

ABSTRACT

In archery sport requires a wide and varied place to do the sport. However, due to limited land and space, the diversity of the training ground becomes small. Things like the weather became one of the lazy people to go out to do sports like archery. This research is intended to develop an archery simulation application by providing a randomly generated environment with certain rules.

Procedural Content Generator is a method in game developers to create something like levels, rules, materials or items. With the use of the Procedural Content Generator, everything in the game is formed by a generator program that functions to create levels, items, game rules or game rules with certain formation rules. Procedural Content Generator usually uses a random number or value to manipulate the shape, location and amount of content in the game.

Once created, each object created will be calculated on average, standard deviation, standard error and sample variance for each object. Objects made in the form of trees, and also rocks. After obtaining object data, the calculation will be done to get loss and gain for each object. Loss represents an object that failed to be made and gain is a representation of the object that was successfully created.

To get an arena that provides random content, the implementation of this final project is one solution to this. The content created will be randomized to each position and the contents of that level. With the implementation in the N Building as a place to choose the level in the content generator created.

Keywords: *Virtual Reality, Unity3d, Procedural Content Generation (PCG), Pseudorandom Number Generator (PCg).*