

Introduction to Unreal Engine and Metaverse

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COURSE OUTLINE

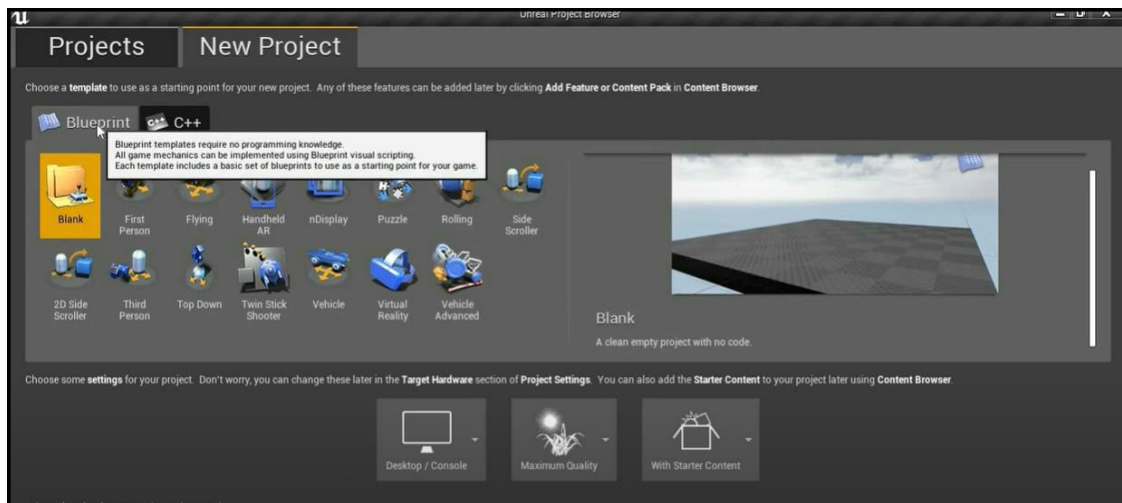
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1. Introduction to Unreal Engine



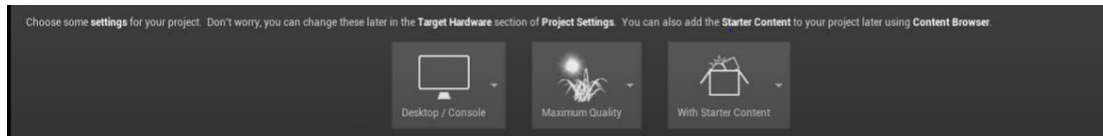
1.1 Main User Interface in Unreal Engine

Explanation of different options available in unreal engine. We are going to use **third person**.



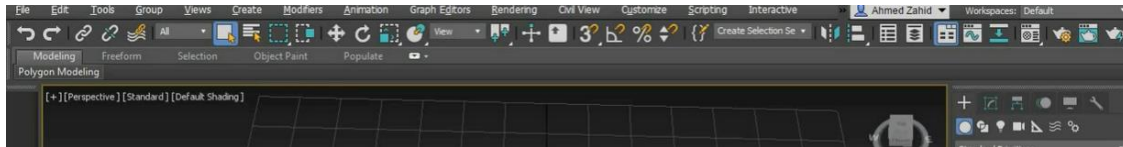
1.2 Modes to Select

Modes with the starter pack, change the quality of the graphics and also designed for mobile and desktop.



1.3 Modelling Software and Gaming Engine

For building custom designs we use Blender or 3ds max usually. One thing to note that in 3ds max or Blender don't have real time rendering while unreal engine or unity both have real-time rendering.



1.4 Assets File Formats

File have in **OBJ** or **FBX** format. We can import files and other formats also supported for assets import.

1.5 Texture and Material

Difference between texture and material. Texture is one sided while material is two sided, we need to take care of the material when importing into unreal engine.

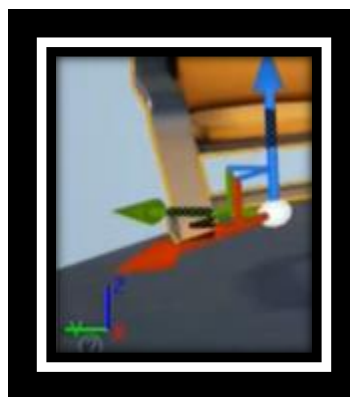
1.6 Rendering

It is the real time rendering in unreal engine or unity. Basically, it is the mathematical calculations of the static light or variable lights and then created a real time scene. You may heard of listening 30 frames per second or something like that.

1.7 Layout

- World outliner
- Details
- Main View
- Content Browser

1.8 Gizmo



You can perform various operations on the object. Transformation properties are listed below. Colors of the gizmo corresponding to axes. You also have the option to lock the transformation.

- Location **W**
- Rotation **E**
- Scale **R**

Point: You can place the pointer in the middle and it will do uniform scaling. Either it is in 2D or 3D plane. Similar kind of feature exists for location and rotation. If you want a fixed amount of transformation you need to click on the **snapping**. Zoom to the particular object press: **F** (Frame)



1.9 Camera Movement

It will change the speed of the movement of the camera. You can zoom in and out using the mouse wheel and move the pane right and left direction. Right Click to move and up. Use arrow keys to move back and forth in the scene. Movement in the play scene. Arrows and A, W, S, D.

1.10 Lighting Rebuild

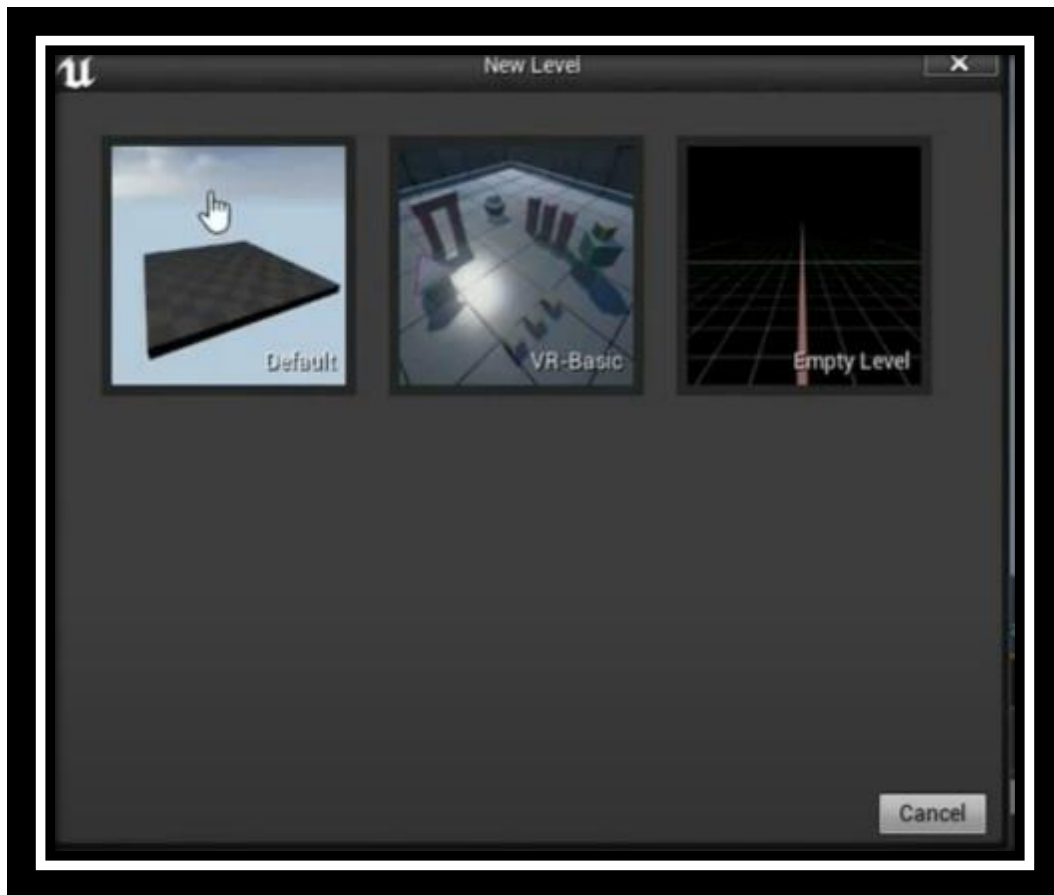
It is the calculation done by the engine to calculate the shadows and lightening effects, intensity inside the scene. Build lighting for different environment. Basic lights inside the scene and manipulation of that.

1.11 Copy Object

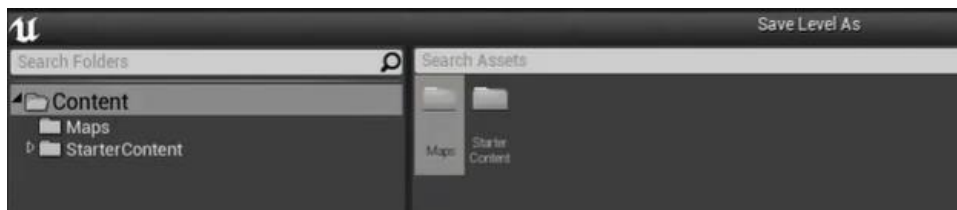
In order to copy the object inside unreal engine use the **ALT** key and drag that object. Perspective view.

1.12 Level in Unreal Engine

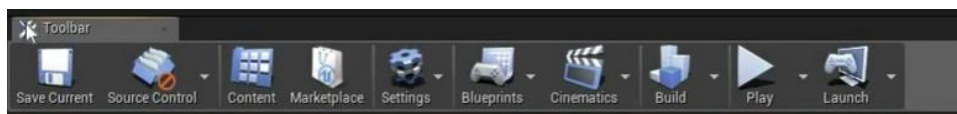
You can create various levels in one project just like you have the option in the game. There are three different level modes in unreal engine.



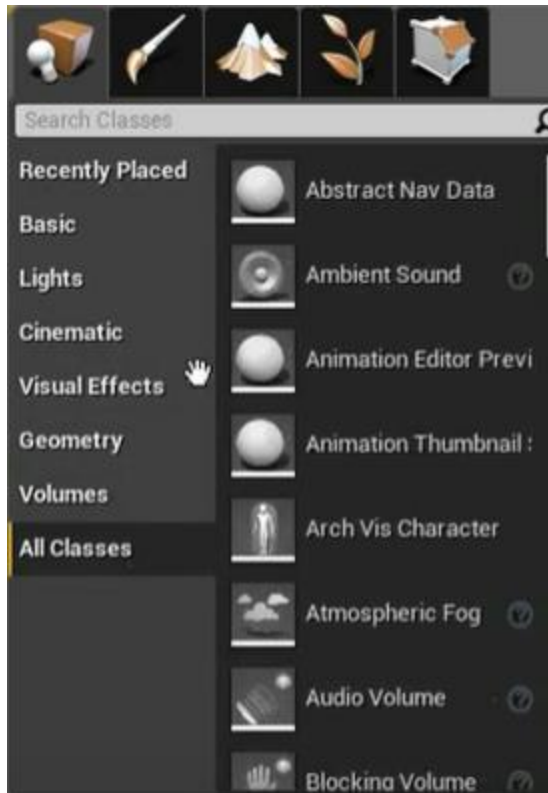
Then, you can save the maps into another folder.



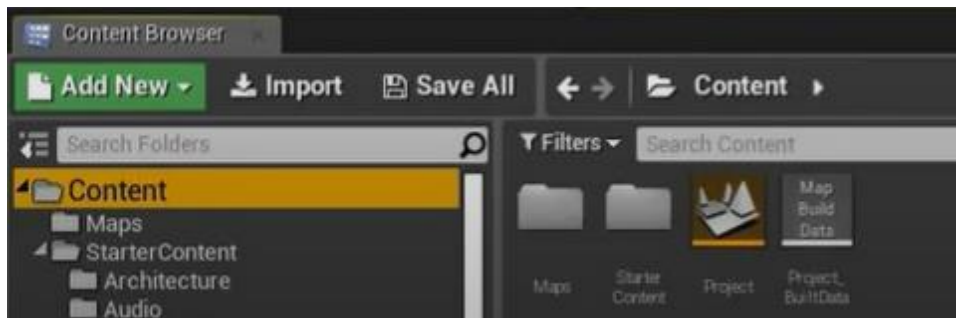
1.13 Toolbar



1.14 Modes



1.15 Content Browser



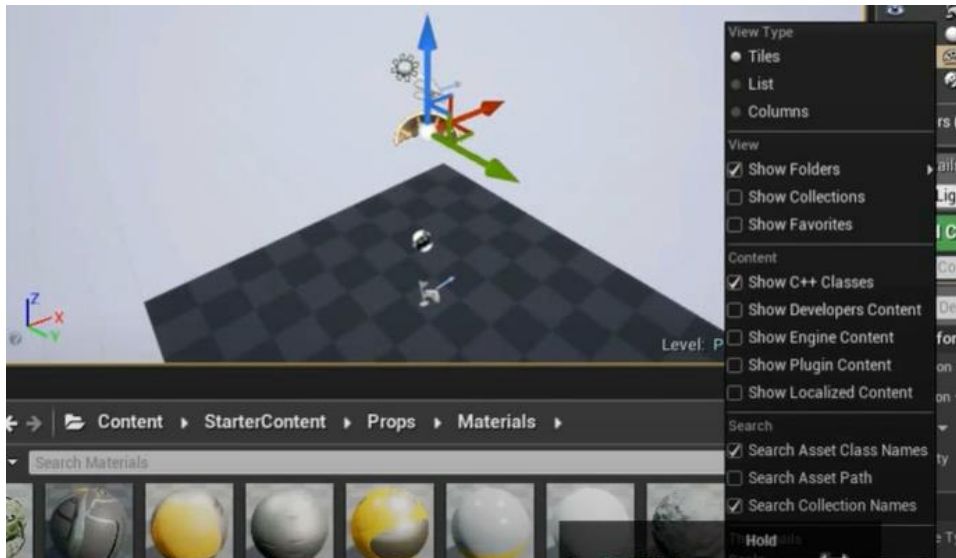
1.16 Meshes

Most of the things which are present inside 3D space built with boxes lines and vertices and these are called meshes we have various types of meshes including static or some part is static and some is not.

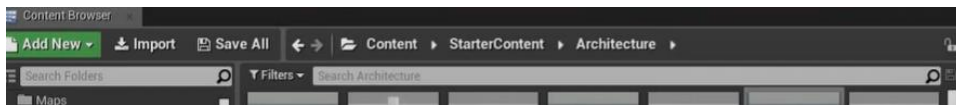
1.17 Player Starting Point



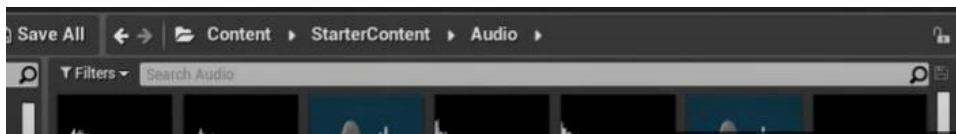
1.18 Materials



1.19 Architecture



1.20 Audio



1.21 Blinking Effect

If you have two different objects and if both of the object's starting point is same then you see a shaking effect if you want to avoid that then just move the place of the object a little bit.

