Background

1. 简单描述你的项目

My Project propose a method to efficiently make the natural environment of the big world in unreal engine. And constructed the natural scene of cold temperate zone in China based on this method.

1. 介绍一下UE

Game engines control game components, allowing a complete game to be created. Unreal Engine is a complete set of development tools for anyone working with real-time technologies. Capabilities range from designing visualizations and cinematic experiences to producing high-quality games on PC, console, mobile and other platforms.

1. 最难的part

Landscape Material Function

It is difficult to make a material acts naturally. This requires continuous construction and iteration of the model. I have carried out three iterations by overturning the last model and redoing it each time, and finally get the natural effect.

You can see that the plant clustering in the scene is very natural. The size, distance and clustering of plants need to be carefully adjusted. I spent a lot of time doing these.

1. 做的最好/最不好的Part

The best part is the **material function**, and this is the hardest part.

The worst is river. The river is made by 2D water map, and the overall performance is not excellent. Niagara's method can be used to make interactive water.

1. 植物模型怎么来的

Most of the plant models are collected from the UE market, and a small part are made by speed tree. In the early version, I tried to make all the assets in the scene, but finally gave up because of the excessive number of assets. So, I talked with my supervisor and he suggested me to find the assets online. But I will make assets that I think it is important, such as white birch.

1. 方法创新点

My research has three points full of innovations

1. Based on native UE without too many changes
2. The overall process complexity is low compared to Houdini way.
3. Generation rules are easy to customize and expand according to the different scenario
4. 开发

The most representative part of Unreal Engine is the blueprint editor, which is characterized by encapsulating C++ code and turning them into modules composed of nodes. Users only need to drag these functional modules in it, and connect them through a graphical interface to realize different function of gameplay, like the weather system is developed by blueprint int this project