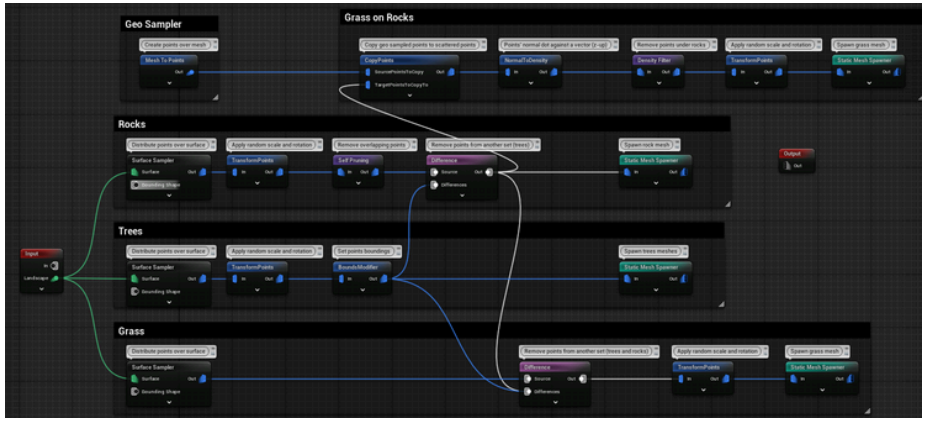
CI601 The Computing Project Procedural world generation in Unreal Engine with text prompts

Steps on how it was solved

This was solved by using the procedural content generation framework plug-in and implementing PCG Volumes which are placed in the editor and connecting a PCG Graph blueprint to the volume. Using the input node, connecting to surface samplers which will determine the density of the objects which will be place.

Next are transform points which will have min and max values for offset, scale and rotation to help the object be put in random locations. Self Pruning and differences are used to stop object from spawning on each other. Finally a node is use for spawning the correct meshes.



Next was using the landmass plug-in to create procedural generated landscapes grounds using the landscape mode and changing the brush material to a noise and changing related settings and creating procedural generated mountains using brushes.

Goal of the project

Is to learn about procedural generation in the games industry and to demonstrate what has been learned by creating multiple procedural generation world in Unreal Engine.

Along with this to create a solution for streamlining the creation process for procedural generation by implementing a way to enter text prompts into a text window either through a plug-in or any other discovered way to creation procedural generated content with just text.

During the second World development, water lakes and rivers were added by enabling the water plug-in and placing multiple different water bodies onto the procedurally generated landscape.

The final thing which was going to be implemented would have been a method to have the ability to enter text prompts into a text window which will add procedurally generated content automatically but wasn't implement in time.

The results

The final results were two procedural generated worlds, the first being a forest landscape with mountains surrounding it and the second landscape is a desert area which can be see in the images below.