UNIVERSITAS INTERNASIONAL BATAM

Faculty of Computer Science
Information Systems Study Program
Odd Semester 2019/2020

THE DESIGN AND DEVELOPMENT OF A VIDEO GAME ASSET USING PROCEDURAL GENERATION INSIDE HOUDINI

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ABSTRACT

The process of producing a high quality video game requires a lot of time investment and budget for developers to create game content such as 3D objects and textures. Over the years, consumers' expectation of video games keep rising, supported by new technologies and features produced at a rapid pace because of the industries' fierce competition, thus the content creation process in game development is steadily becoming a problem and slowing down the pace of video game development, this creates the problem of a longer product life cycle where a a video game takes longer to be marketed, and that delay creates an even higher consumer expectation and inflates the cost of producing a game. Because of this, procedural generation is being used by game developers as a way to reduce the amount of work and time required in producing a game content. The purpose of this research is to design a procedural generation system that creates video game assets for its usage in game engines such as Unity. This research uses the research and development method in designing the desired output of the system and the Waterfall Software Development Life Cycle to execute the development of the system, which is devided into several parts, which are: the requirements stage, the design stage, the execution stage, the testing stage, and lastly, the release stage. This research will delve into the design and development process of a procedural content generation system in the Houdini software that will be implemented inside of the Unity Engine.

Keywords: procedural generation, houdini, unity, video game asset, video game development