ABSTRACT

Games are something that is not rarely heard by the community. In terms of learning, games can be used to add knowledge for players, for example, educational games. During a pandemic like this, learning methods are very difficult to do offline, especially learning about numbers. So it is proposed for the creation of educational games with the theme yang provided, namely counting. The result that will be seen by the player is in the form of a number result.

The game, of course, has feature features that must be available for the convenience of users. In the educational game made this time, it is emphasized more on the number of NPCs in the form of prime or non-prime values that appear using the fuzzy sugeno algorithm, but there are feature features such as the number of bullets, balloons as NPCs, and various menus to start, and exit the application. This game is added with several features to attract more interest from the player, for example the balloon so that it can move, and determine the chances of when the NPC appears and the prime numbers that appear

The application of the sugeno fuzzy algorithm is considered successful, as evidenced by the manual calculation experiment of the appearance of prime and non-prime balloons in accordance with the defuzzification calculation using the centroid method of 8 prime balloons from the balloon balloons that appear, and also a total of 27 rules used. As for testing the functionality of the system based on alpha testing, and producing according to function, and beta testing based on the deployed questionnaire is declared valid and reliable.

Keywords: *Fuzzy Sugeno, Game, NPC, Testing*