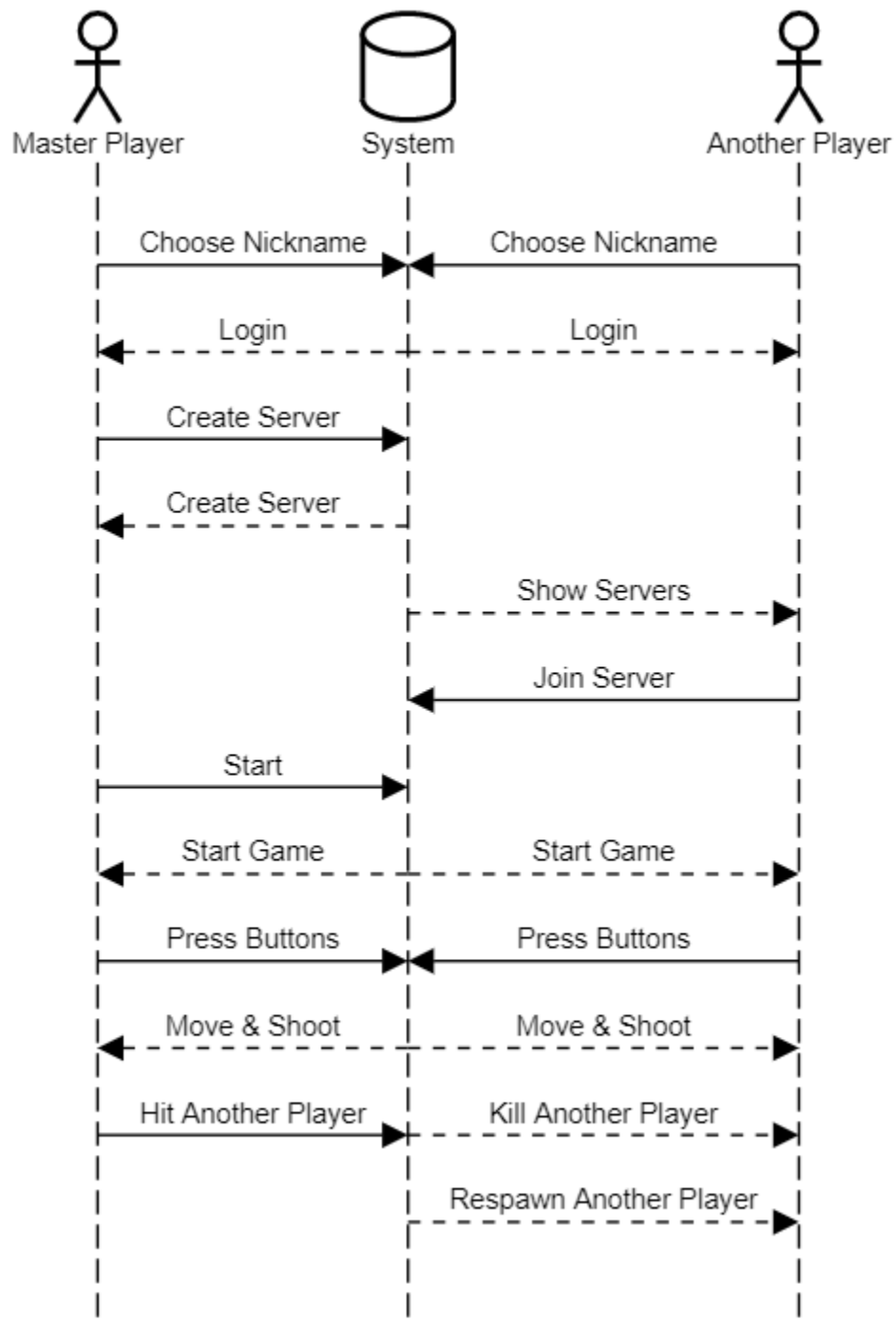| System	Game System
Use Case	Start
Actors	Admin Player
Data	Player information is sent to the game screen eg player name
Stimulus	By communicating with the unity server, the movements of the players are visible to each other
Response	The game begins
Comments	5 people can enter the game

System	Game System
Use Case	Move Character
Actors	Admin Player,Other players
Data	Player position information and movement instructions are stored in game system
Stimulus	Player position information is sent to the unity server so that other players can see the position changes
Response	The player moves
Comments	Player movement is done with the (W,A,S,D) keys on the computer. On the phone , there is a joystick

System	Game System
Use Case	Gun operations
Actors	Admin Player,Other players
Data	There are different types of weapons, these weapons have different characteristics ,the data is stored in the system.
Stimulus	Behaviors of weapons ,shooting etc. Interacts with unity server.When interacted,it goes to the opposite side as bullets
Response	The game begins
Comments	Pick up the gun throw the gun down shoot the bullet

System	Game System
Use Case	Fire Bullets
Actors	Admin Player,Other player
Data	Each weapons has a different feature,in line with these data , a certain amount of health is reduced in the character hit by the bullet, this data may change in the later parts of the game. Data is kept dynamically in the game system
Stimulus	The health information generated by the bullets hitting the characters communicates with the unity server and the characters whose health is depleted are eliminated
Response	Decreased health of characters
Comments	5 people can enter the game

SEQUENCE DIAGRAMS:

Prototype 2 | Sequence Diagram

STATE DIAGRAMS:

CLASS DIAGRAMS

PlayerItem
playerName : TMP_Text
portraits : Sprite []
leftArrow : GameObject
rightArrow : GameObject
backgroundImage : Image
playerAvatar : Image
layoutGroup : HorizontalLayoutGroup
player : Player
playerProperties : Hashtable

Start
SetPlayerInfo
ApplyLocalChanges
OnClickLeftArrow
OnClickRightArrow
OnPlayerPropertiesUpdate
UpdatePlayerItem

RoomItem
roomName : TMP_Text

Start
SetRoomName
OnClickItem

GameManager
playerPrefab : GameObject
sp : SpawnPoints

Start

Stats
deathCount : int
killCount : int

setDeathCount
setKillCount
getDeathCount
getKillCount

LobbyManager
lobbyPanel : GameObject
roomPanel : GameObject
roomName : TMP_Text
roomInputField : TMP_InputField
roomItemPrefab : RoomItem
contentObject : Transform
startGameButton : GameObject
roomItemList : List<RoomItem>
playerItemList : List<PlayerItem>
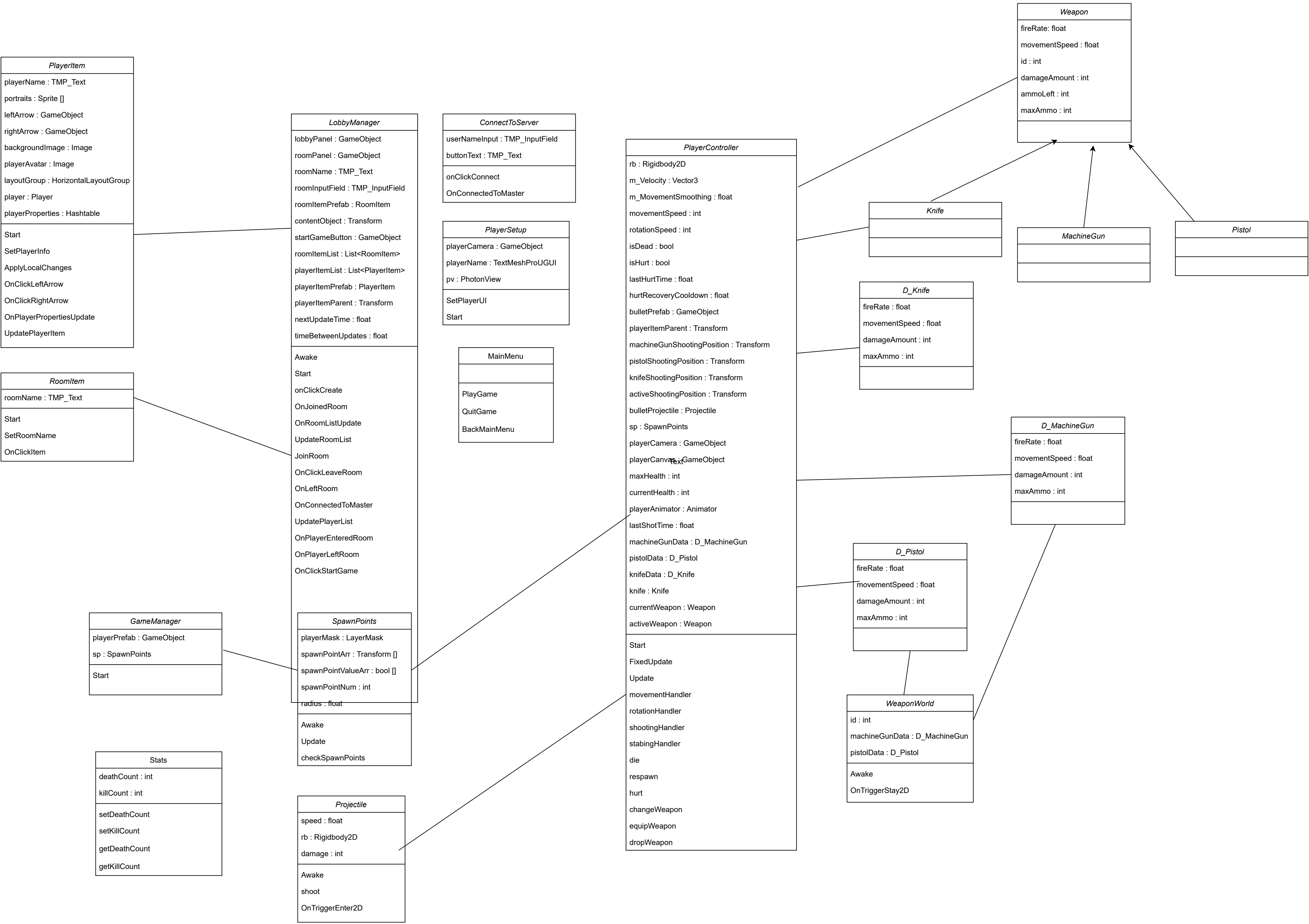playerItemPrefab : PlayerItem
playerItemParent : Transform
nextUpdateTime : float
timeBetweenUpdates : float

Awake
Start
onClickCreate
OnJoinedRoom
OnRoomListUpdate
UpdateRoomList
JoinRoom
OnClickLeaveRoom
OnLeftRoom
OnConnectedToMaster
UpdatePlayerList
OnPlayerEnteredRoom
OnPlayerLeftRoom
OnClickStartGame

SpawnPoints
playerMask : LayerMask
spawnPointArr : Transform []
spawnPointValueArr : bool []
spawnPointNum : int
radius : float

Awake
Update
checkSpawnPoints

ConnectToServer
userNameInput : TMP_InputField
buttonText : TMP_Text

onClickConnect
OnConnectedToMaster

PlayerSetup
playerCamera : GameObject
playerName : TextMeshProUGUI
pv : PhotonView

SetPlayerUI
Start

MainMenu

PlayGame
QuitGame
BackMainMenu

Projectile
speed : float
rb : Rigidbody2D
damage : int

Awake
shoot
OnTriggerEnter2D

PlayerController
rb : Rigidbody2D
m_Velocity : Vector3
m_MovementSmoothing : float
movementSpeed : int
rotationSpeed : int
isDead : bool
isHurt : bool
lastHurtTime : float
hurtRecoveryCooldown : float
bulletPrefab : GameObject
playerItemParent : Transform
machineGunShootingPosition : Transform
pistolShootingPosition : Transform
knifeShootingPosition : Transform
activeShootingPosition : Transform
bulletProjectile : Projectile
sp : SpawnPoints
playerCamera : GameObject
playerCanvas : GameObject
maxHealth : int
currentHealth : int
playerAnimator : Animator
lastShotTime : float
machineGunData : D_MachineGun
pistolData : D_Pistol
knifeData : D_Knife
knife : Knife
currentWeapon : Weapon
activeWeapon : Weapon

Start
FixedUpdate
Update
movementHandler
rotationHandler
shootingHandler
stabingHandler
die
respawn
hurt
changeWeapon
equipWeapon
dropWeapon

Weapon
fireRate: float
movementSpeed : float
id : int
damageAmount : int
ammoLeft : int
maxAmmo : int

Knife

MachineGun

Pistol

D_Knife
fireRate : float
movementSpeed : float
damageAmount : int
maxAmmo : int

D_MachineGun
fireRate : float
movementSpeed : float
damageAmount : int
maxAmmo : int

D_Pistol
fireRate : float
movementSpeed : float
damageAmount : int
maxAmmo : int

WeaponWorld
id : int
machineGunData : D_MachineGun
pistolData : D_Pistol

Awake
OnTriggerStay2D

GRAPHICAL INTERFACE

MAIN MENU:

PLAY button: Opens the enter nickname scene

SETTINGS button: Opens the Settings scene

QUIT button: Quits the game

Text Input Field: Text field for player nickname

Connect button: Player connects to server

Back button: Player gets back to Main menu

Text Input Field: Text field for room's name

Next button: Creates a room with name at the text field

Back button: Gets back to player nickname scene

Main Menu button: Player gets back to main menu

Horizontal Layout Group on the right: Displays the online rooms

Rooms Name: Displays the room's name

START button: Starts the game

LEAVE button: Player leaves the game and opens the room selection scene

Arrow buttons near the player portrait: Changes the player portrait
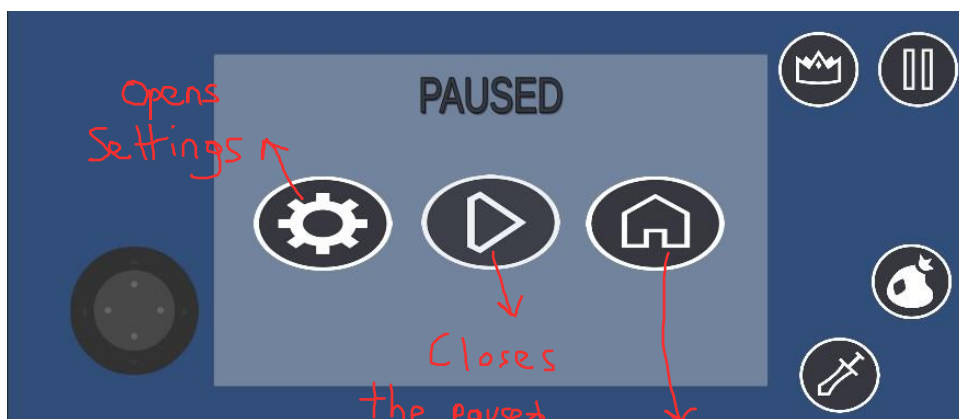
PAUSED

Opens Settings ↑

Closes the paused scene

Gets back to main Menu

LEADERBOARD

Displays the
game stats

Opens the paused
scene

Main Menu

Drops player's
current weapon
to the ground

Changes player's
weapon with other
weapon he/she has

Equip the weapon
on the ground

Changes player's movemets

test

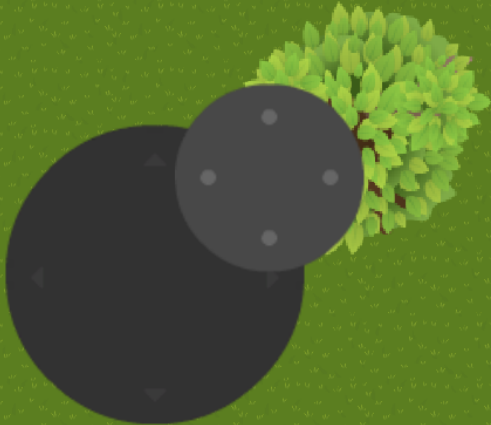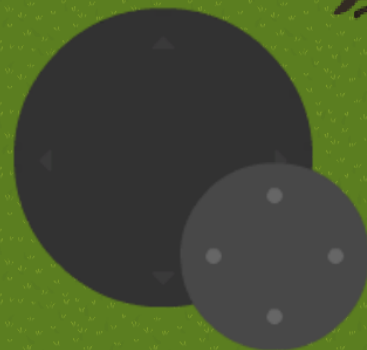Shoots bullets

Changes player's
rotation

test
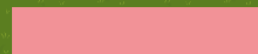
test

test

test

TEST CASES

Test Case ID	Test Case Description	Expected Result	Pass/Fail
Lobby 1	Play button	Change scene to Server menu.	Pass
Lobby 1.1	Settings button	Change scene to Settings Menu.	Fail
Lobby 1.2	Quit button	Terminate the game.	Fail
Lobby 2	Nickname box	Take an input for a nickname.	Pass
Lobby 2.1	Connect button	Check if there's any input and connect to the server list.	Pass
Lobby 2.2	Back button	Change scene to Main Menu.	Pass
Lobby 3	Room name box	Take an input for a room name.	Pass
Lobby 3.1	Next button	Check if there's any input and connect to the server.	Pass
Lobby 3.2	Back button	Chance scene to Main Menu.	Pass
Lobby 3.3	Main Menu Button	Change scene to Main Menu.	Fail
Lobby 3.4	Server List	Connect the user to the selected server.	Pass
Lobby 4	Sliding through avatars	Select an avatar.	Pass
Lobby 4.1	Start button	Start the game.	Pass
Lobby 4.2	Leave button	Disconnect user from server and connect back to server list.	Pass
Game 1	WASD or arrow keys	Character movements.	Pass
Game 1.1	E	Pick up a gun.	Fail
Game 1.2	Right Mouse Click	Shoot	Pass
Game 1.3	G	Drop a gun.	Fail
Game 1.4	Main Menu	Leave the server. Change scene to Main Menu.	Fail
Game 1.5	F	Change the gun.	Pass
Game 1.6	Shooting an obstacle	Bullets do not go through.	Fail

Comments on Failed Cases

Test Case ID	Commentary
Lobby 1.1	There is no Settings Menu.
Lobby 1.2	Game does not terminate.
Lobby 3.3	Button does not work.
Game 1.1	Can pick up an infinite amount of guns.
Game 1.3	Can drop an infinite amount of guns.
Game 1.4	Button does not work.
Game 1.6	Guns on the ground are considered as obstacles.