ATTACK STRATEGY OPTIMIZATION OF TEAM NPC ON CLOSE COMBAT GAME USING HARMONY SEARCH

Name: Nurul Zainal Fanani
NRP: 2210205002
Supervisor: Prof. Dr. Ir. Mauridhi Hery Purnomo, M.Eng
Co-Supervisor: Moch Hariadi, S.T., M.Sc., PhD

ABSTRACT

In most computer games especially close combat games, it is important to consider the team strategy to make the game more attractive and realistic. One of the efficient team strategies is to select the right opponent which will be attacked first.

This research implemented optimization of Non Player Character fighting behaviour using Harmony Search algorithm. The aim of this optimization is to enhance the attack strategy against opponents. The algorithm produce sequence of the opponent NPC’s to be attacked. This result is an effective attack using minimal energy cost.

The most minimum energy is reached when the effective parameter values of Harmony memory Consideration Rate is 0.6 and the effective parameter values of Pitch Adjustment Rate is 0.5. The computation speed of harmony search algorithm is faster than Particle Swarm Optimization.

Keyword: Non Player Character, Harmony Search, Optimization, Health