ABSTRACT

Non-player battle group character (NPC) on a real time strategy game (RTS) requires intelligent agents that can choose the right strategy formation. Study describes about how to create a strategy formation in a group of NPCs using the genetic algorithm which has a 4 way in determining the value fitness but in this research only used two ways to determine the value and the binary value of fitness in a group NPC. In the group 4 chromosomes that NPC has to armory x1, x2 to the nature or the courage, to attribute or health x3, x4 to type or offense and defense from attacks enemy. Each of the chromosomes will entry in the fitness function. With random value of each chromosome to get experimental results that the optimization by using the values for x3 chromosome and chromosome x4 in the unit of force to get the highest fitness value 14.88%, using a binary way of fitness values produced higher and more stable with a value of 62.03% is more easily implemented into the game Lume Wars. With highest fitness value of an individual or group of NPCs will be able to form a dynamic formation and increase the ability to invade and survive from enemy attack.

Keyword : GA, RTS, NPC