ABSTRACT

The application of *Artificial Intelligence* (AI) has been successfully carried out in various types of games, as in the game genre *strategy, simulation, adventure, etc*. In this study, AI was designed in a simulation game, namely Bird Hunting. This Bird Hunting game applies *Flocking Behavior* in it. *Flocking Behavior* is a behavior or trait possessed by a group of birds or flocks of birds that are looking for food or are flying.

The purpose of this final project is to show how the use of *Flocking Behavior* can be applied in a bird shooting simulation game. The method used to develop birds is the *Boids algorithm*. *Boids algorithm* is one method that can describe motion and behavior in a concept (group). The making of this game will use an application called *Godot Engine*. *Godot Engine* is a game engine with a proprietary source license that can process some data such as three-dimensional objects, sounds, textures and so on, the advantage of this *Godot engine* that it can handle 2D and 3D graphics.

Based on the purpose of making this final project, the results that will be obtained from this research are in the form of a simulation of flocking behavior. The simulation is described with a group of bird agents who have an agent leader. The agent leader of the herd can change with the stamina parameter as a condition for changing the leader.

Keywords: *Artificial Intelligence, strategy, simulation, adventure, Flocking Behavior, Boids Algorithm, Godot Engine*