

ABSTRACT

The semaphore aims to send and receive information in the form of a movement using the media flag and flag called the Semaphore. The semaphore itself has 36 types of movements to represent 26 letters and 10 numbers. In this study, Kinect is used as a more interactive semaphore code learning media with the K-NN method as a movement classification.

Microsoft Kinect v.2. used to detect human joints scattered in the human body, in this study six joints located in the right and left hands were detected on the shoulder, elbow, and wrist. The semaphore code that will be detected in this study is 26 letters and the method used to recognize the movements of the code is K-Nearest Neighbor which can group the existing code movements in the training data then compared to the new movement called test data and will be displayed in the form of text on the laptop monitor screen using the Euclidean Distance calculation to find out the closest distance to the training data with the test data.

The results of the analysis of this study are the level of accuracy generated from the K-Nearest Neighbor method with different K values (1, 3, 5, 7, 9), with the subject of training data as many as 10 subjects and 5 subjects as data that will test system capabilities to recognize semaphore code movements. The results obtained from system testing with the highest accuracy when $K = 1$ with a value of 92.3% and the lowest is when $K = 9$ with a value of 73.9%.

Keywords: *Semaphore Code, Microsoft Kinect V.2, Euclidean Distance, KNN*