ABSTRACT

Artificial intelligence is one part of computer science that studies how a machine can do a job like human or even better. One of the uses of artificial intelligence is in the field of gaming industry. Game is an entertainment that uses electronic media made as attractive as possible in order to satisfy the player or just to release fatigue. In addition, games can also be used as a pretty good learning system.

*Therefore, in this study designed an educational game "Hitunganku" with the purpose as an educational tool focused on mathematical material. This educational game is an adventure-themed game using the A * pathfinding algorithm. This algorithm will look for the fastest way by selecting the most optimal route in terms of cost. In addition, it makes it easier to adjust the behavior of the Non-Player Character (NPC) at the time there is a change in conditions within the game.*

The result obtained from the design of the educational game "Hitunganku" using the A* Pathfinding algorithm applied to the NPC is that the NPC can detect the presence of the player when the player is in the NPC coverage area and conduct a chase when the player is detected. Furthermore, from the testing of 65 respondents with criteria of 11 children (<=10 years), 7 teenagers (11-19 years) and 47 adults (20-60 years old) about 63.1% of respondents felt the math problems provided were easy to understand by them and an average of 79.48% of respondents felt the game "Hitunganku" was good and worth to play.

Keywords*: Game, AI, A star, NPC.*