

ABSTRACT

In this modern environment, the interaction between human and computer demands a more natural form of interaction. Therefore, it is important to be able to build a system that can meet these demands, such as building a hand or gesture recognition system to create a more natural form of interaction. In this study the introduction of hand signals is being used as a password on electronic key systems.

The recognition of hand signals presented in this study has been carried out in previous studies by utilizing the depth sensors contained in Microsoft Kinect Xbox 360. Depth sensors take hand images and segmented images by giving a threshold. The results of the recognition of hand signals are used as passwords to open electronic locks. To make the recognition of hand signal easier, the Artificial Neural Network (ANN) algorithm by using backpropagation learning method which functions as a classification is used because it is able to improve accuracy against classification

The accuracy for the recognition of each hand signal is 95.3% and 93% for the recognition of three cue sequences as a password. With good accuracy, the design of the electronic lock system is useful for tighter security for a house due to the lack of errors in the introduction of hand signals as a password.

Keywords: Electronic keys, hand gesture recognition, Artificial Neural Network.