Abstract

Barcode is a product introduction method. Each product has a different shape on the barcode. Shopping activities are now many buyers who feel overwhelmed in adding up the total expenditure to be purchased before the cashier, often the amount to be paid exceeds the amount of money carried by the buyer. The way that can be done is to recognize the product and know the price, it can be taken from a barcode that has a unique characteristic in each item. The system created contains a barcode recognition based on the image that is owned. This system aims to recognize products based on barcode characteristics. The system under study can be used by users when shopping. The method used in this system for feature extraction is the Hough Transform and the classification method used is using k-NN. This application is expected to be able to detect barcodes correctly and have good accuracy. This application uses the parameters of distance = 5cm, 10cm, and 15cm and using angles = 0˚, 45˚, 90˚, 135˚ and 180˚. The best results are obtained from a distance of 10 cm with an angle = 0 ˚, and compared with a variation of k values. A value of k = 1,3,5 gets a result of 71% which is the best accuracy result in this system. This application with the feature extraction method of Hough Transformation and Nasi-Classic class get an accuracy value of 100%, with a distance of taking 10 cm and an angle of 0 ˚.

Keywords: Smartphone, Android, Hough Transformation, k-Nearest Neighbor (k-NN)