



## Vidyavardhini's College of Engineering & Technology

### Department of Computer Science and Engineering (Data Science)

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**Aim:** Create an immersive environment (living room/ battlefield/ tennis court) with only static game objects. 3D game objects can be created using Blender or use available 3D models

#### **Theory:**

Creating an immersive environment in a game engine like Unity involves several key concepts and steps:

##### 1. Static Game Objects:

- Static game objects are elements within your scene that do not move or change during gameplay.
- They provide the structural and environmental elements of your scene, such as walls, floors, furniture, or terrain.
- Static objects are efficient in terms of performance as they don't need to be updated constantly.

##### 2. 3D Models:

- 3D models are digital representations of physical objects or elements that you can use to populate your environment.
- You can create 3D models using 3D modeling software like Blender or use pre-made models available from various sources such as online marketplaces or asset stores.

##### 3. Textures and Materials:

- Textures and materials are used to define the visual appearance of 3D models.
- Textures are 2D images applied to the surfaces of 3D objects, providing details like color, roughness, or patterns.
- Materials are combinations of shaders and textures that determine how light interacts with the surface of 3D objects, affecting their appearance in the scene.

##### 4. Lighting:

- Proper lighting is crucial for creating a visually immersive environment.
- Different types of light sources, such as directional lights, point lights, and spotlights, can be used to illuminate the scene and create realistic shadows and highlights.

##### 5. Unity Scene Setup:

- In Unity, you can create a new 3D project and design your environment by adding static game objects and importing 3D models.
- You can position and scale the objects within the scene to build the desired environment.

##### 6. Materials and Textures in Unity:

- In Unity, you can assign materials and textures to your 3D models to achieve the desired visual effects.
- Unity's material and shader system allows you to customize how light interacts with your models.

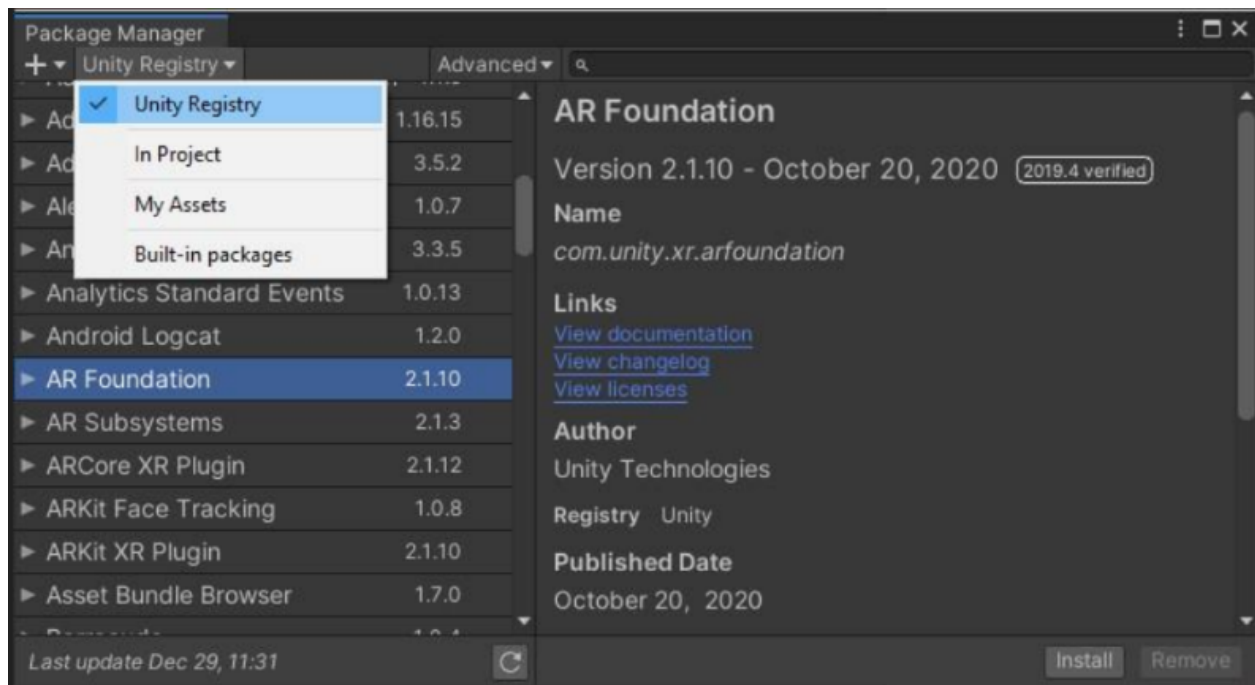
By understanding these fundamental concepts and steps, you can create immersive environments in Unity using static game objects and 3D models, whether you choose to model your objects from scratch or utilize pre-made assets. The combination of static game objects, 3D models, materials, textures, and proper lighting allows you to craft a wide range of immersive virtual spaces, each with its unique look and feel.

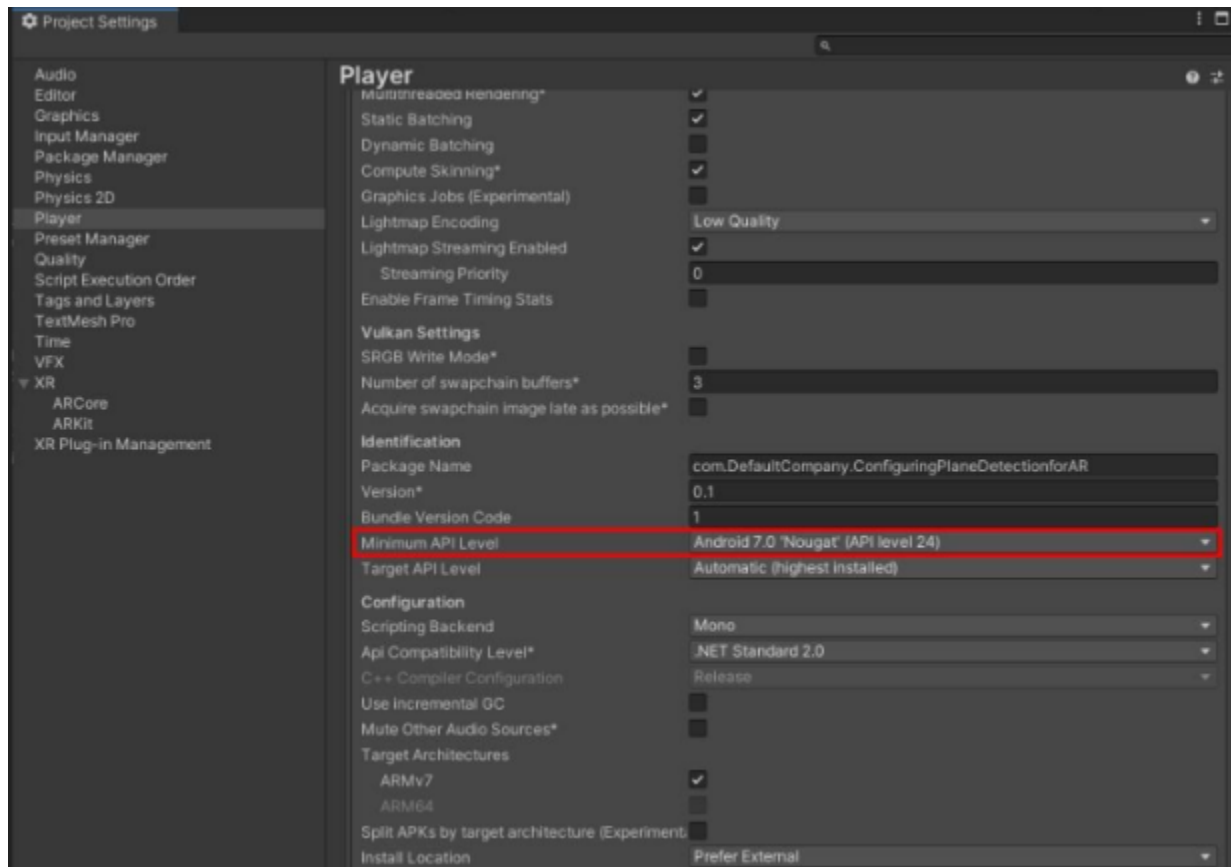


**Procedure :**

1. Find Packages in Unity3d
2. Add Required Packages In Unity3D
3. Scene Setup
4. Creating Script
5. Writing the Script
6. Configure Build

**Results:**





## Conclusion:

The aim of creating an immersive environment with only static game objects, utilizing 3D models, textures, materials, and lighting in Unity, was successfully achieved. The process involves an understanding of essential concepts in game development and scene creation.

By combining static game objects, such as walls, floors, and environmental elements, with carefully crafted 3D models, the immersive environment was brought to life. The use of 3D modeling software, like Blender, or pre-made 3D models allowed for the efficient and visually appealing construction of the environment.