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| **Procedural Terrain Generation UE4**  Oriol Marc Clariana Justes | V8O862G1 | | |
| |  | | --- | | **Introduction** | | The purpose of this project is to create a Procedural Terrain Generator with the focus on a tool or plugin for UE4.  The study will involve research into the implementation and organisation of algorithms for a procedural terrain with high level of customization.  I intend to also create Biomes generated procedurally that should be scalable and flexible and to customize assets and textures for each biome. | | |  | | --- | | **Current Project Review** | | PHOTO HERE | | |
| |  | | --- | | **Aims and Objectives** | | Design and create a customizable procedural terrain tool that can:  - Option between pre-bake the terrain or at runtime.  - Variety of algorithms for the generation of the terrain.  - Customize the material for the terrain and the scale.  - Level of the water.  - Customizable Biomes.  - Assets and the probability to populate the terrain.  I plan to explore the easiest way to facilitate the personalization of all the terrain generation options.  The end goal should show a realistic terrain generated procedurally selected, with the differentiation of each biome as the assets for each one. With the pre-bake option or with the runtime generation for an infinite terrain.  I will demonstrate both a pre-bake and runtime terrain and it should look high quality and professional and the easy and understood customization for the generation. | | |  | | --- | | **Project Progress** | | |  |  | | --- | --- | | **Jobs Finished** | **Description** | | Research and Planning | Studied the algorithms and the correct way to implement this project. | | UE4 Terrain vs URMC | Efficiency comparison between the UE4 options and the URMC plugin. | | Create a custom Quad | Create a quad using the URMC with custom vertices value. | | Perlin Noise | Implement Perlin Noise as one of the algorithms. | | Tiled Terrain | Using Perlin Noise create a tiled terrain and the customizable options. | | | |  | | --- | | **Next Steps** | | The purpose of this project is to create a Procedural Terrain Generator with the focus on a tool or plugin for UE4.  The study will involve research into the implementation and organisation of algorithms for a procedural terrain with a huge customization.  I intend to create too Biomes generated procedurally scalable and flexible to customize assets and textures for each biome. | |
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| |  | | --- | | **References** | | Unreal Engine 4. (2019) Unreal Engine. Available at: <http://unrealengine.com/> (Accessed: 2019). | |
| |  | | --- | | **Legal Social and Ethical Issues** | | TO DO | |
| |  | | --- | | **Professional Skills Related to Employment** | | TO DO | |