

ABSTRACT

When someone felt boring because of job activities pretty much, of course, it would making stress and would inhibit the next activities. So that why some people vent it by playing the game in their hardware or gadgets such as a computer or smartphone. Positive things that could be taken from playing the game. For example, a brainstorming, increase accuracy, improve mood, and increase concentration. One of the games are favorite by the general public is Virtual Reality. This is a technology that is intended for users to interact with the environment that exists in virtual space and simulated by computers so that the atmosphere is like a real condition.

In this research, the virtual reality archery game was developed using the Procedural Content Generator (PCG) as a procedure in programming in the form of scripts written in game development software, Unity3D. The method used in this research is a Combined Linear Congruential Generator (CLCG), which is the implementation of a Pseudorandom Number Generator (PRNG) that combines two or more congruential linear generators. The design of the game arena environment is made by following one of the original engineering faculties building on campus. It calls the Barung Building (the N Building). The environmental design process uses a building design application program — Google SketchUp to make it easier for researchers to realize the shape of buildings in digital imagery.

Testing this game is using the Unity3D application program to include game scripts, randomization algorithm methods, and other supporting scripts. So, the game can run optimally. The output will certainly be the same but the randomization results will be different because of using different algorithms. This could be seen in the script form. Computer devices with large internal memory capacity are also important so that the performance of a program can run smoothly without consuming time. It's supportive because the outputs of game programs that are developed simply take up memory capacity.

Keywords: game, brainstorming, Unity3D, virtual reality, CLCG.