ABSTRACT

This final project research is to apply one artificial intelligence as the basis for the action or movement of NPCs in side-scroller shooter games so that they can add player experience when playing with NPCs. The algorithm used is a finite-state machine where in the algorithm there are four basic or foundational ways of working, namely state or state, event or occurrence, transition or transition, and action or action. This research is expected to be able to apply the finite-state machine algorithm which is implemented into the NPC in order to produce several diverse actions so that the game is more varied and challenging.

Based on the research conducted, the results obtained from the actions carried out by several types of NPCs matched the state created to the resulting action to respond to the behavior of the player. Testing the difficulty level of the NPCs was carried out by looking at the respondent's data as many as 35 people and getting the results that as many as 18 respondents or 51% of respondents considered that the NPCs faced in the game were difficult, and as many as 14 respondents or 40% of respondents rated the difficulty level of NPCs as average, and as many as 3 respondents or 9% rated the difficulty level of the NPC as easy.

The test results on 35 respondents consisting of 28 people (aged 21 to 25 years), 5 people (aged 16 to 20 years), 1 person (aged 10 to 15 years), and 1 person (aged 26 to 30 years). that 49.8% of players like the Unknown Space Cave game theme and are interested in playing the Unknown Space Cave game, and 49.8% of players find it difficult to fight enemies from the Unknown Space Cave game.

Keywords: *Game*, NPC, *Side scroller shooter, Finite State Machine*