ABSTRACT

The advancement of technology has transformed many aspects of our lives, changing the way we communicate, work, and interact. The rapid development of technology demands us to understand its implications, challenges, and opportunities for the progress of humanity. Its impact on education is also significant globally. One example is the use of games as a means of learning. However, there is currently a scarcity of educational games suitable for children, leading to a limited choice of games that can meet the needs of early childhood learning and development.

Early childhood education is a well-organized and systematic teaching process aimed at developing various aspects of children's fundamental skills. These aspects include cognitive, language, emotional, spiritual, moral, and physical abilities. Cognitive abilities, for instance, are related to thinking intelligence, such as remembering, recognizing, and understanding various objects. This ability is crucial to be developed in young children and can be enhanced through the provision of stimuli.

The results obtained from this research indicate that the educational game Miner Quest has provided benefits by improving the response speed of kindergarten children towards instructions and objectives, as well as providing additional knowledge about mining materials. Furthermore, after undergoing testing, the behavior of the NPC boss, Spiderqueen, designed using a finite state machine (FSM), has been consistent with the intended design. Additionally, the interview test results showed a positive response towards the educational game Miner Quest, indicating the potential for it to serve as a reference for the development of educational games in the future.

Keywords: Game, Educational Game, Finite State Machine, AI, NPC, Mining Materials.