

Worldbuilding in Unity



Who am I?

My name is Eric Piccione
I'm an artist and animator.

- Drew Comics
- Made Video Games
 - Bethesda
 - Sega
 - Activision
 - Electronic Arts
 - And other studios
- Served as Art Director at EA
- Now I teach at George Mason University

 Bethesda®

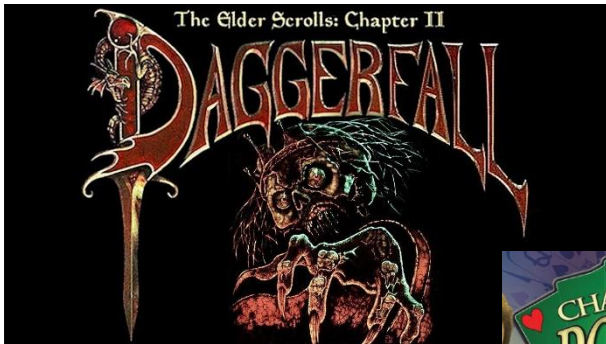
 SEGA®

 ACTIVISION®

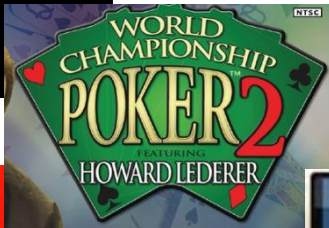


What did I work on?

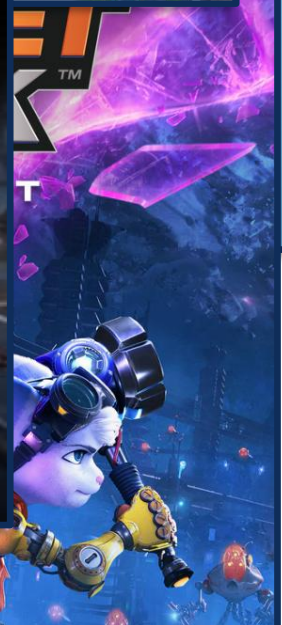
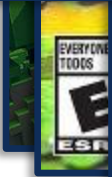
FPS, MMO, Action/Adventure, Sports/Rec, MOBA, Consoles, Mobile, PC ...



(Not including games that didn't make it to launch ☺)



Who here plays games?



What is this class?

This is ART!

- We will NOT be doing any programming or scripting in this class.
- We're going to learn how 3D environment artists build world for games.



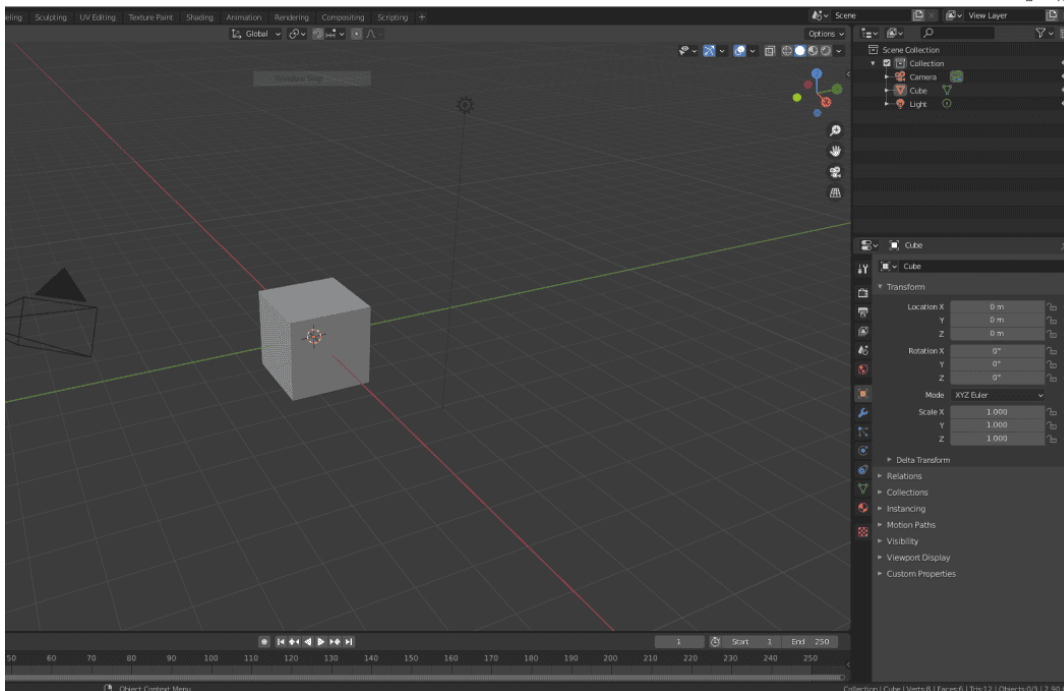


Build a World!

- Environment art is a skill in itself.
- Like character design or animation, environment artists create the illusion. In this case, the illusion of a world that the player can explore.



Starting at Square One

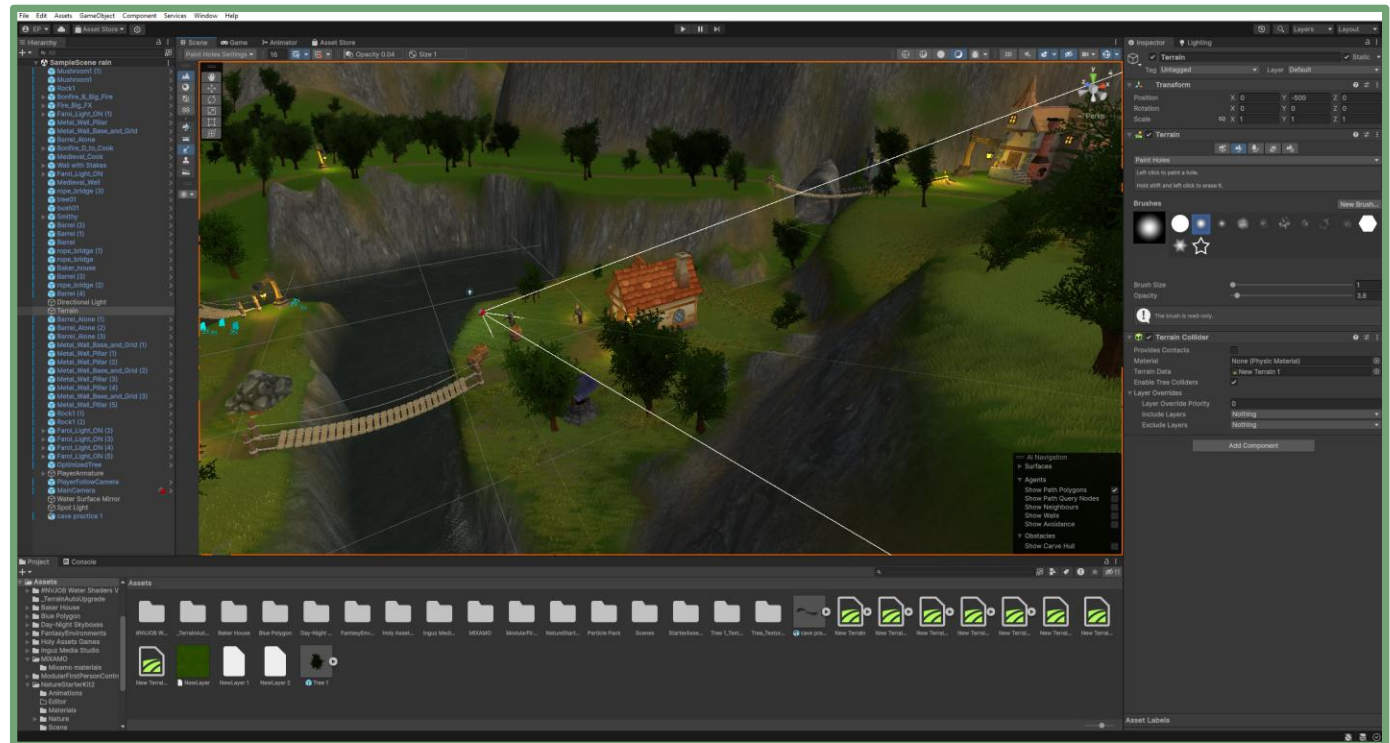


- This is a beginner's course.
- So we're going to assume that you've never touched a game engine or 3D modeling software before today.
- We'll start at the start, introducing you to the software and how it works.

Level Up!

We're going to learn how to use Unity, how to build a landscape, how to import objects onto that landscape, how to add a player character, and how to put it all together to create a world of your own making.

We'll keep it simple; using pre-made assets to start, and anything we may create along the way!



Bring It to Life



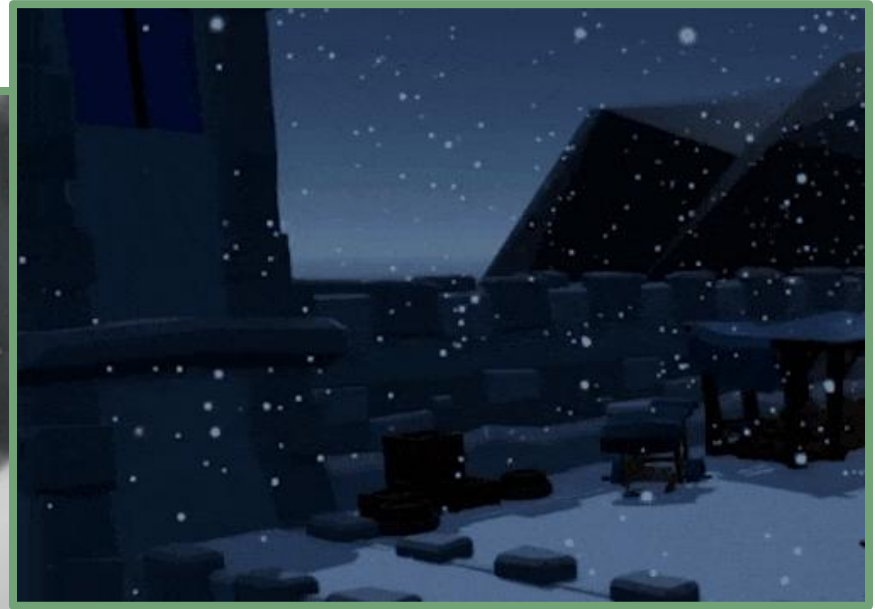
I just want to add a little bit of zip, okay?

We'll add some additional features to give it a little more flavor.

Like ...

Bring It to Life

VFX

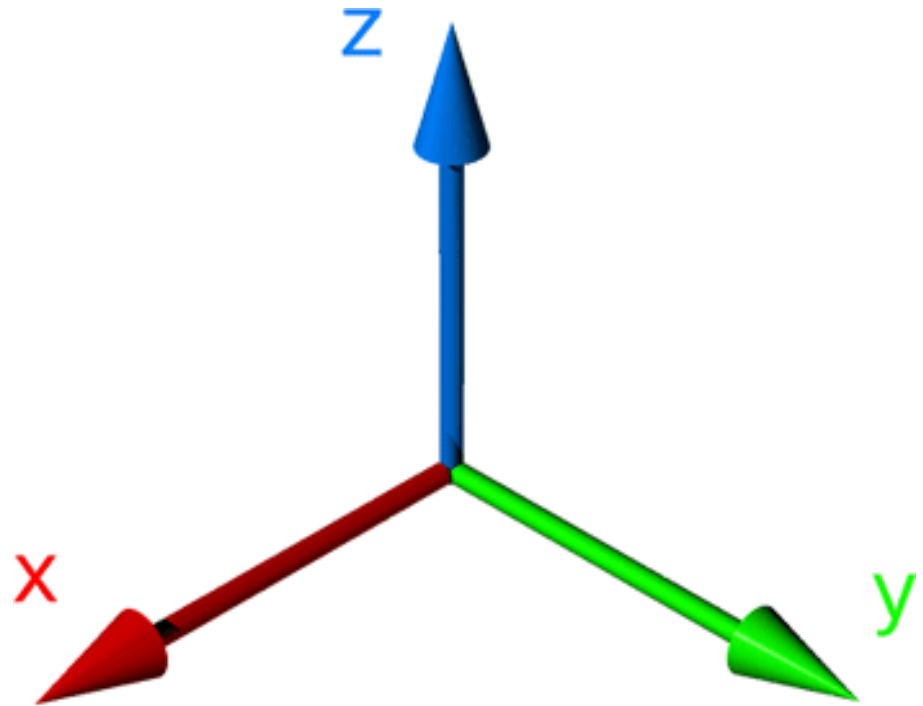
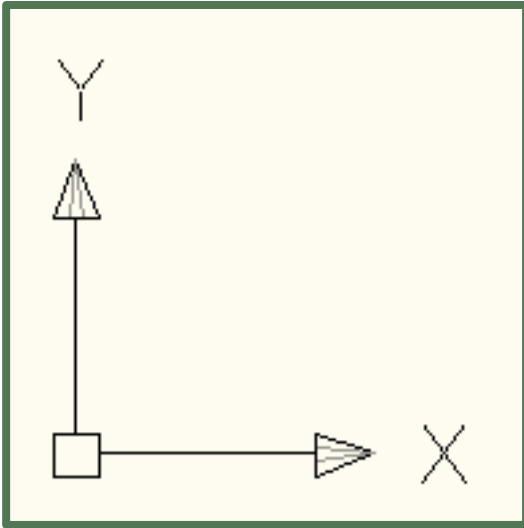


And animation.

Let's talk about 3D Art in Games



What's 3D game art?



What's 3D game art?



Pre-Rendered vs. Games

Optimizing for Performance



- High details
- Hi-res materials
- Real-time lighting

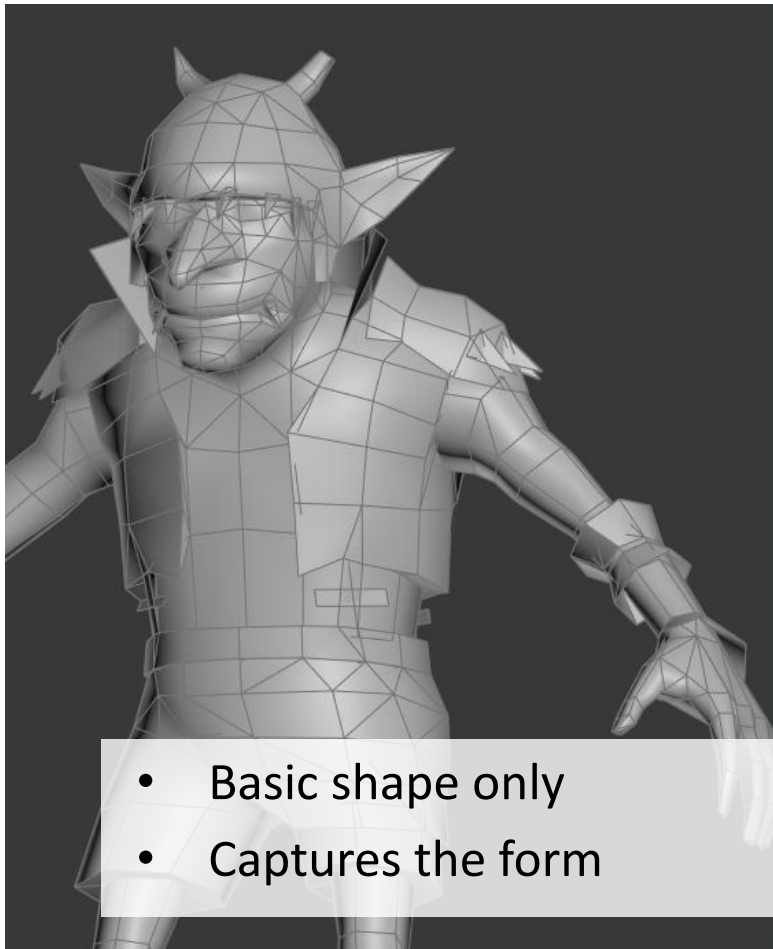
CINEMATIC

- Low polygon count
- Details in textures
- “Lighting” painted in

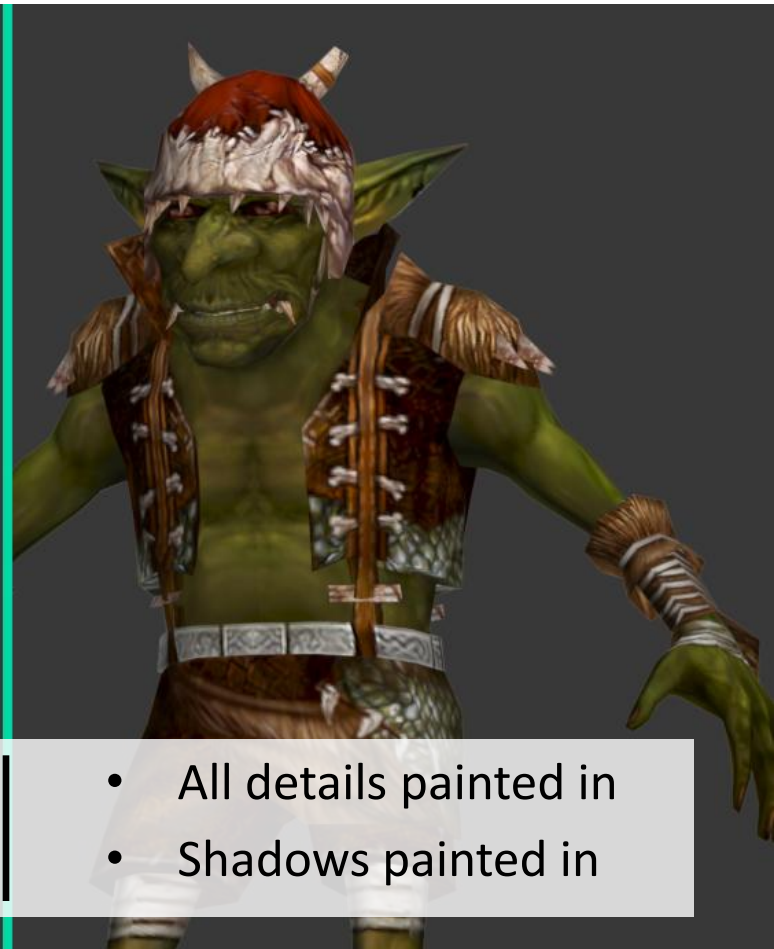
IN GAME WIDE

Pre-Rendered vs. Games

Optimizing for Performance



- Basic shape only
- Captures the form



- All details painted in
- Shadows painted in

How Do You Make 3D Art?

The process of making art for games is called the

**GAME ART
PIPELINE**



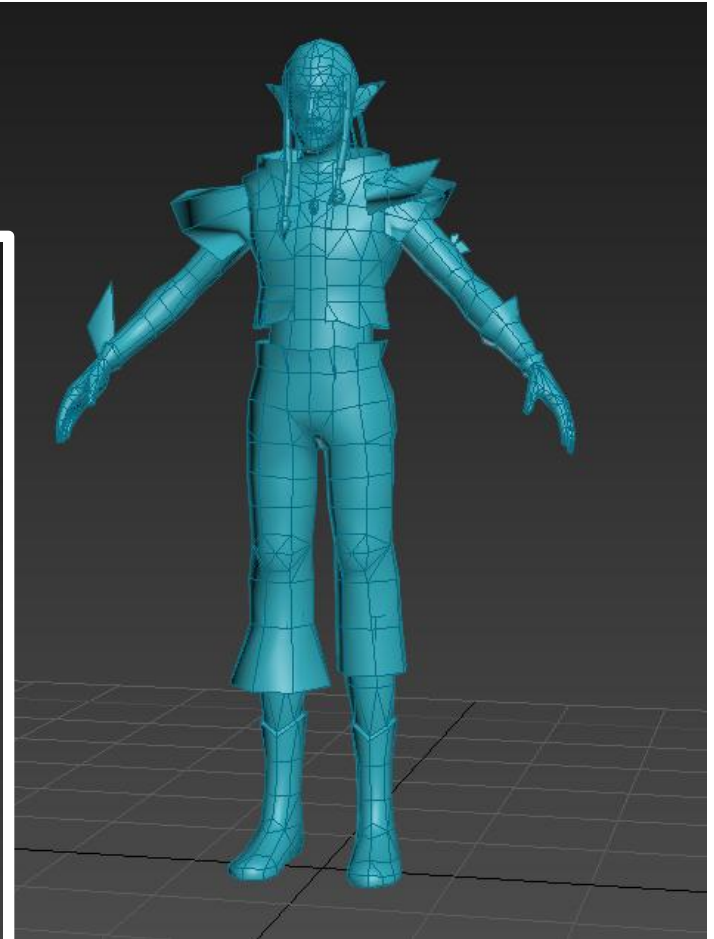
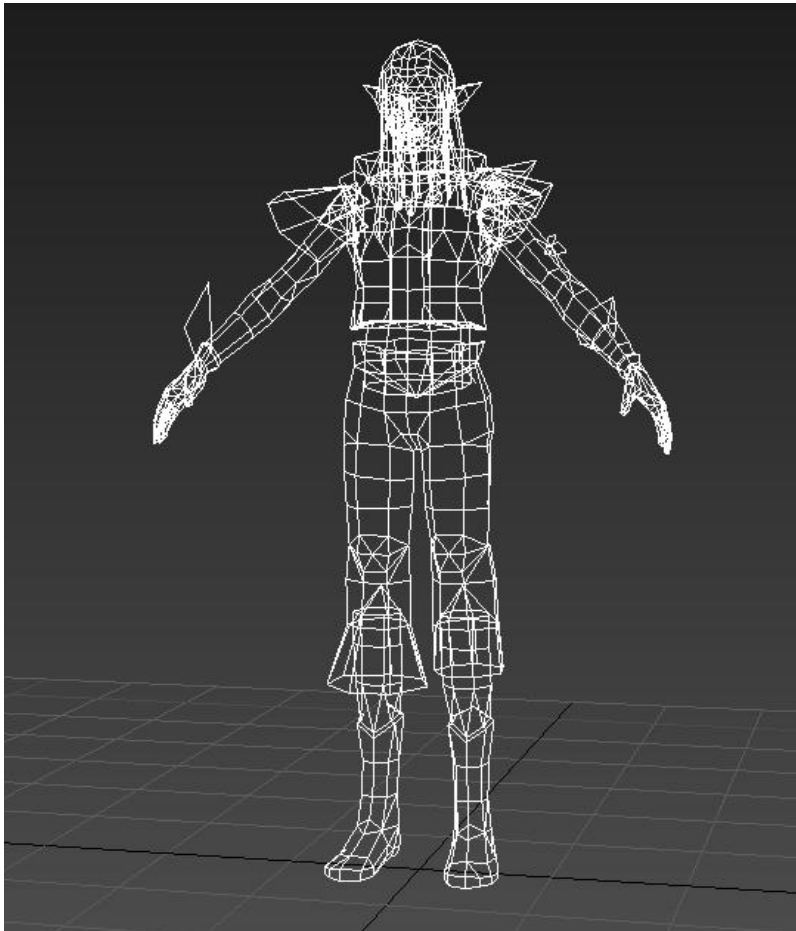
3D Game Art Pipeline



Starts with concept art

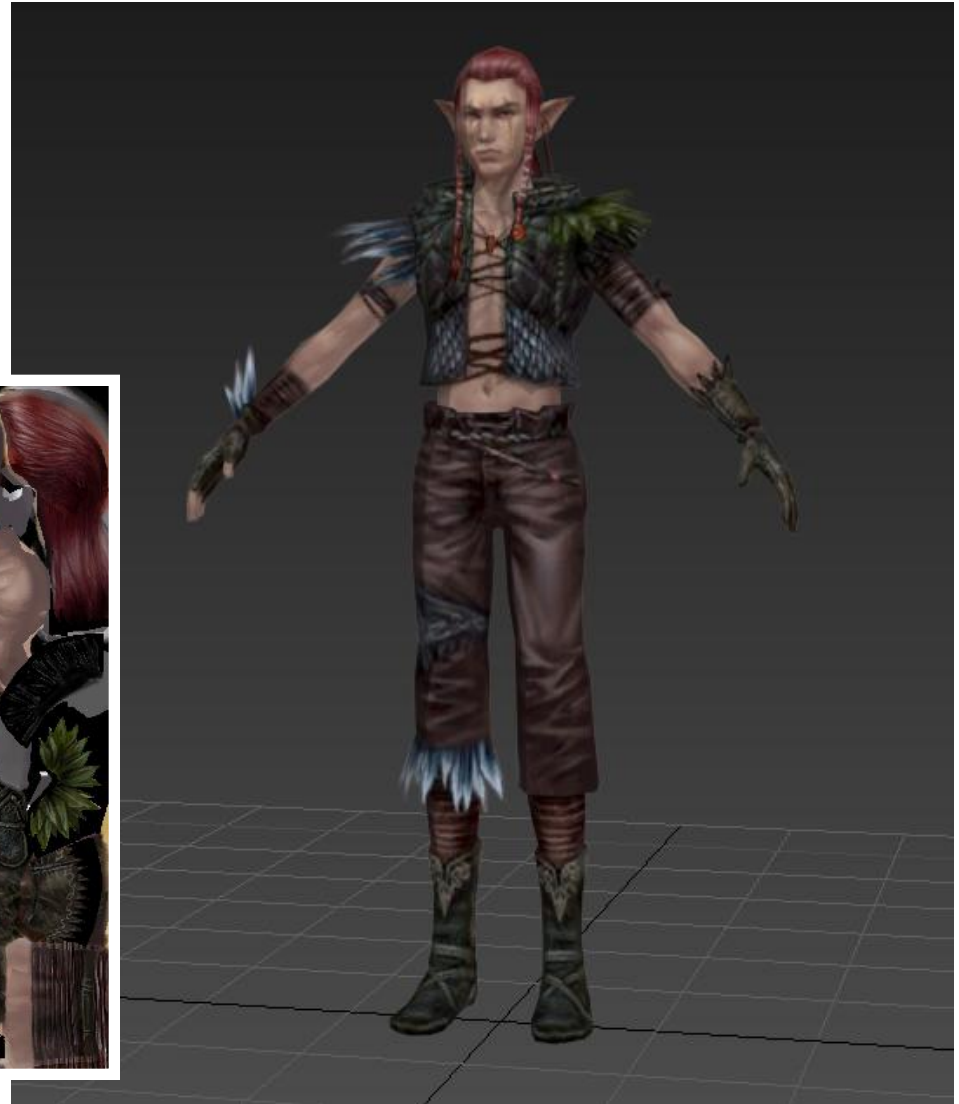
3D Game Art Pipeline

- Step 1: 3D Modeling



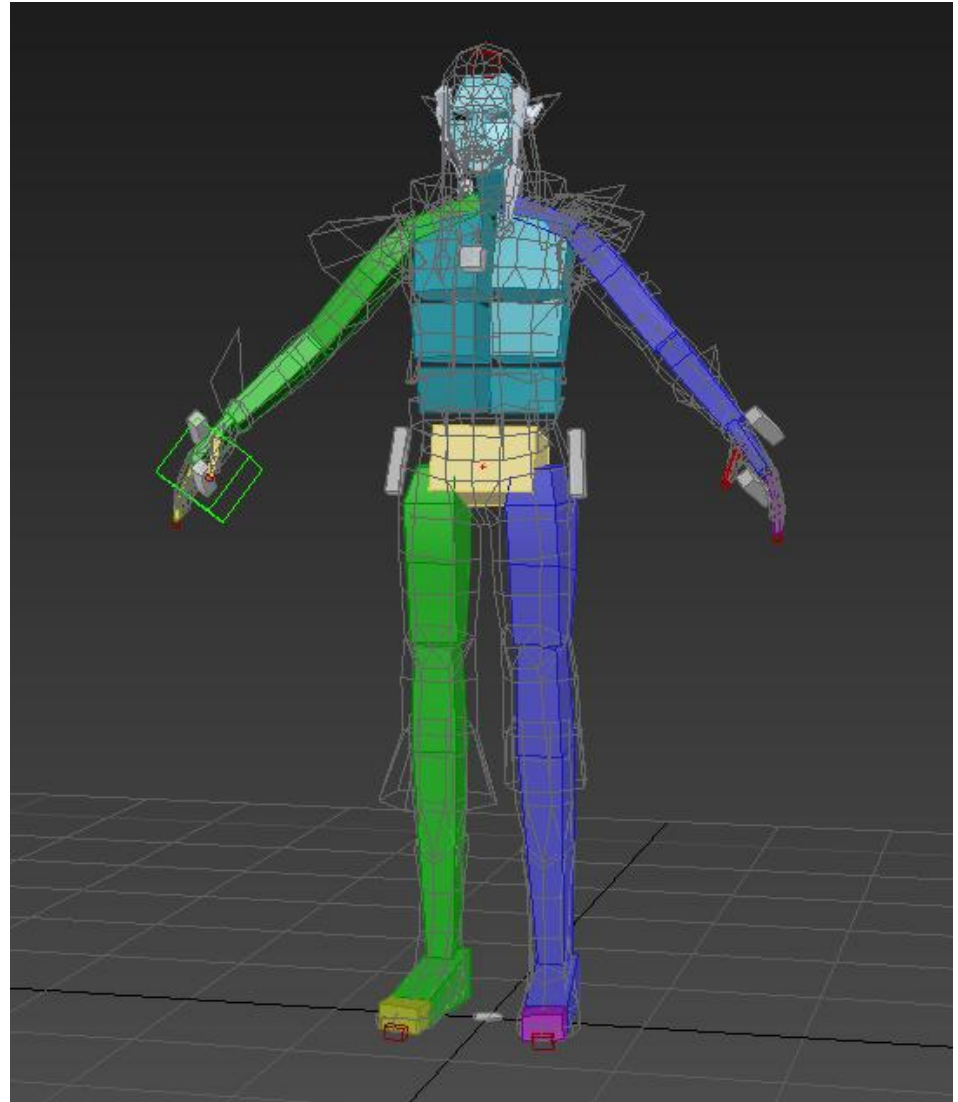
3D Game Art Pipeline

- Step 1: 3D Modeling
- Step 2: Texturing



3D Game Art Pipeline

- Step 1: 3D Modeling
- Step 2: Texturing
- Step 3: Rigging



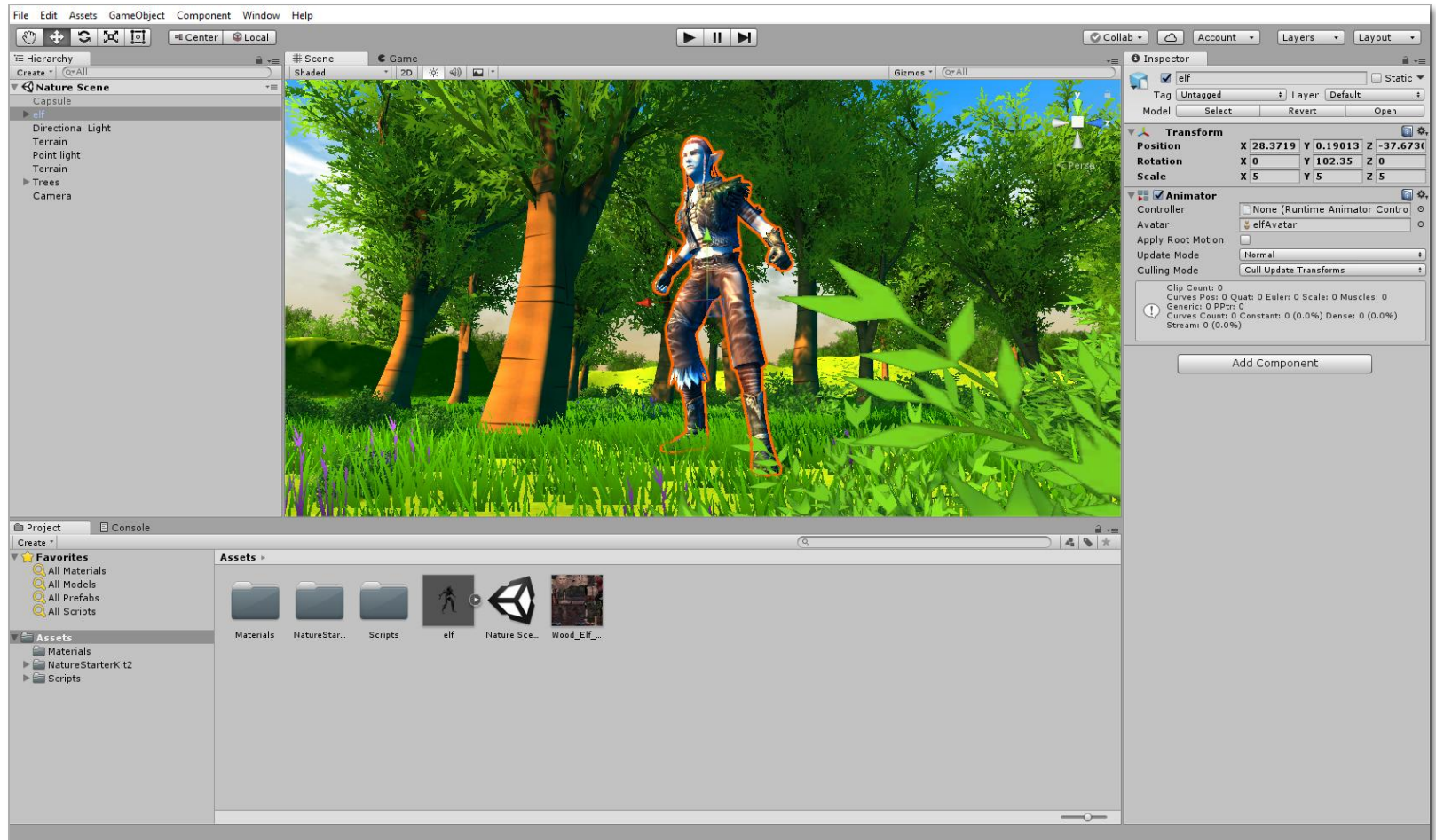
3D Game Art Pipeline

- Step 1: 3D Modeling
- Step 2: Texturing
- Step 3: Rigging
- Step 4: Animating



3D Game Art Pipeline

And finally ... Integration!



World Building



After all, players need a world to exist in!

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UNREAL
ENGINE



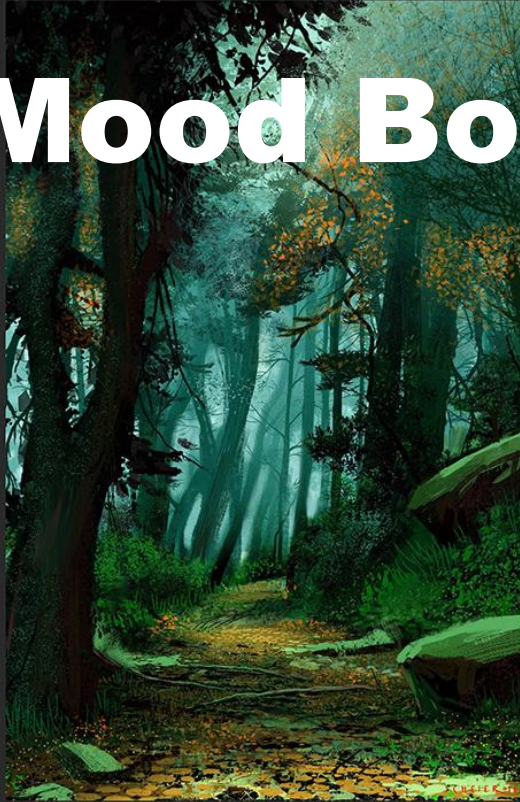
Step-by-Step Process



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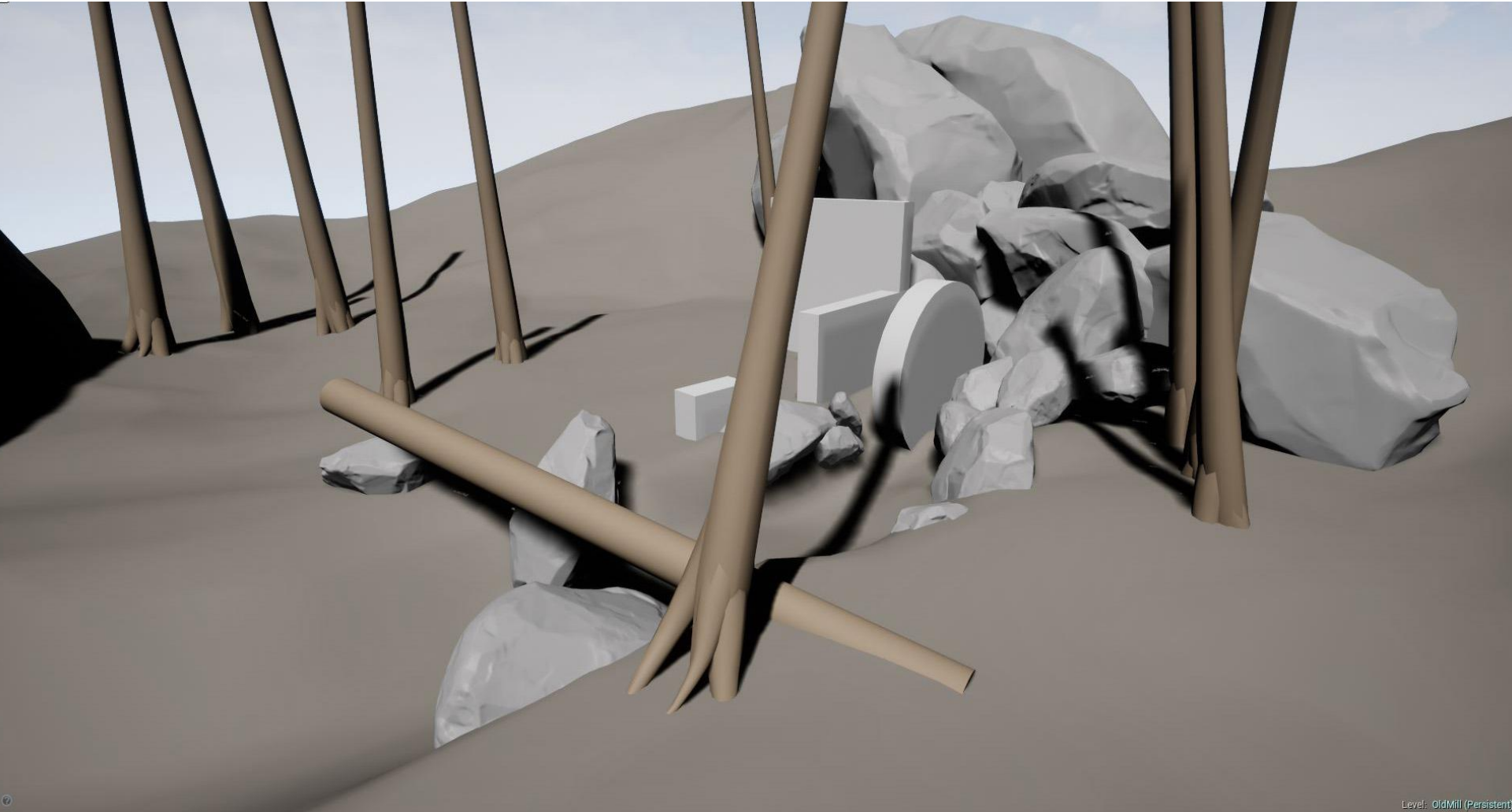
Mood Board



Color Key

Inspiration

Place the Objects



Paint the Terrain

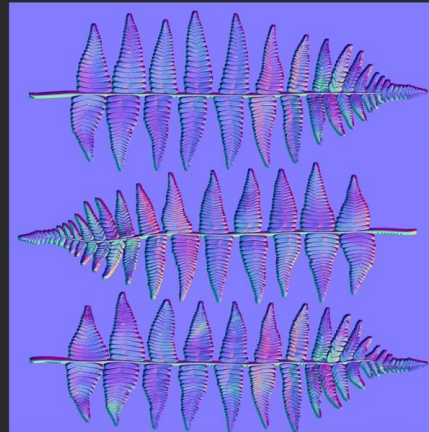


Add Foliage

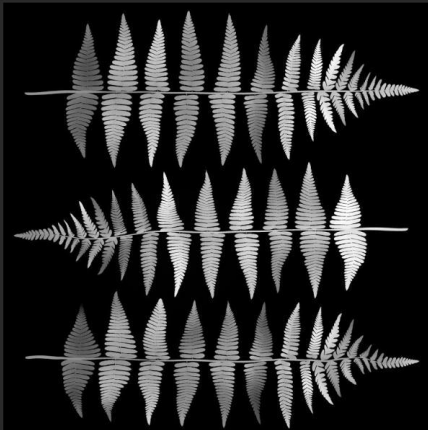
Base
Color



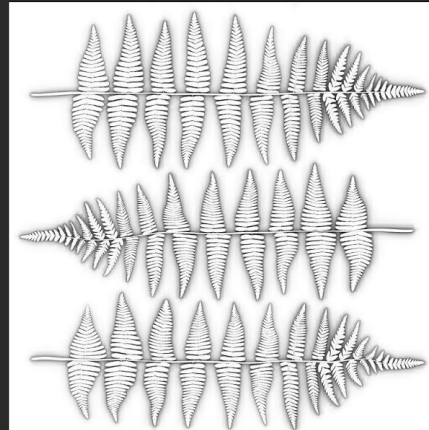
Normal



Height



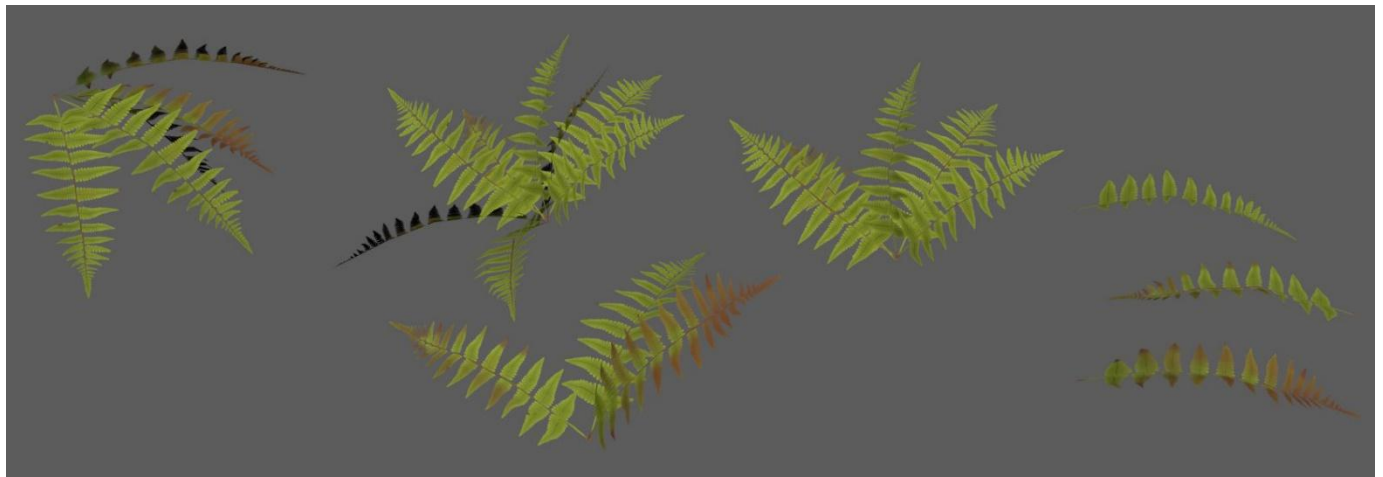
AO



Roughness



Paint the Terrain



Set the Scene

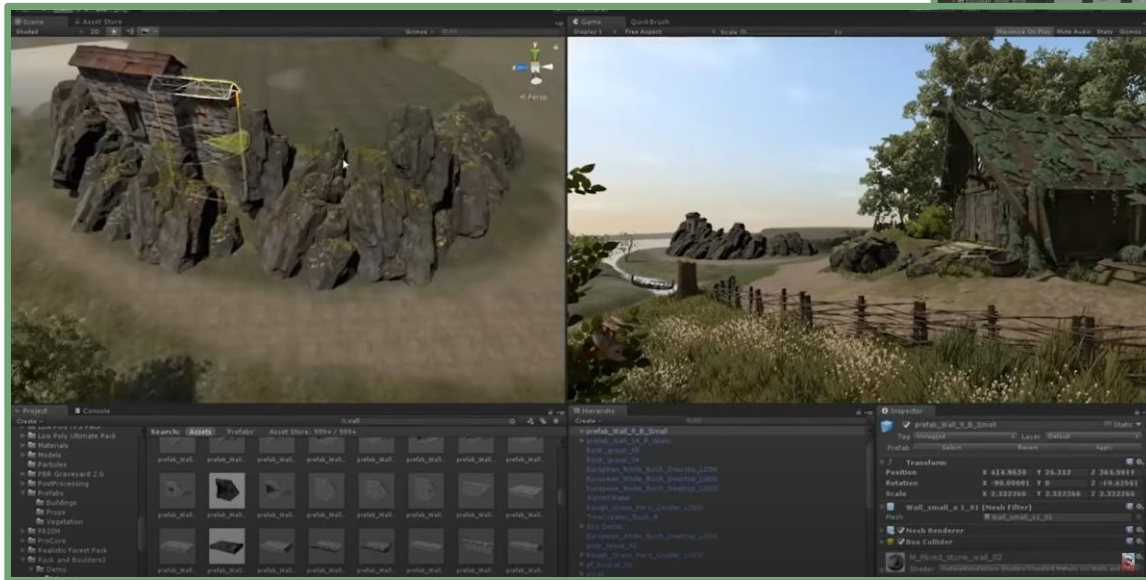
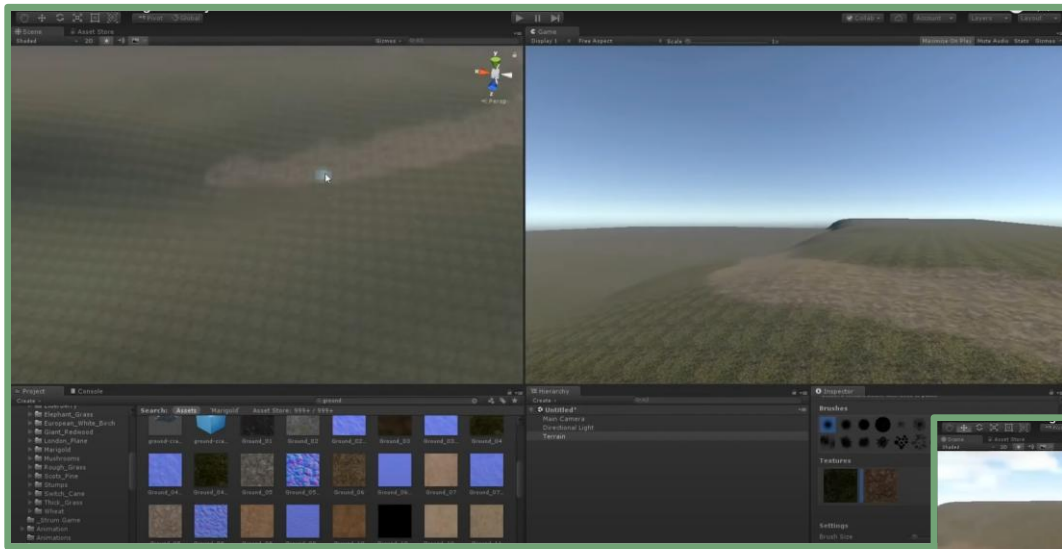


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Buildings and Props

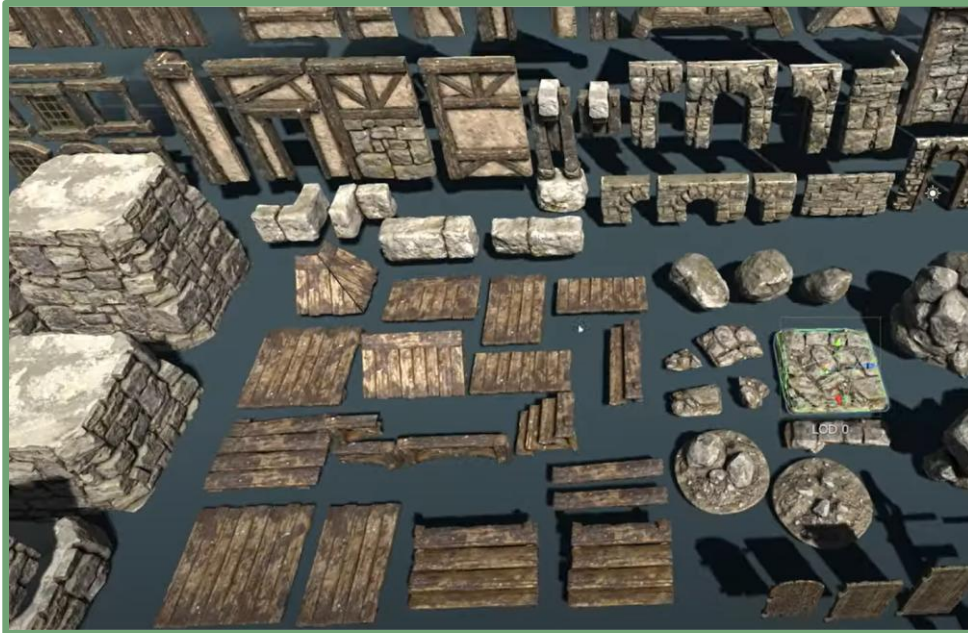




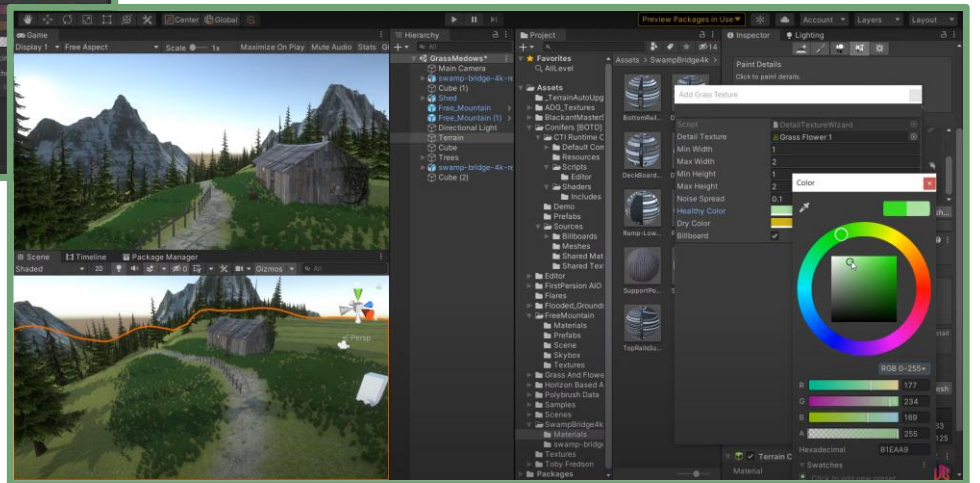
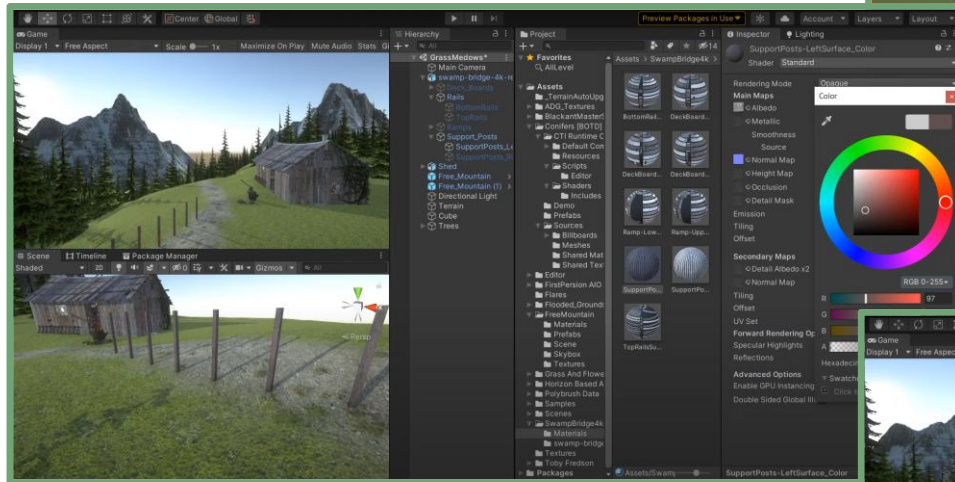
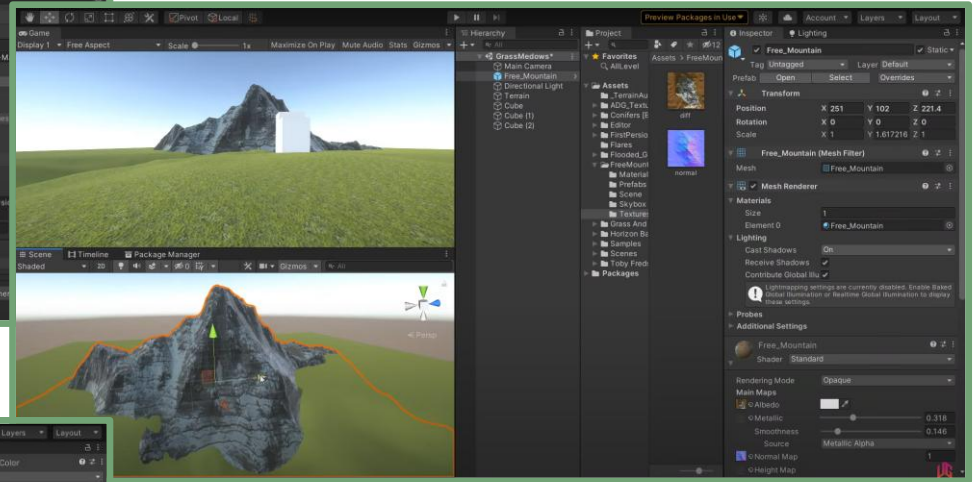
https://www.youtube.com/watch?v=oKzX-wS4_so



Using Modular Pieces



<https://www.youtube.com/watch?v=boya5PQv6rg>





<https://www.youtube.com/watch?v=DXh7yeCFD5Y>

Art Assets!



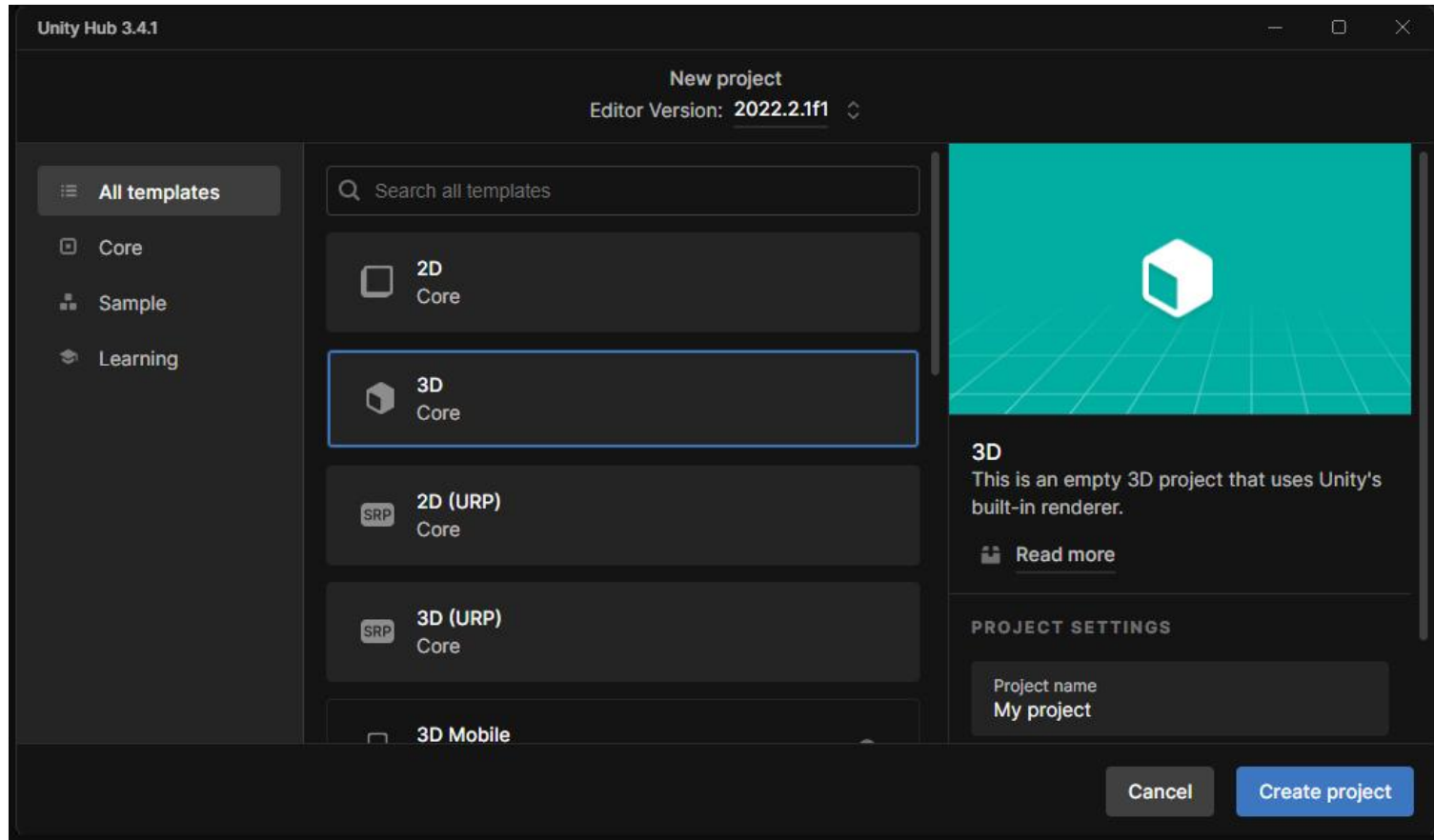
- 3D game objects that populate your environment level.
- Typically built in a 3D program (Like Maya, Max or Blender) and imported into the Unity project.

Start Simple!



We have to walk before we can run.

To Start ...



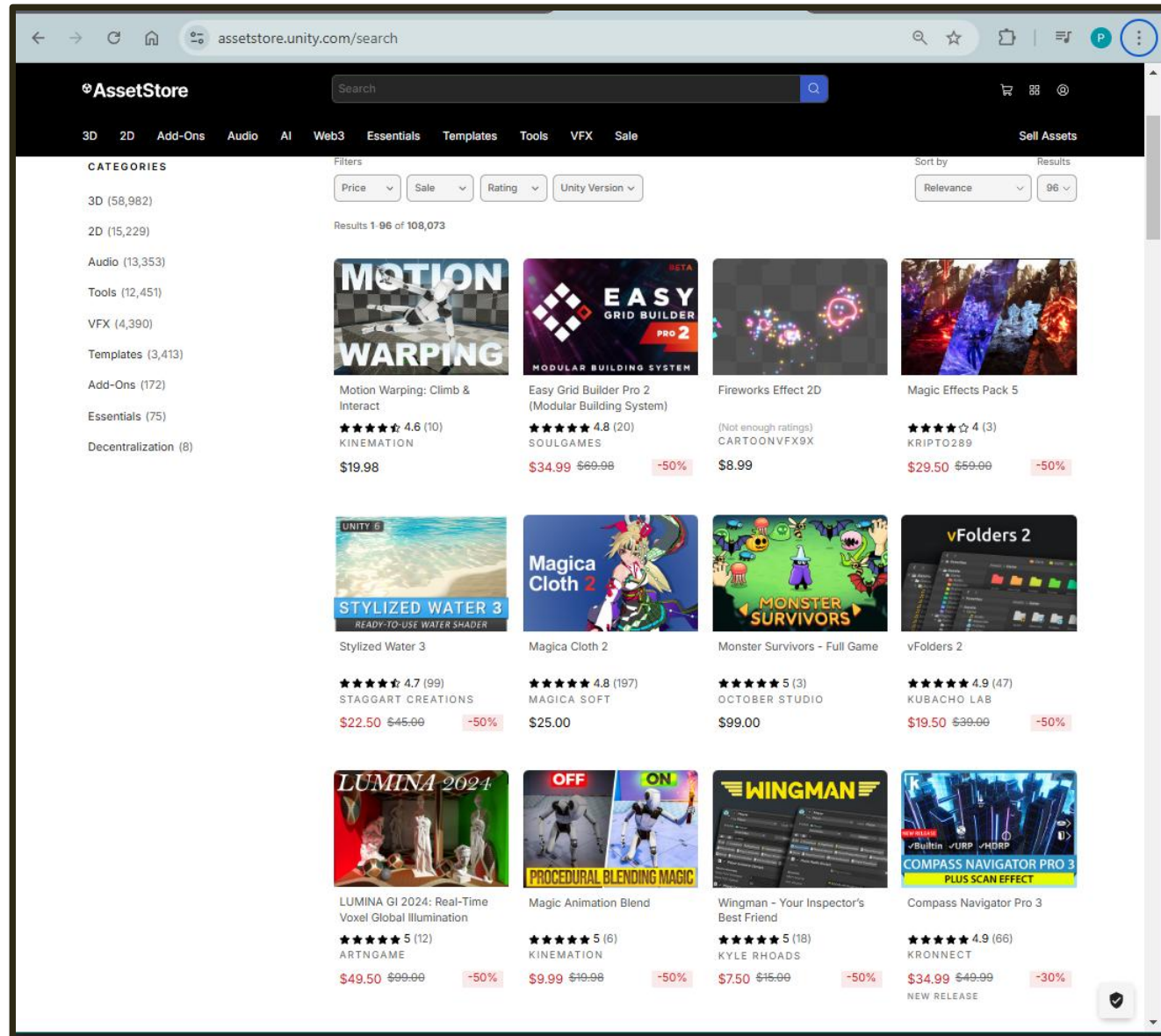
- Create a new scene in Unity.

Let's Go Shopping!

We'll learn how to build a scene, using assets from the Unity Asset Store.

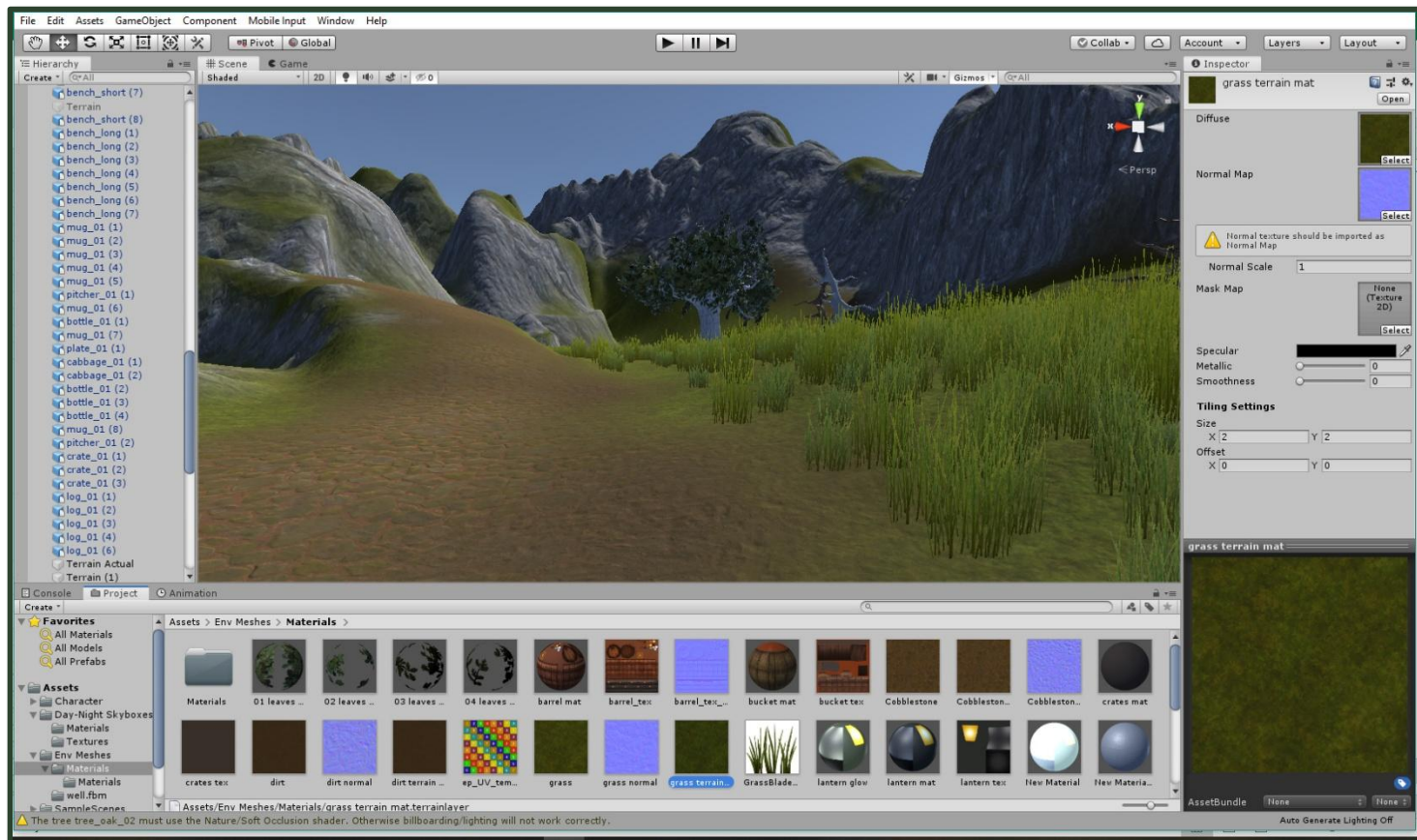
Let's check it out:

[Unity Asset Store](https://assetstore.unity.com/search)



Color Your World

We'll apply textures to the terrain to create grass, dirt, stone and any other ground material.

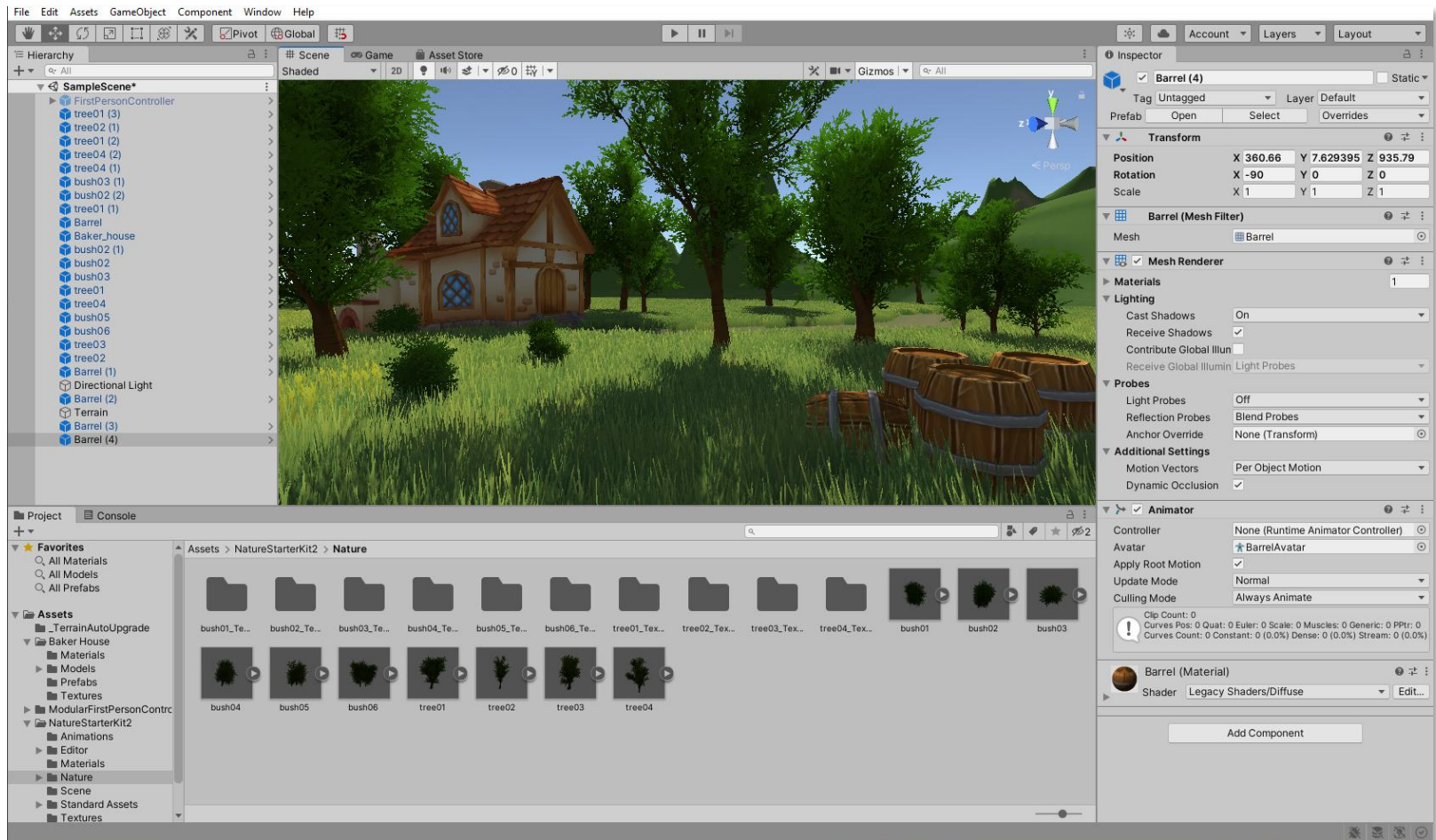


Add Some Sky



A variety of different sky boxes can contribute a sense of time and mood to your scene.





Putting It All Together

Our end goal will be to quickly put together a simple game scene that a player can explore and interact with!

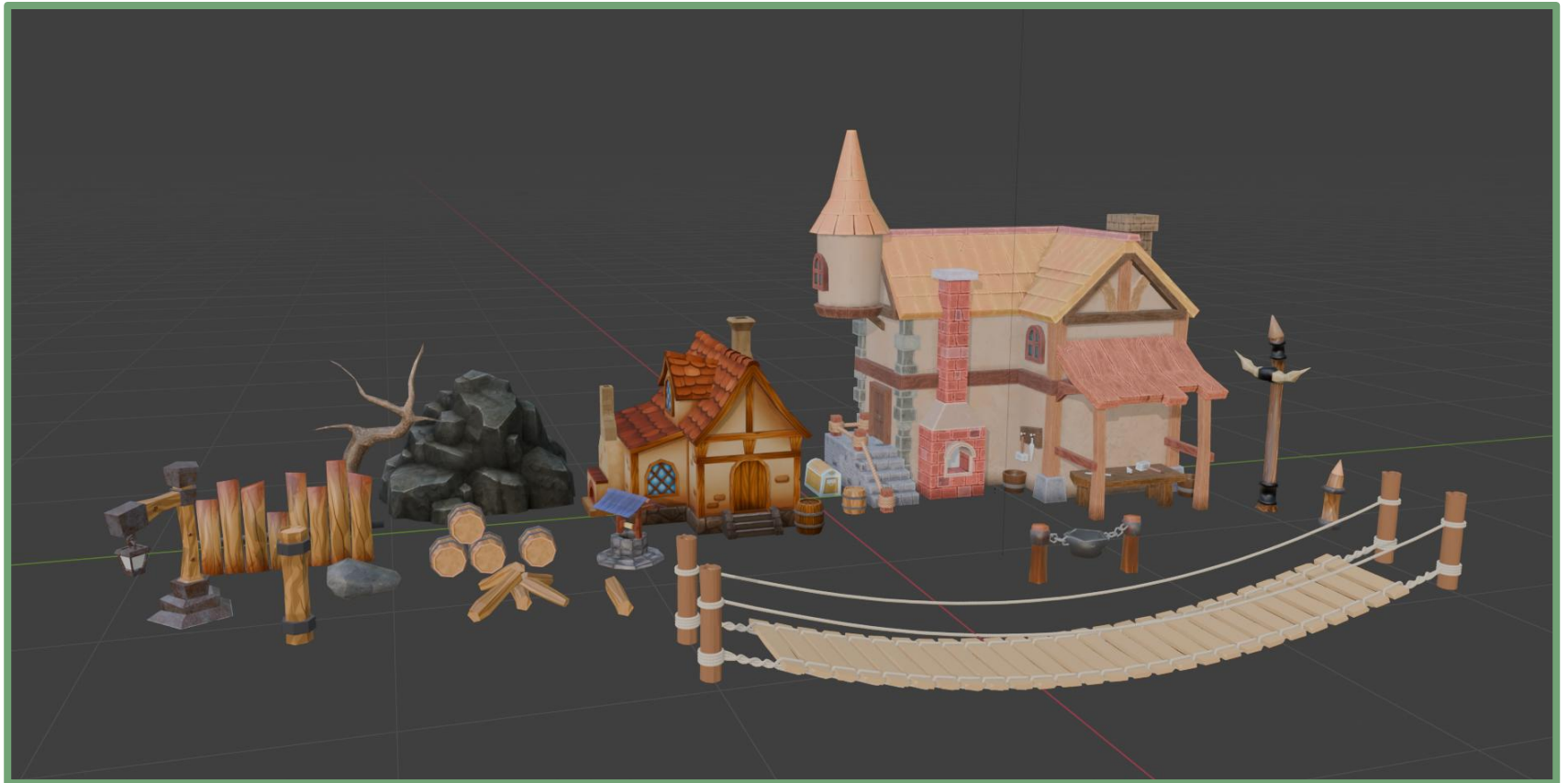
Some Free Game Assets

Some quick search results to get you started.

- [Nature Starter Set 2](#)
- [Baker's House](#)
- [Blacksmith's House](#)
- [Medieval Village Starter Kit](#)
- [Free Skyboxes](#)
- [Windmill](#)

Tomorrow:

We'll learn the fundamentals of 3D modeling,
and how to make props!



A detailed 3D rendered scene of a forest. In the foreground, there's a dirt path with patches of green grass and small yellow flowers. Several large, mature trees with thick trunks and dense green foliage are scattered throughout. In the background, a large, craggy rock formation or cliff face is visible, partially covered in moss and small plants. The lighting is warm and golden, suggesting late afternoon or early morning, with long shadows cast across the ground.

But today:

Let's play around with Unity!

