ABSTRACT

Hendy Hanafi (1305003024)

MEANS ENDS ANALYSIS IMPLEMENTATION ON SHOOTER GAME BY
UNITY ENGINE

(xv + 93 pages; 54 figures; 23 tables; 11 appendices)

Shooter game is one of game genres which is favoured by all generations, such as Counter Strike: Global Offensive. In order to create a appropriate shooter game, supporting factors as nice graphical display and artificial intelligence that able to implement war tactics in real world, are needed. Artificial Intelligence which is used in this game consists of two parts. First, artificial intelligence based on tactics, which team would try to eliminate every rival’s team member by using war tactics that has been applied. Second, basic artificial intelligence, which team will try to eliminate every rival’s team member without using any war tactics.

Based on the test result, the implementation of war strategy using means ends analysis on shooter game and game simulation has been successful. Second, Shooting accuracy of semi-automatic fire shooting type, with accuracy level 90%, is more successful compared to three round shooting burst shooting type with accuracy level 60%. Third, speed rate of semi-automatic fire in spending bullets takes longer in 2.598 seconds, compared to three round burst in 1.081 seconds. Fourth, the distance between the player and rival will determine the shooting accuracy. In this game can be said that the shooting accuracy in 25 meters distance is 60%, in 12 to 15 meters distance is 70%, and the best distance to shoot is 25 meters with accuracy level 80%. Fifth, the player’s moving speed is faster when he is running, which can be seen through the time needed for running in 30 meters of distance can be completed in 5 seconds. If the player is in crouch position, it will need 6 seconds to go through 30 meters distance. Meanwhile, if the player is in prone position, he will need 10 seconds to go through the same distance. Sixth, The rival’s shooting accuracy to the player will be worse when the player prone than while he is crouch or stand, which can be seen through the accuracy level of rival’s shoot while doing prone is 70%, squat is 80%, and stand is 100%. Seventh, team with implemented war tactics is better with 72% win rate than the other team with 32% win rate.