

“...Untuk Semua Keringat, Darah, dan Air Mata ”

ABSTRACT

Game application is not only for children anymore, but an application that can be played by everyone. Peoples playing games to release their fatigue, boredom, and even a sense of stress. In making a game application, it needs some AI (*Artificial intelligent*) in game to makes game more interesting. Finite State Machine (FSM) is very popular one's that often applied in game application. However, in some kind of game application, this is less preferred, because FSM tends to be highly visible pattern, but FSM can be modified by combining it with other AI. One way to modify the FSM is to add the fuzzy logic in decision making, so that the output is fairer and makes NPC response more dynamic.

This final project is about create an game application that includes a combination of two different AI, it's FSM and Fuzzy logic. The combination of this two often called as FuSM (Fuzzy State Machine). Fuzzy logic in this game used for decision making of non-playable Character (NPC) to conduct more realistic and dynamic response. This game application is running for the Android smartphone. This application is named Hungry pigs.

According to the research, this game has a dynamic response by using fuzzy values as expected. Utilization functions such as triangular and trapezoidal membership influence the outcome of the fuzzy system, where if you use a trapezoidal membership function, then the object response is more predictable than the triangular function. Inference on the type of game can affect the dynamics of output, where the use of Mamdani inference can produce more variation than the response by using Sugeno inference. 77% of respondents stated that the application of hungry pigs have interesting gameplay, and the remaining 33% stated that this game is very interesting and deserves to be played.

Keywords: Hungry Pigs Games, Finite State Machine, Fuzzy Logic, NPC