

## ***ABSTRACT***

Archery is an activity using a bow to shoot an arrow which was originally a tool to survive or defend themselves from attacks by wild animals and also as a weapon in war. Now archery has been registered as one of the sports that are contested and is widely used as an inspiration by developers of game applications to appear various archery games.

But in the development of archery games so far, archery games have shooting targets that tend to be the same, namely targets that are not moving and moving targets. Moving targets have a direction of movement in a 2-dimensional pattern or in a flat plane, so the development of this archery game aims to develop the direction of the target's movement so that it can move in a 3-dimensional pattern with a random direction of movement using the middle square method where the target's movement speed is determined using fuzzy logic.

The results of the development of this archery game show that the application of the middle square algorithm in determining the direction of movement of archery targets results in random movements as long as they do not produce seeds 0, 10, 50, and 60 with a speed that matches the results of the fuzzy logic output calculated based on the score and time parameters in games.

Keyword: archery, archery game, middle square, fuzzy logic