



AVOCADO SHARK

Clean Multiplayer Pro (2D)

Documentation

Introduction

Welcome and Thank You for embarking on your professional multiplayer journey!

Clean Multiplayer Pro (2D) - (CMP2D) is an asset package designed to jump start game developers' multiplayer Unity games with ease providing advanced features.

Getting Started

In the Tools/CMP2D tab, you can find the setup wizard which will take you through all the steps needed to begin.

You can also watch our [tutorials](#) to help guide you through the whole setup process and get you to understand the asset together with how to modify it, such as:

- How to change the player model?
- How to change the environment?

- How to set a custom spawn location for the player?
- How to enable mobile input controls?
- How to change the death trigger threshold?
- How to customize character selection?
- How to synchronize data in runtime between players?

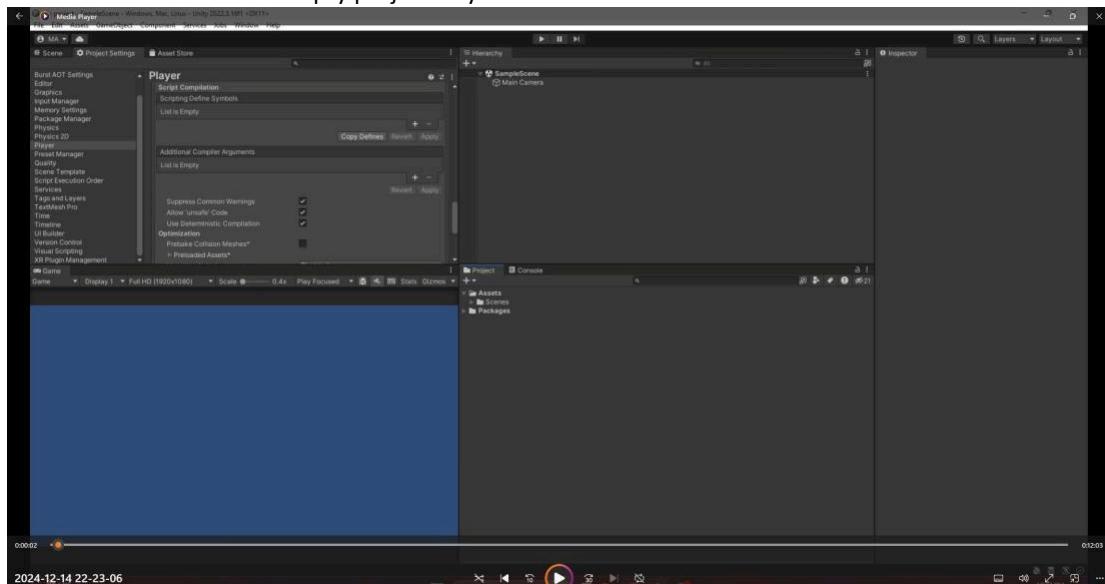
Moreover, below you will be able to find the offline version of each tutorial documenting how to modify and set up the asset.

Community and Support

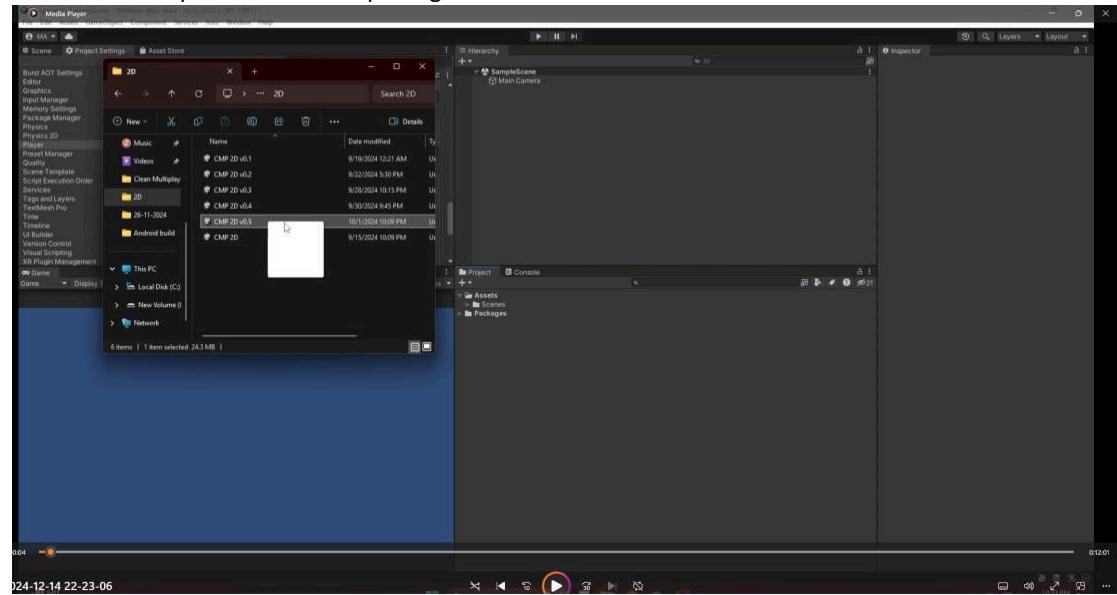
If you need any help or just want to chat with the community, feel free to join the [Discord Server](#).

Getting started tutorial

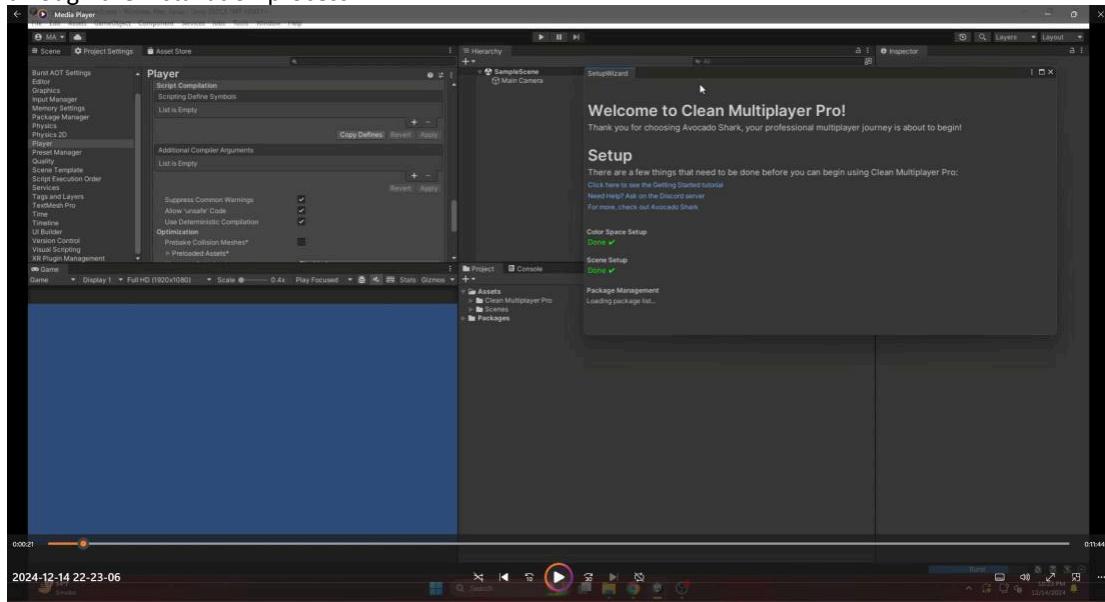
1- First I have created an empty project as you can see



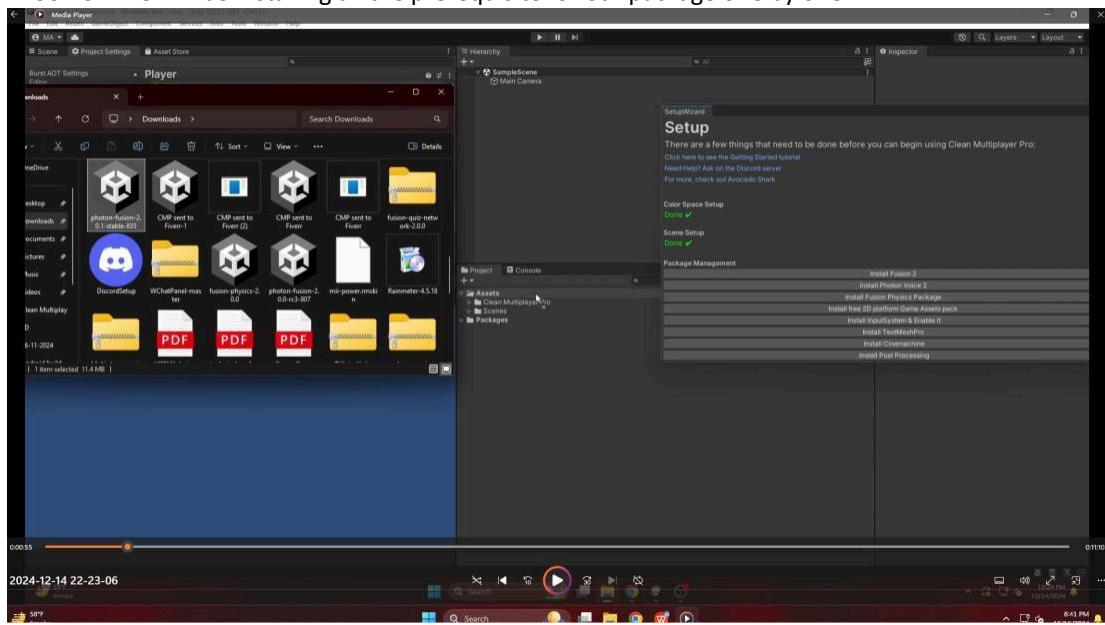
2- Now I will import the CMP 2D package which I have downloaded earlier



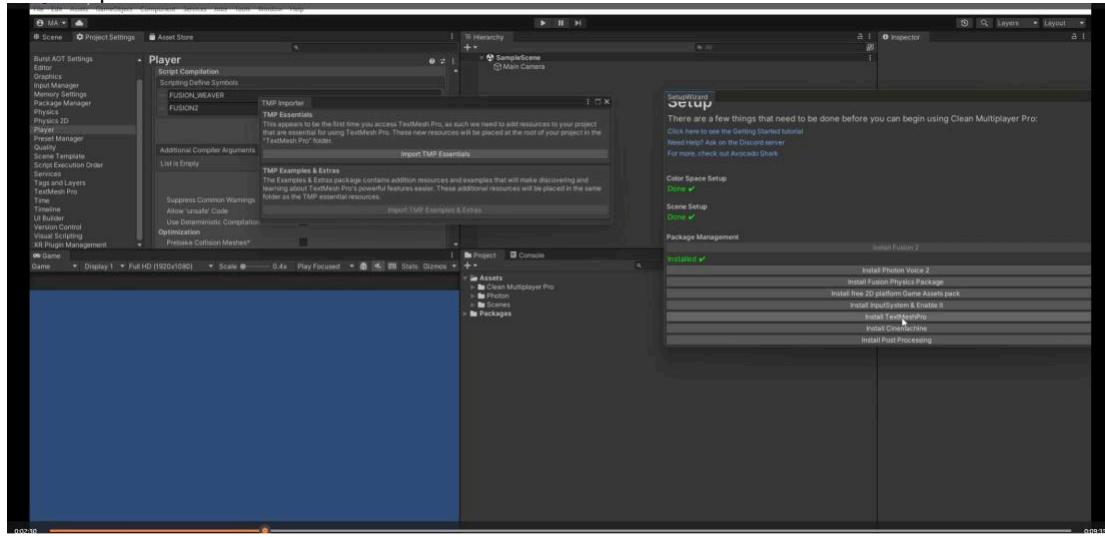
3- After the loading is complete you will be able to see a welcome window which will guide you through the installation process



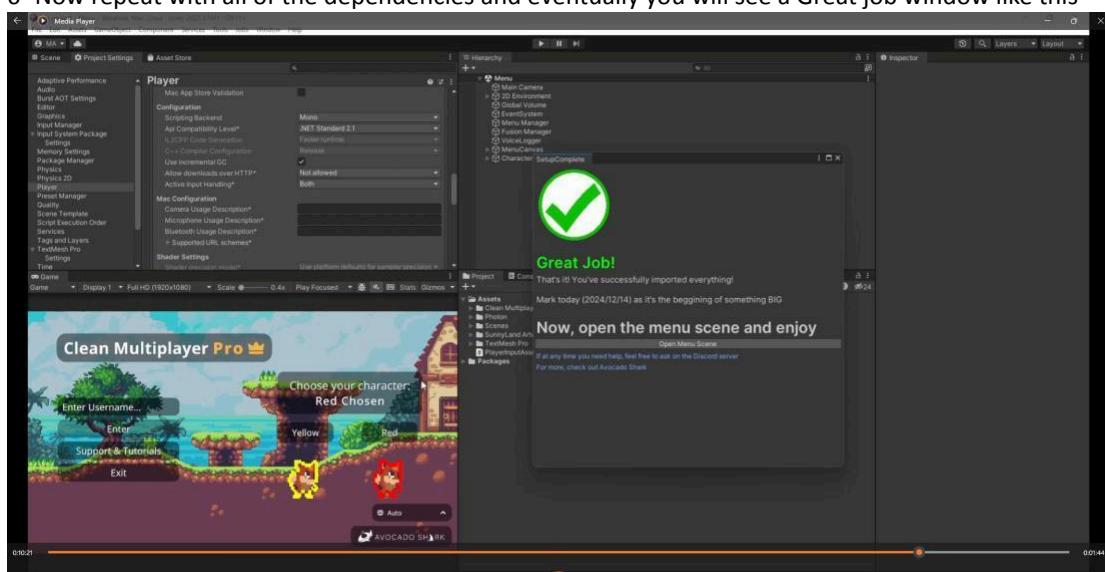
4- So now we will be installing all the prerequisite for our package one by one



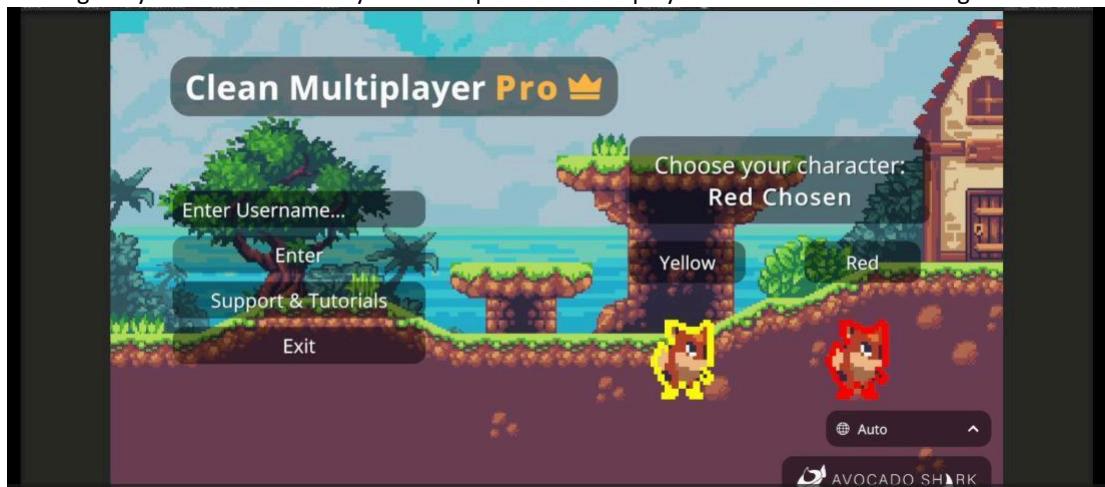
5- As you install fusion 2 the check box is marked green and its represent that you have completed this setup



6- Now repeat with all of the dependencies and eventually you will see a Great job window like this

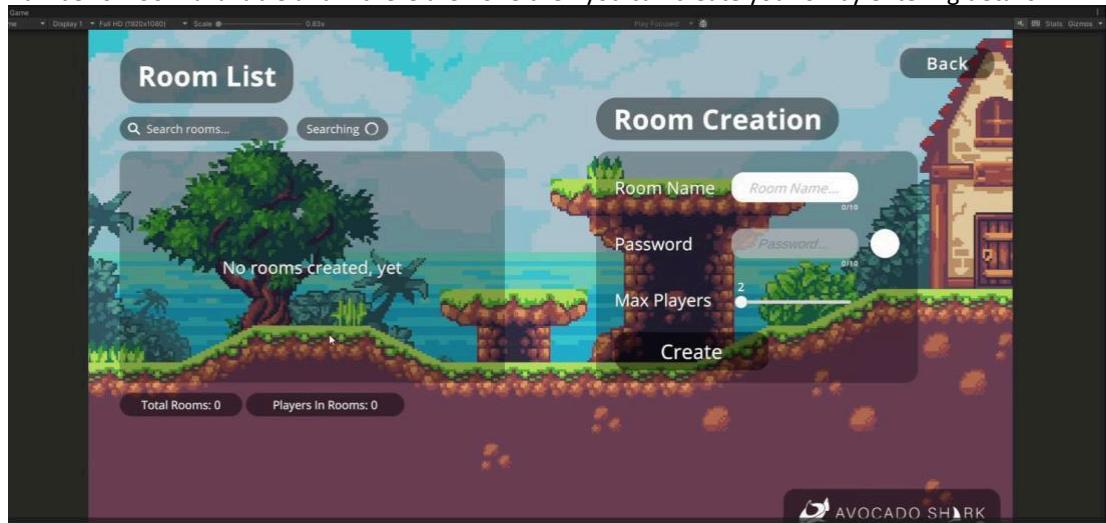


7- Congrats you have successfully install cmp 2d now let's play it and check how the thing work

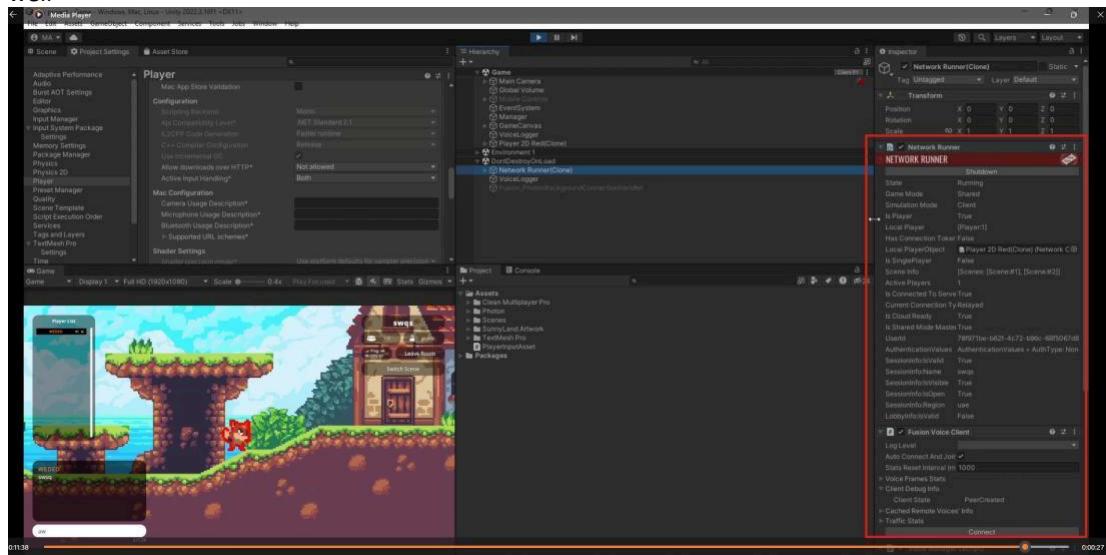


8- So this is our menu screen which has character selection , name region details

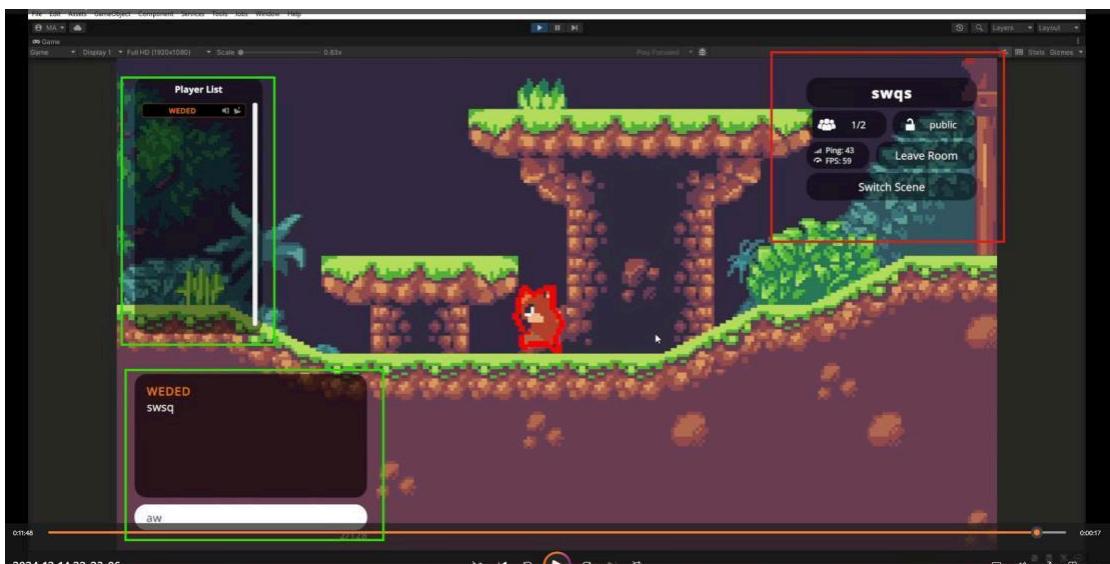
9- By writing a user-name and pressing enter you will see room joining screen which has details about number of room available and if there are none then you can create your on by entering details



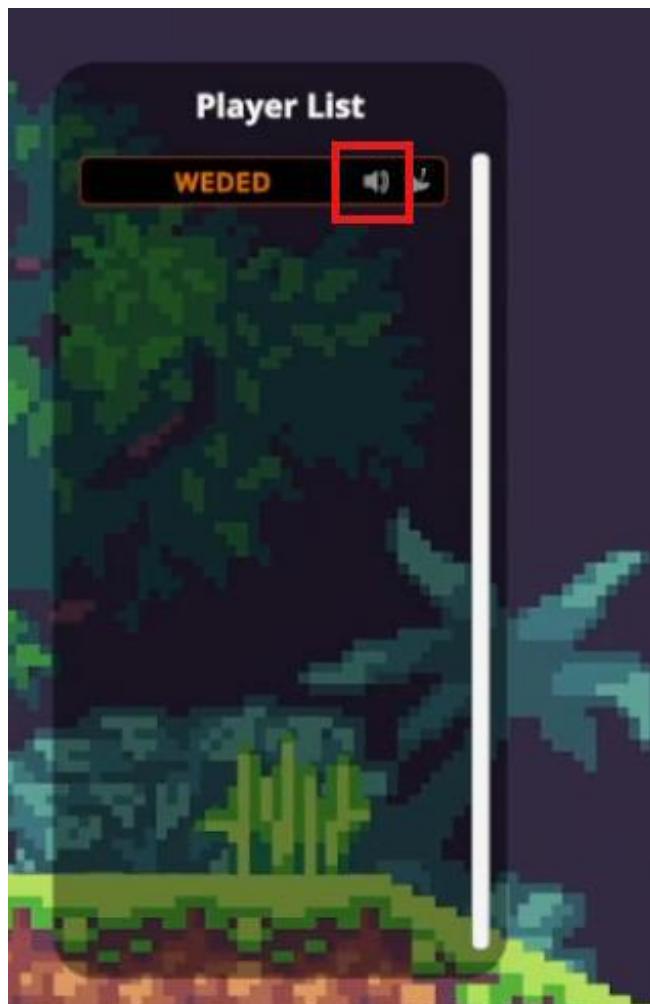
10- Once you hit the create button the room will be created and you can check that in inspector as well



11- Now for player locomotion you can use the arrow keys / WASD keys to move and space for jump .the game play screen has some cool features like chat system , player list and voting system

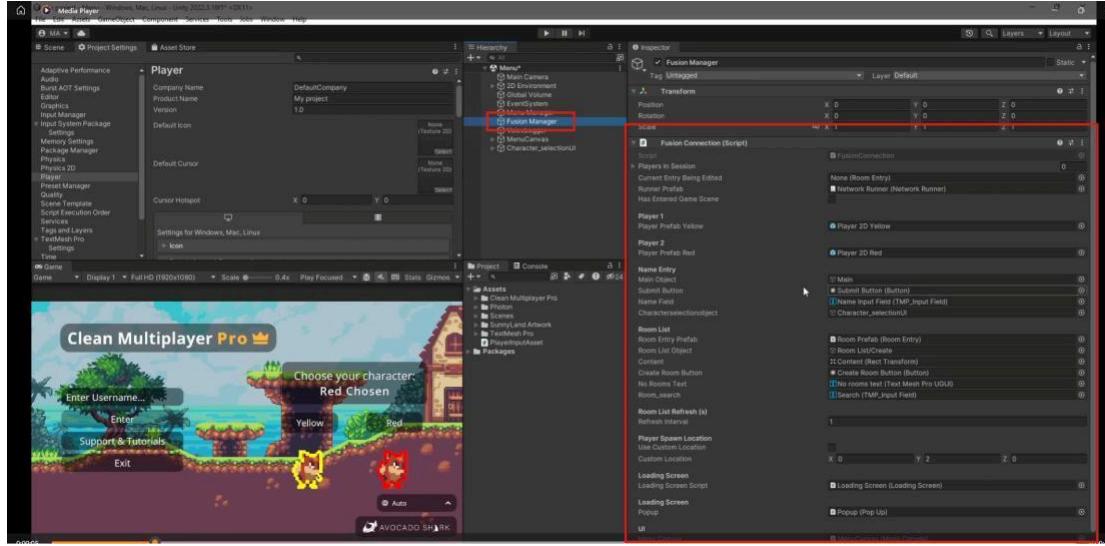


12- For voice chat you can press v key for speaking with your friends

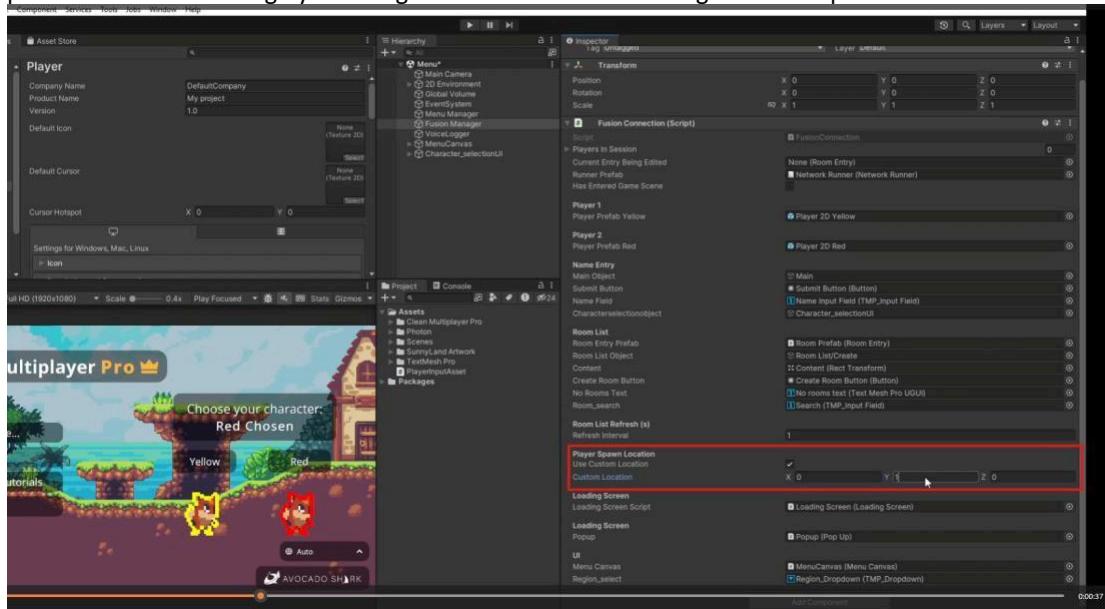


Setting a custom spawn point

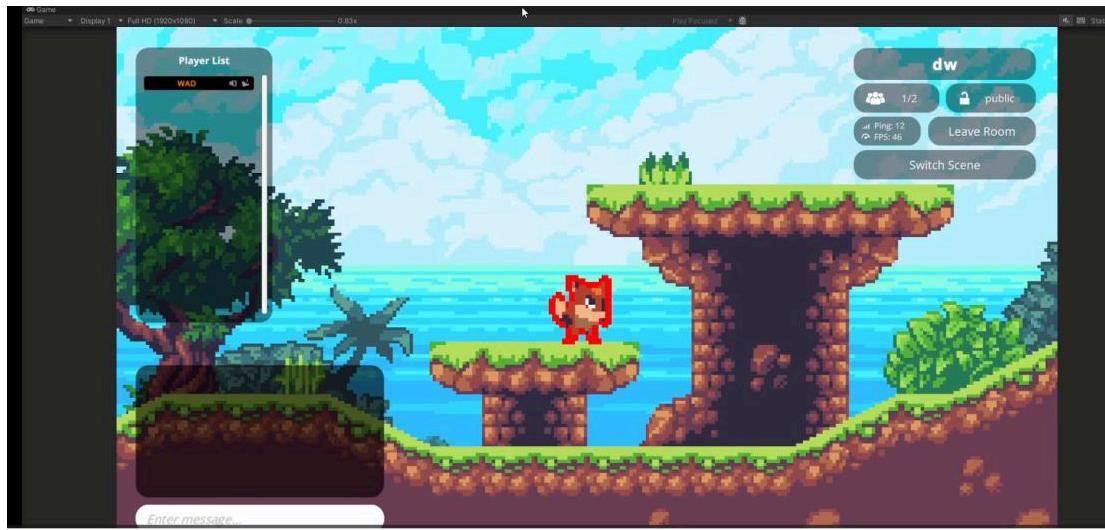
1- Select the fusion manager in hierarchy and you will able to see fusion connection component in inspector window



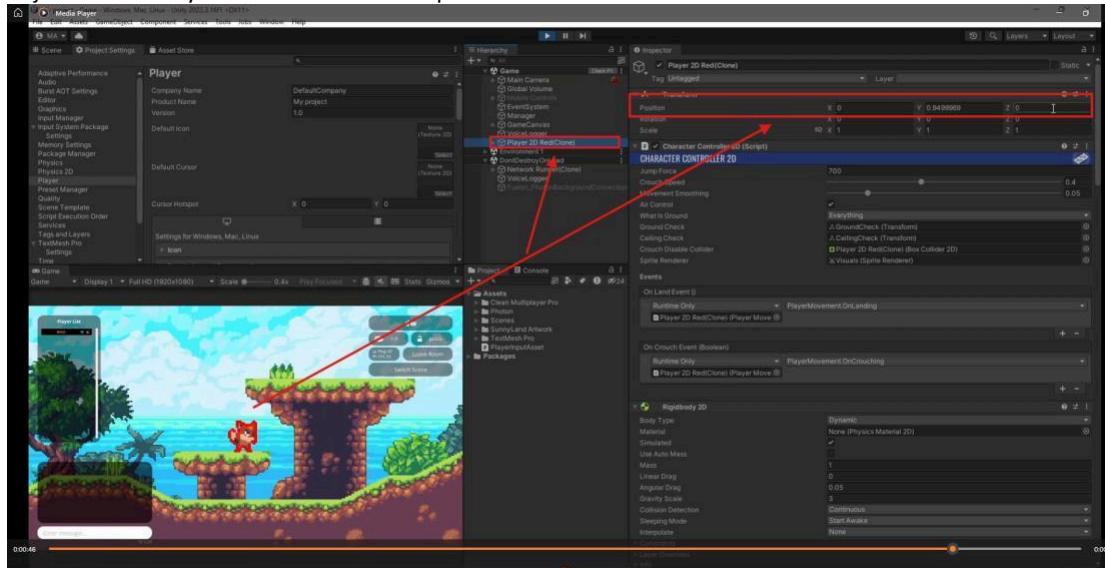
2- At the bottom of this component you can see the relevant setting for setting a custom spawn point . lets on the setting by enabling the check-box and entering our desire position



3- lets press play and make room to test if player is indeed on our desired location or not



4-Now to check if our player is whether on our desire location or not will simply select player object in hierarchy ha check its transform position which is indeed the same as we entered



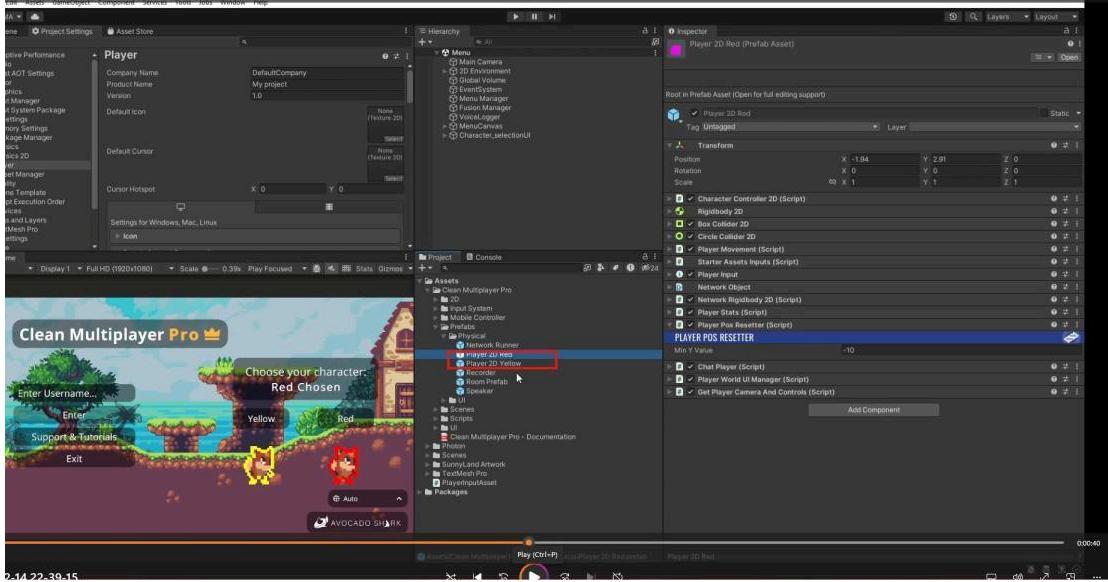
Changing the death trigger threshold

1-Lets make a room and make the player fall , here you can see that there is certain threshold for player if its trigger the system consider it as falling and resets the player

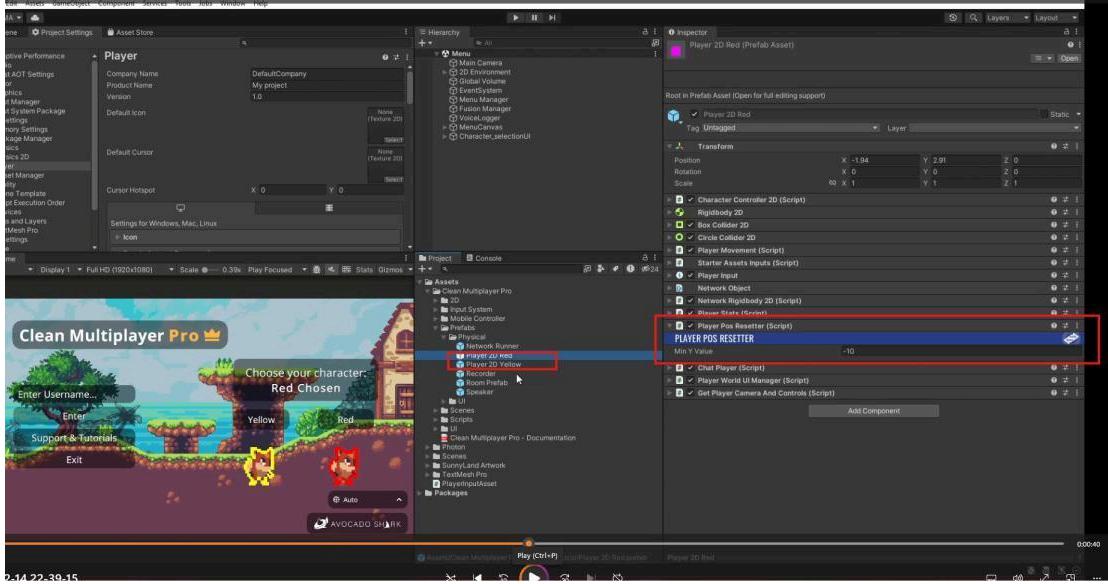
position



2-Now that you have seen that indeed there is a death trigger , let's see how we can change that .
go to the assets in select the player prefabs



3- There you can see in the inspector , there is a component name player pos resetter lets change its value to something else like -5 and test if our player will die sooner as he falls or not

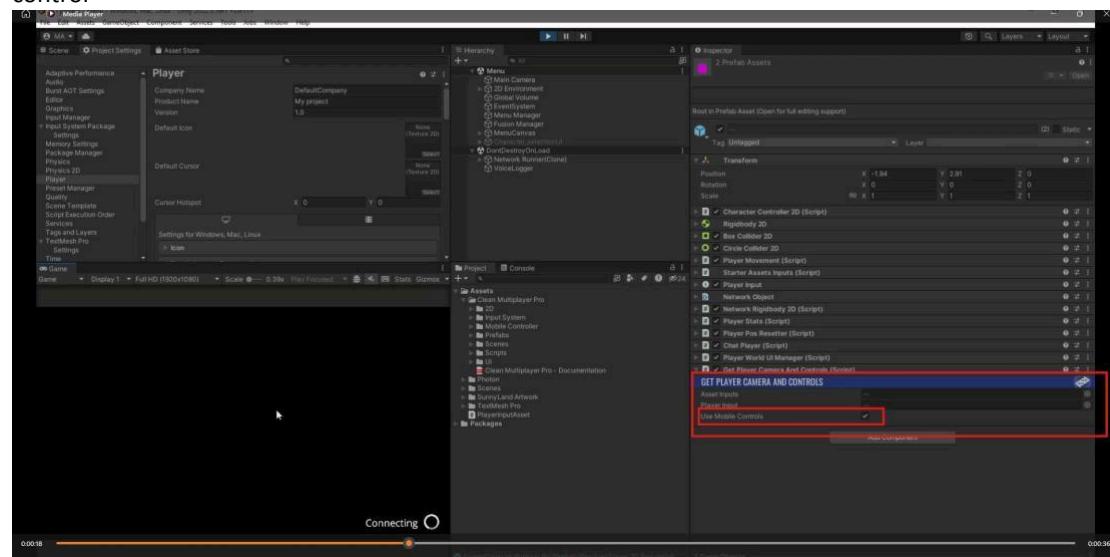


Enabling mobile controls

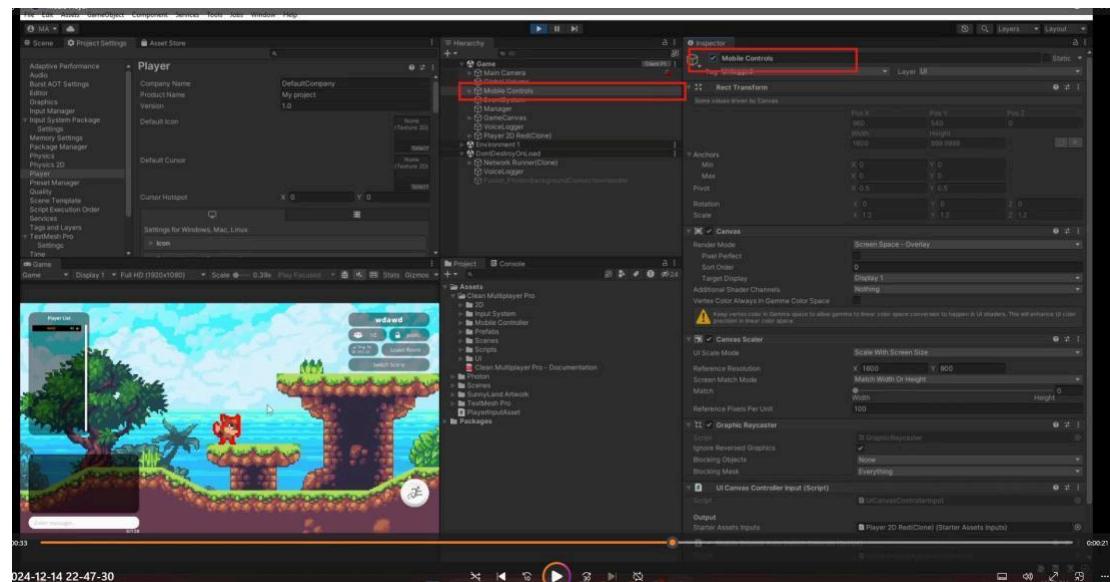
1- Lets learn how to enable mobile controls for player in cmp 2d , first select the player prefabs and got the inspector window there you will see a component name Get player camera and controls here

you have to enabled the check “use mobile

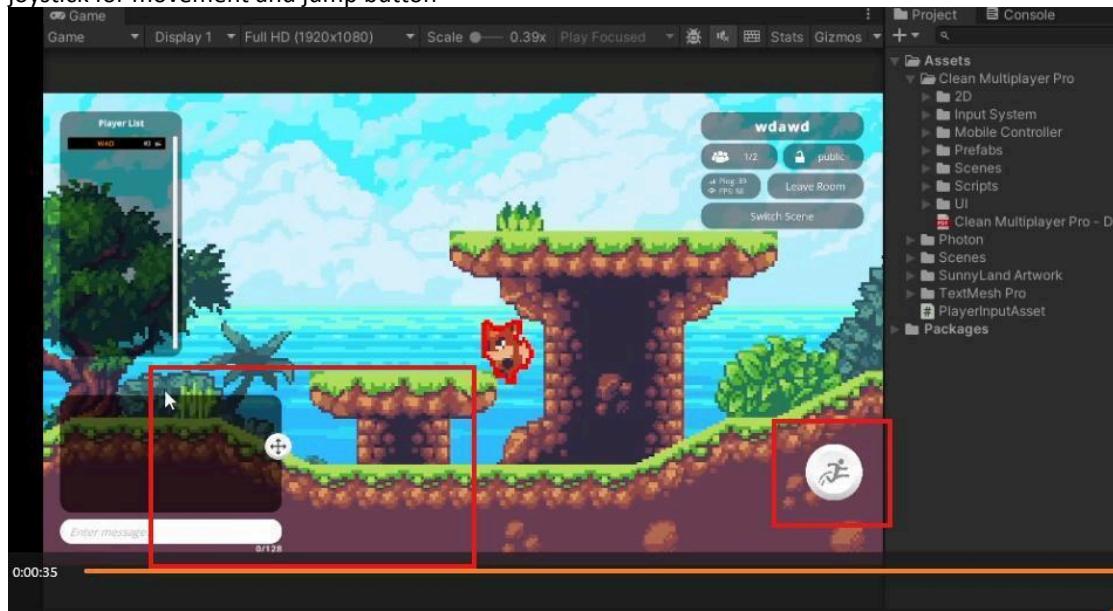
control”



2- Now if you make and build for mobile devices than you can see the mobile controls but for editor lets enabled them on runtime by selecting the game play scene there you can see an object name mobile controls and enabling it will enable the mobile controls for the editor

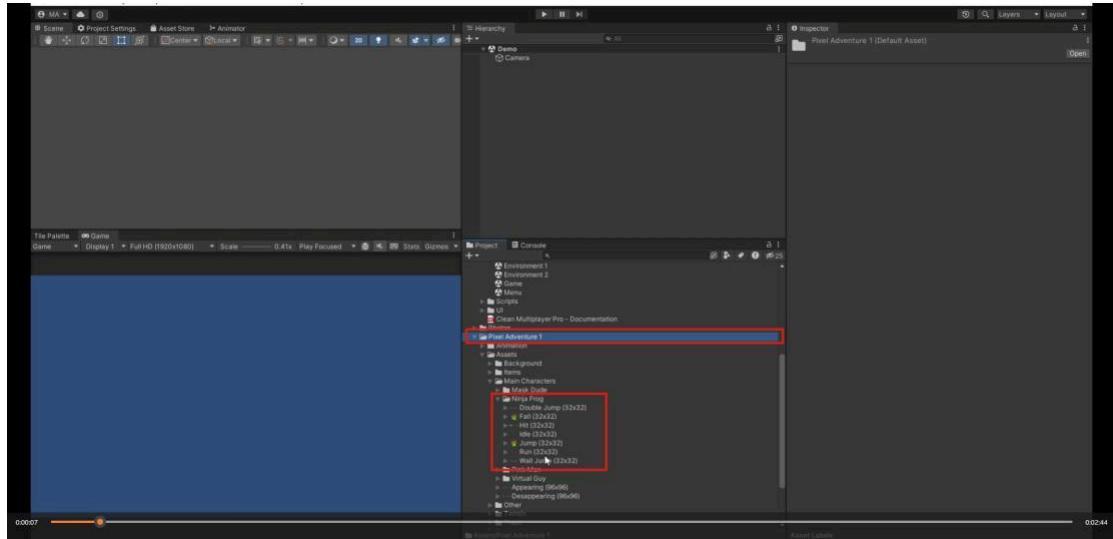


3- After enabling it you would see some button in game play meant to be used in mobile mode like joystick for movement and jump button

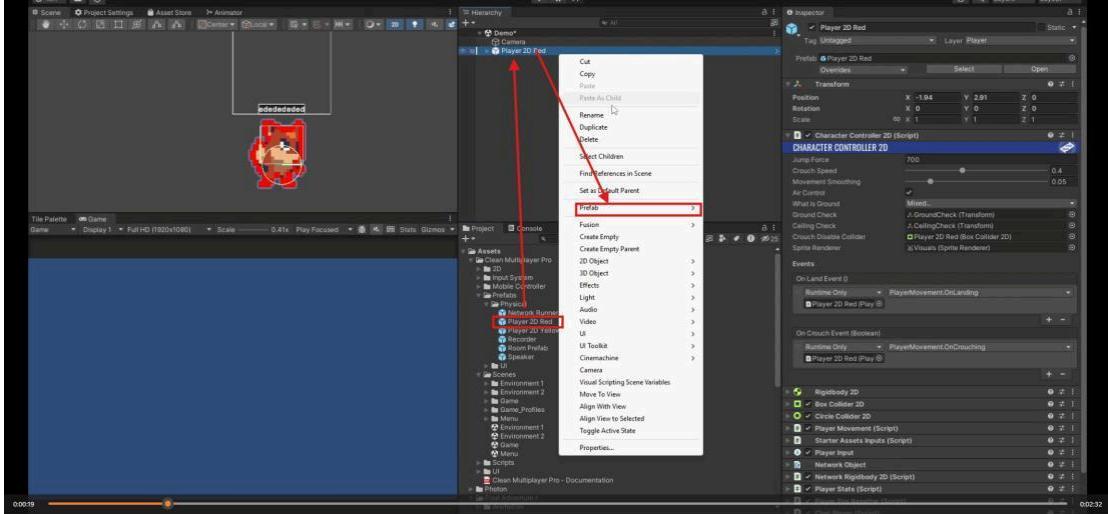


Change Player Model

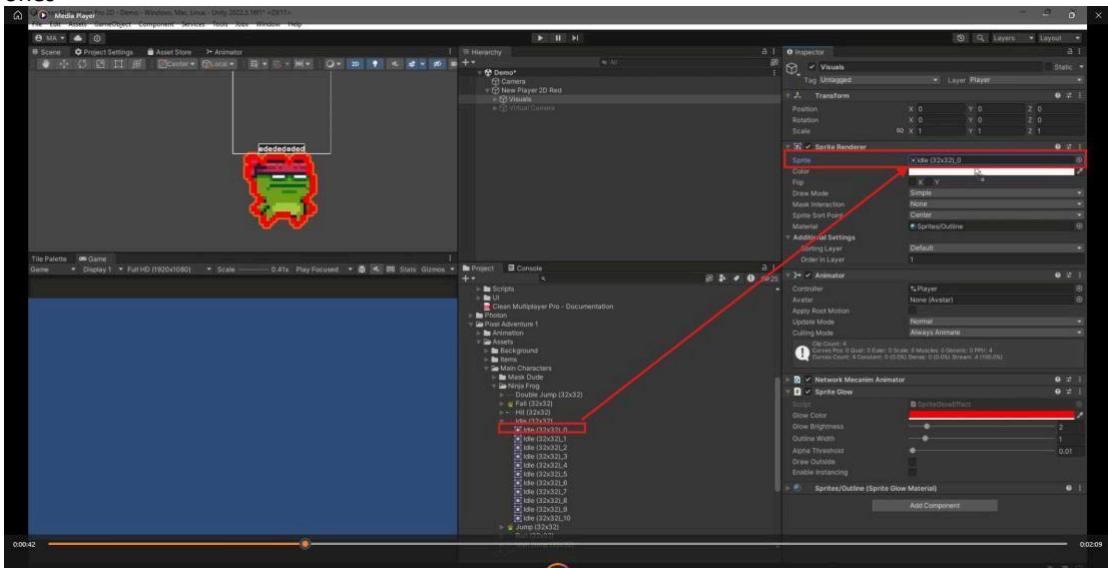
1. For this tutorial I'm using free asset pack(Pixel Adventure 1) from unity asset store for character animations



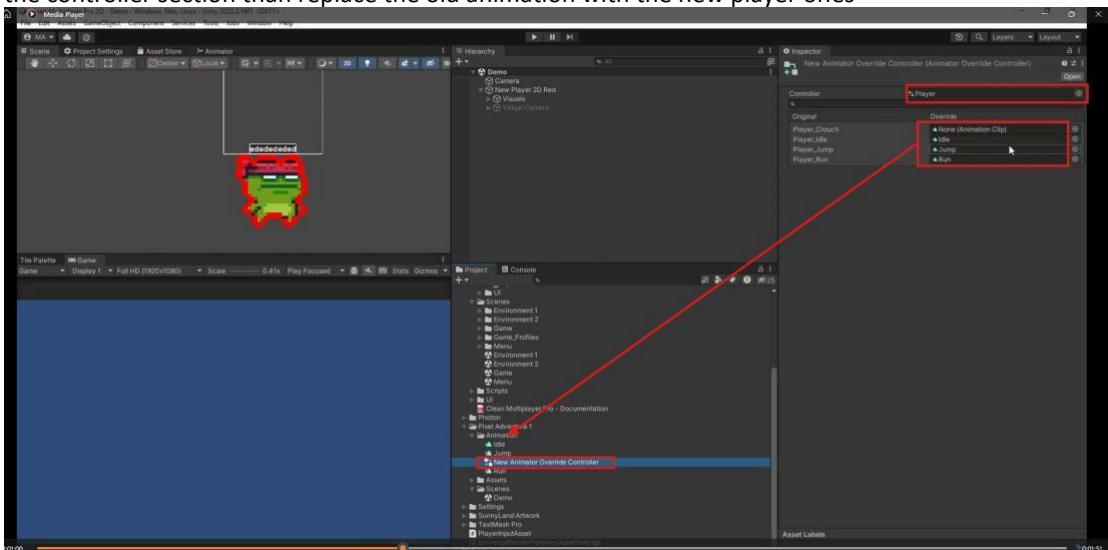
2. Lets drag the existing player prefab and place it in the hierarchy . after that unpack the prefab completely



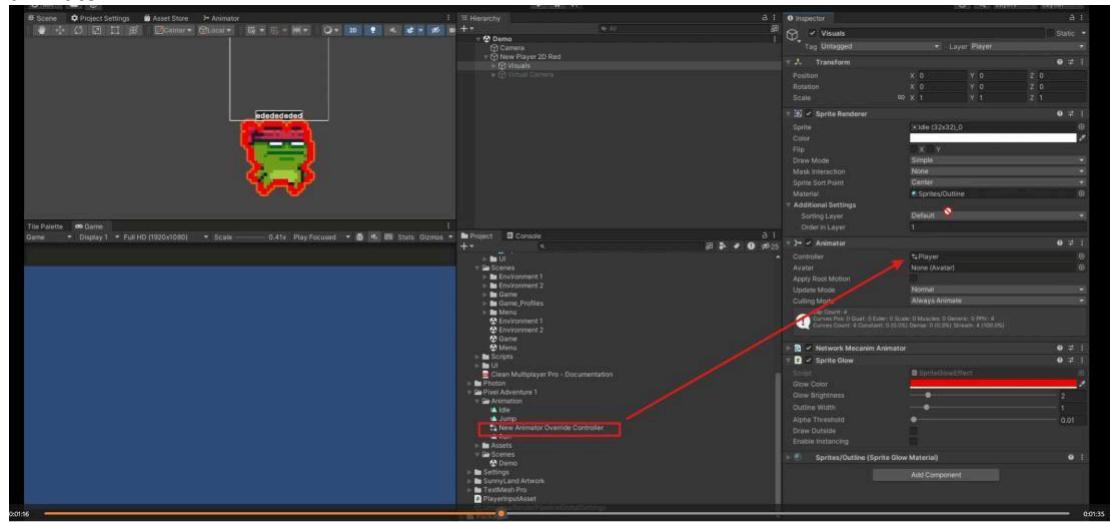
3. After that rename it accordingly then replace the Idle sprite of visual object to the new ones



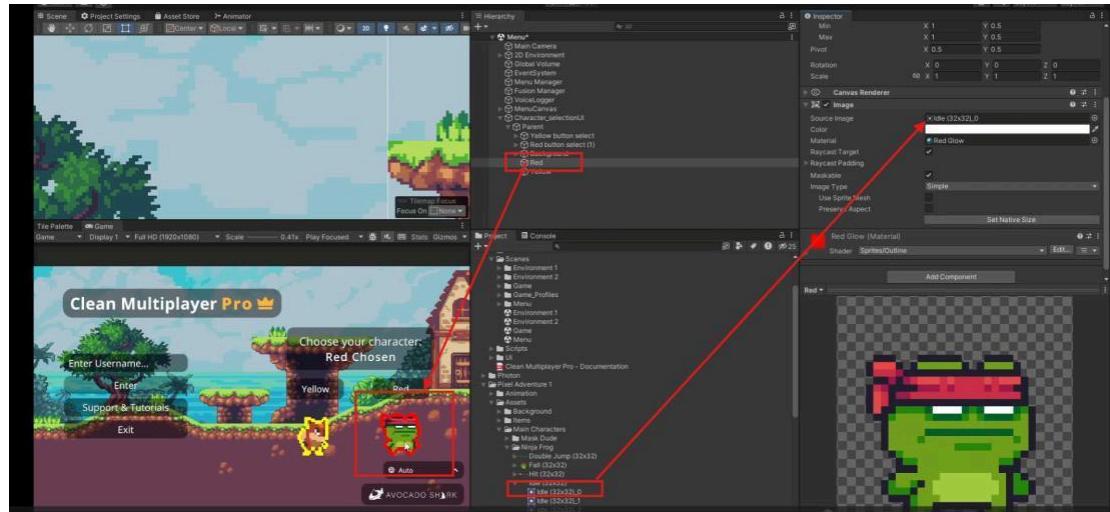
4. Now make a new animation override controller in the asset and assign it the player controller in the controller section than replace the old animation with the new player ones



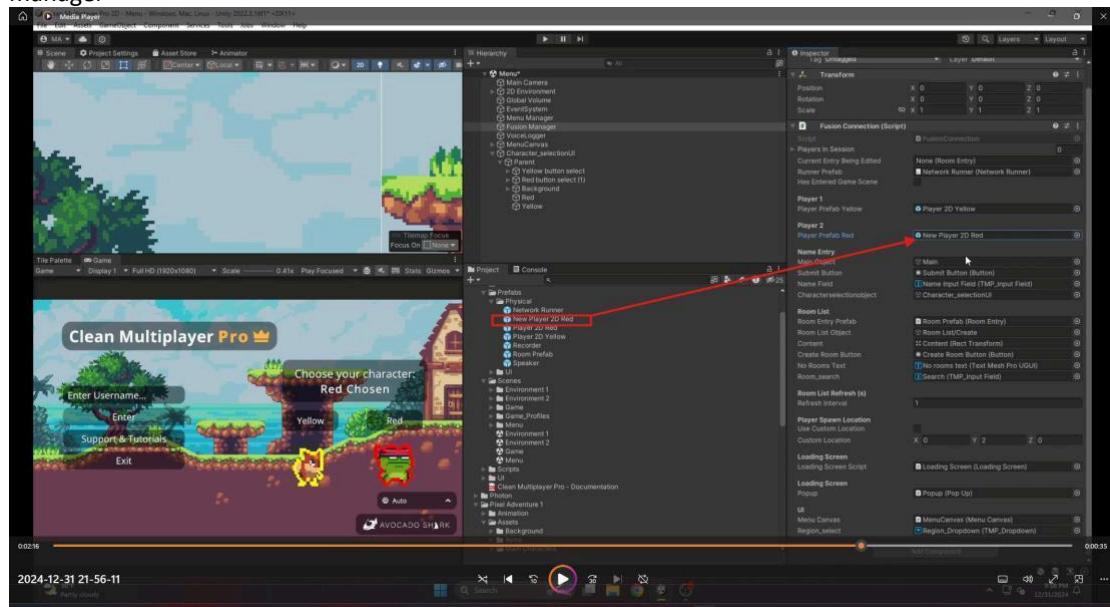
5. Now assign this new override controller to our new player asset animator



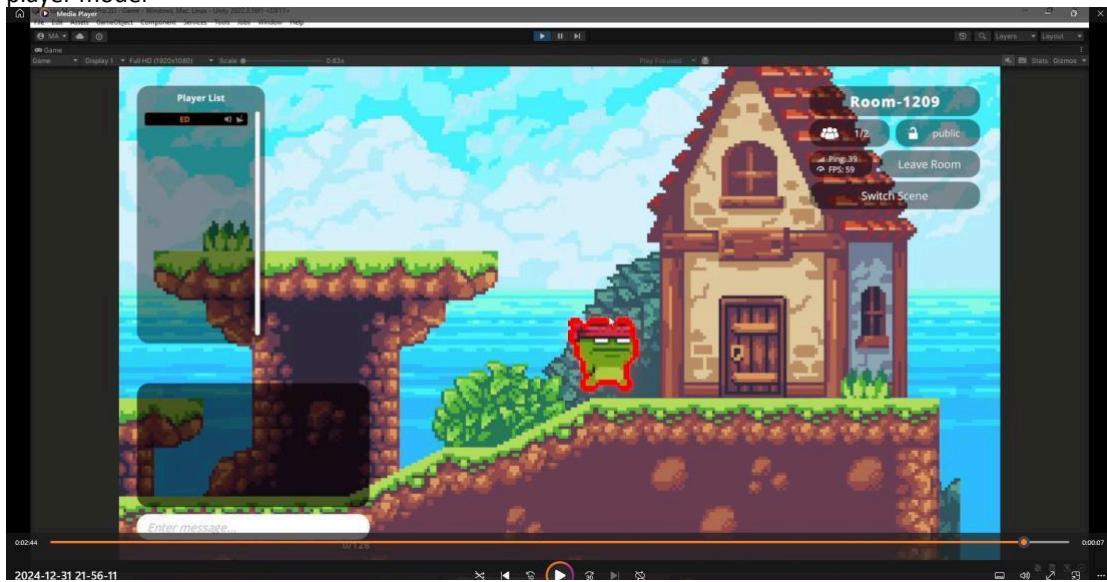
6. Save the new player as prefab in the asset and the replace the old player image with the new one in the menu scene



7. Now replace the new prefab with the old one in the fusion manager

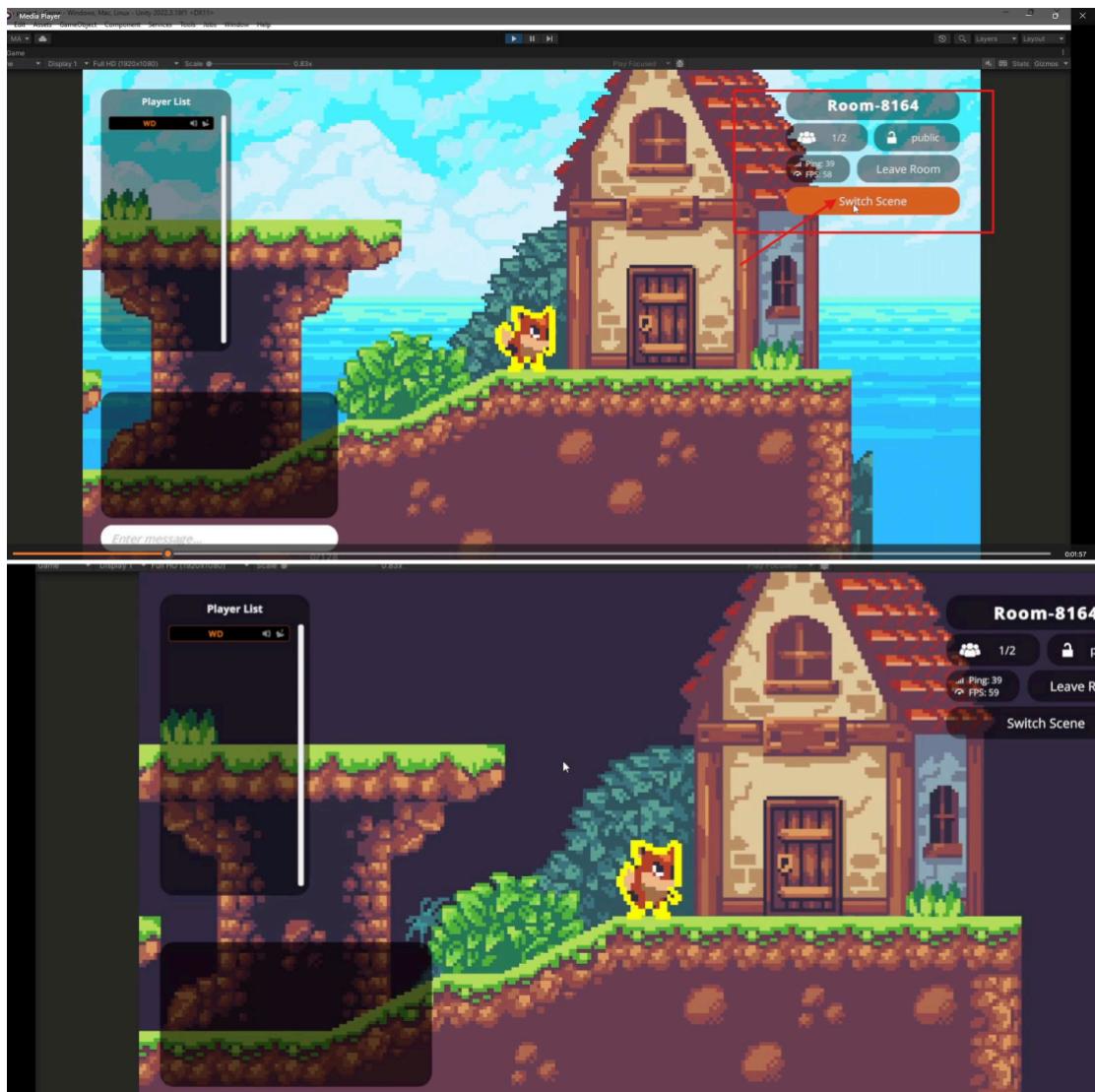


8. Go to play mode and use movement key then you will see that you have successful change the player model

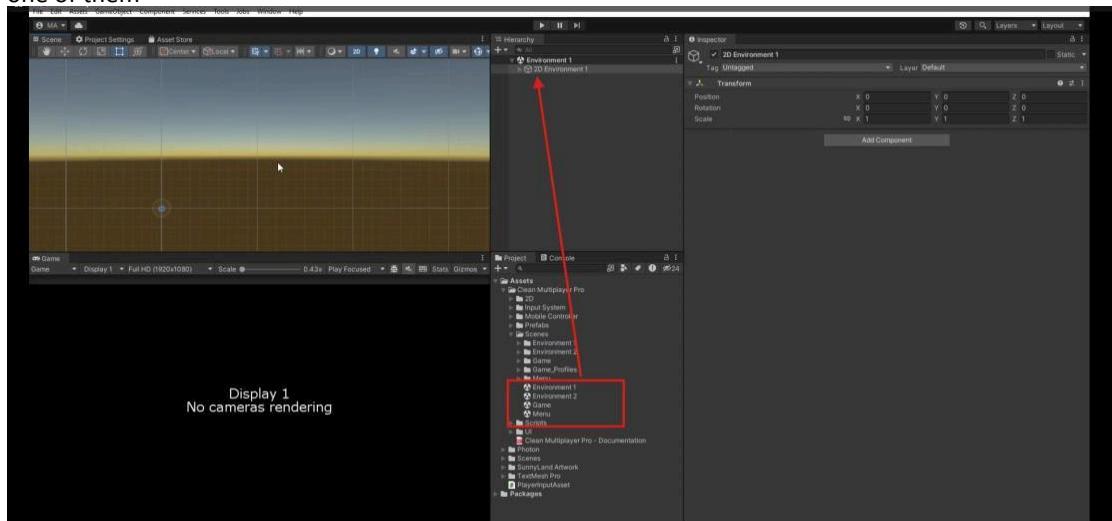


Changing the environment

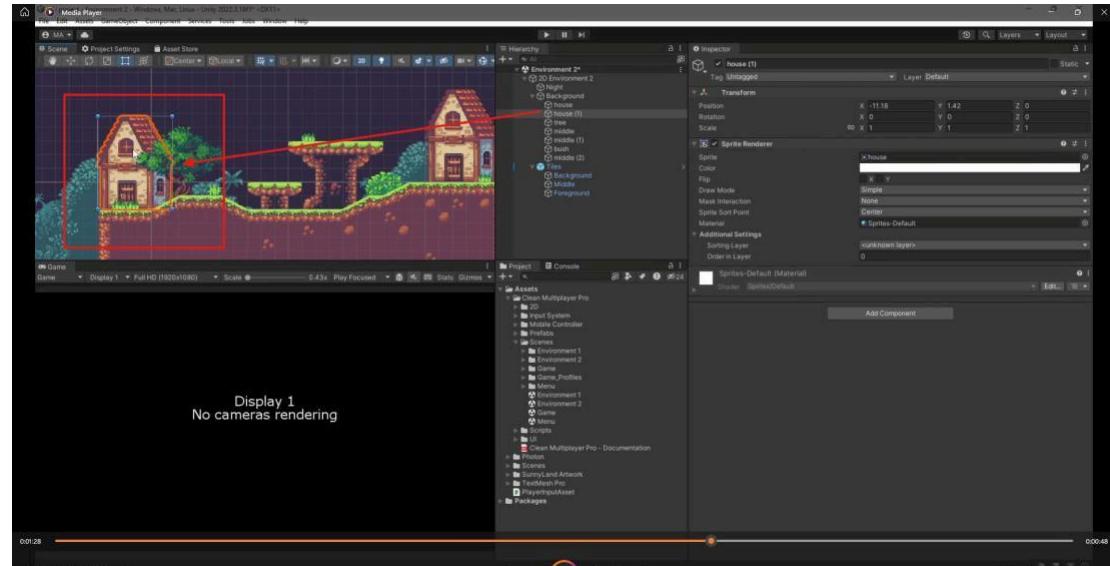
- 1- First let see the switch scene feature in action by going into the game play and toggle the switch scene button



2- Here you can see when we use that feature the game environment shift between 2 scenes lets edit one of them

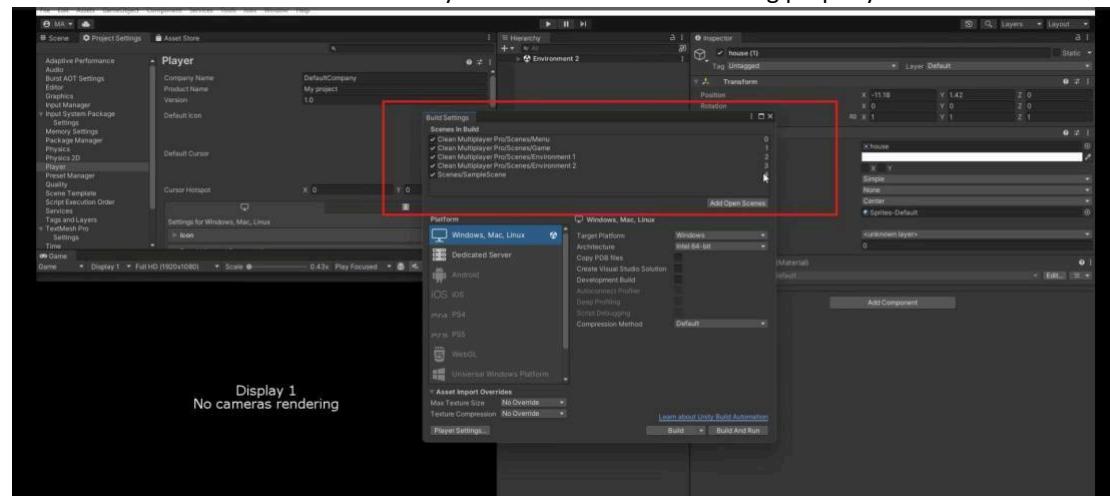


3- Lets add another house in the second environment



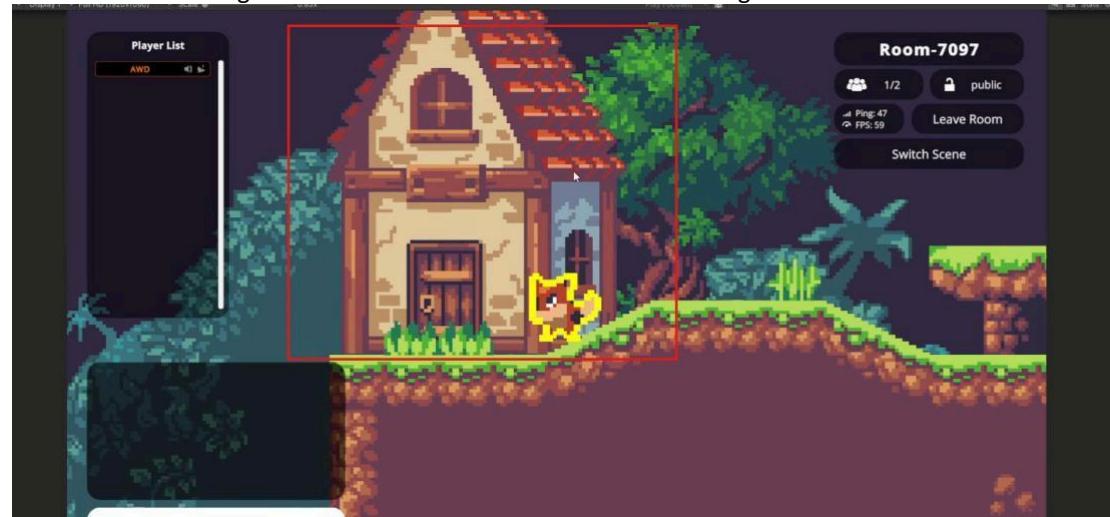
Display 1
No cameras rendering

4- Let save the scene and make sure they are added in the build setting properly



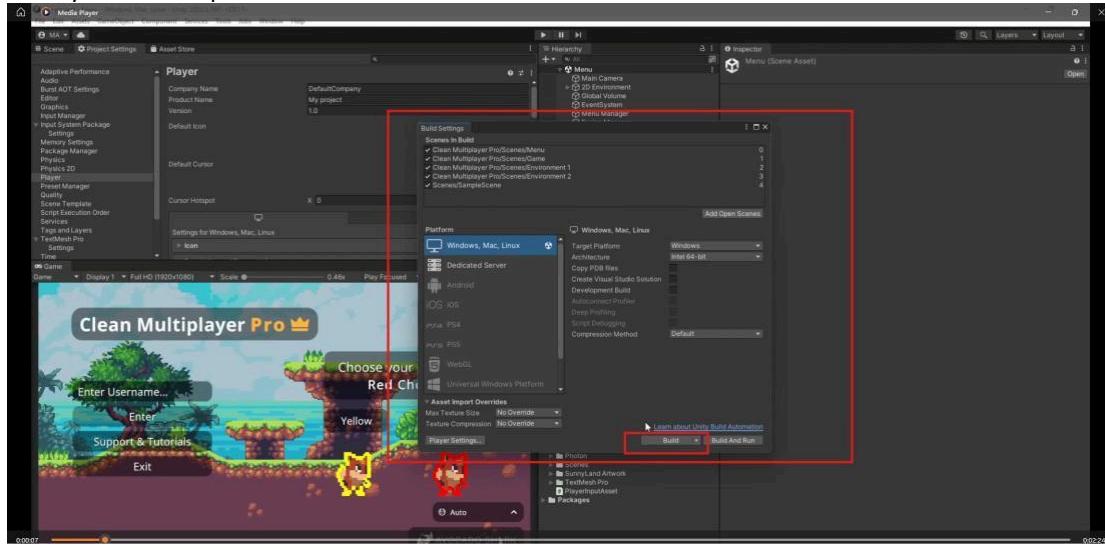
Display 1
No cameras rendering

5- Now enter in the play mode and got to game play and switch to second scene here you can see that indeed the changes we made to the second scene are reflecting back

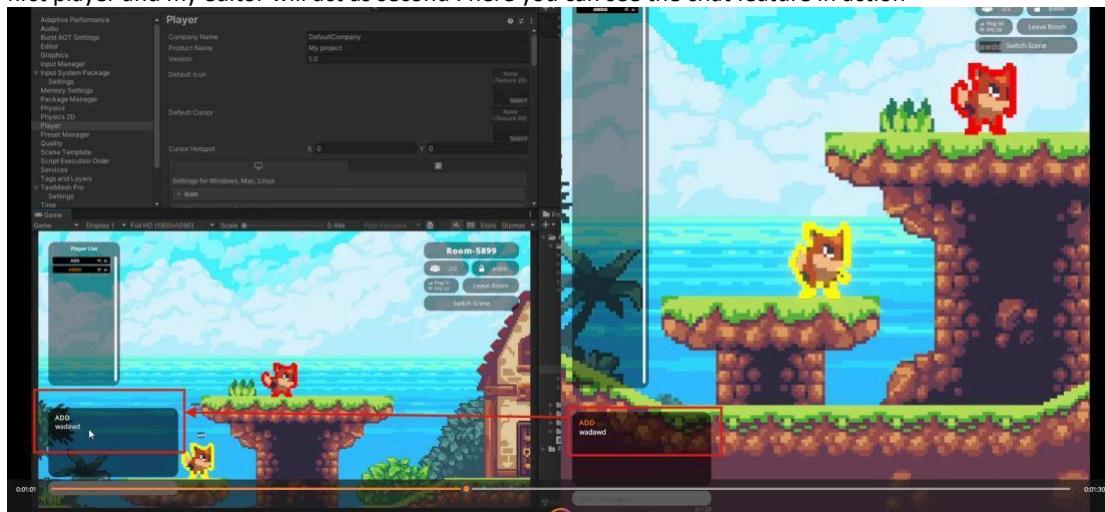


Sending data between players

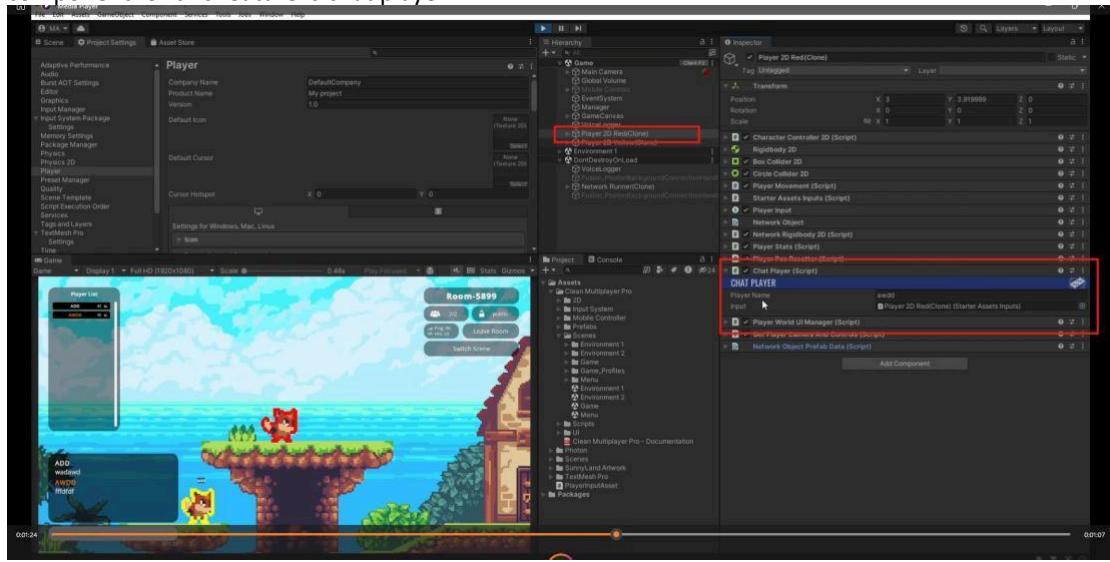
1- Our asset has a feature which can be a good example of sending data between player known as chat system lets explore it first



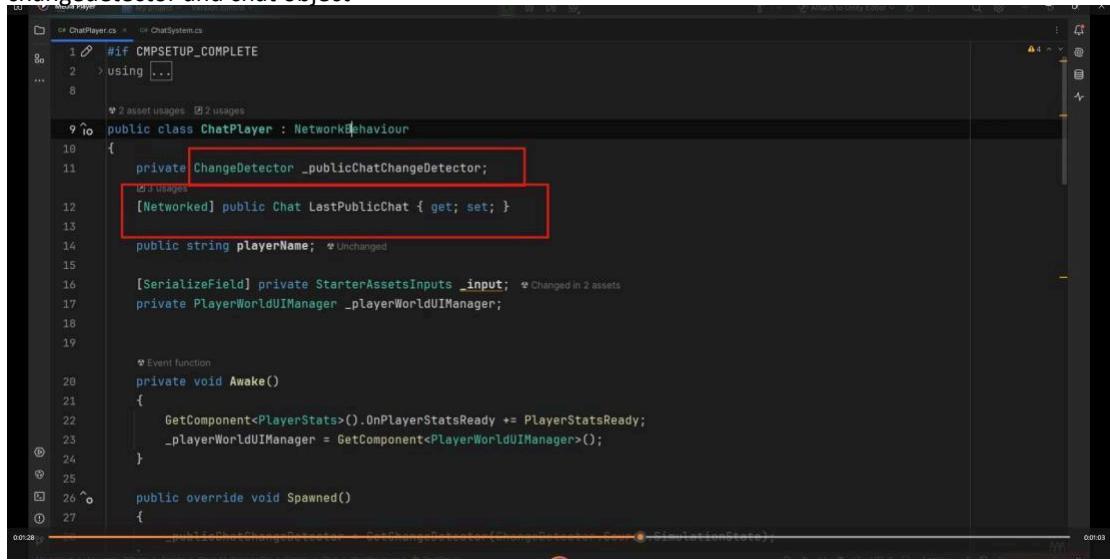
2- Here I will make a build of our asset first and will create a room instance through it representing the first player and my editor will act as second . here you can see the chat feature in action



3- Let's dig deep and explore the coding part as we'll see how to send data between players, so the main component for this feature is Chat Player



4- After opening it in an editor we can see the important stuff for data sending between players like ChangeDetector and Chat object



5- Lets see what the `chat` object looks like . it consist of 2 strings containing sender and message informations

```
public class ChatPlayer : NetworkBehaviour
{
    public void OnLastPublicChat(Chat previous, Chat current)
    {
        ChatSystem.Instance.AddChatEntry(!HasStateAuthority, current);
        if (!Object.HasStateAuthority)
            _playerWorldUIManager.QueueChat(current);
    }
}

public struct Chat : INetworkStruct
{
    public NetworkString<_128> Sender, Message;

    public Chat(NetworkString<_128> sender, NetworkString<_128> message)
    {
        Sender = sender;
        Message = message;
    }
}

#endif
```

6- So whenever a player wants to chat with another player it creates a chat object which marked as networked and the other player automatically get notified by the help of change detector

```
public class ChatPlayer : NetworkBehaviour
{
    public override void Spawner()
    {
        _publicChatChangeDetector = GetChangeDetector(ChangeDetector.Source.SimulationState);
    }

    public override void Render()
    {
        foreach (var change in _publicChatChangeDetector.DetectChanges(this, out var previousBuffer,
            out var currentBuffer))
        {
            switch (change)
            {
                case nameof>LastPublicChat:
                    var reader = GetPropertyReader<Chat>(nameof>LastPublicChat);
                    var (previous, current) = reader.Read(previousBuffer, currentBuffer);
                    OnLastPublicChat(previous, current);
                    break;
            }
        }
    }

    public void PlayerStatsReady(string playerName)
    {
    }
}
```