

## ABSTRACT

Communication is a process whereby humans interact to exchange information or convey specific goals and intentions. Communication is good, if the mutual understanding of the intent and purpose of each other. However, some people have limited visual sensitivity. So to do reading and writing requires Braille text. However, it is not easy for the laity to understand the text quickly. Therefore, a Braille conversion application is made into an android based text.

In this final project created an android based system that can be implemented Braille image in jpg format into text. The image that is input is a Braille image consisting of 156 images in which 78 training images and 78 test images. The pre-processing stage consists of median filter, grayscale process, black and white, erosion and opening. After pre-processing, the next feature extraction step using Principal Component Analysis which aims to find the value of the image in the pre-processing results and then stored into the database. Then do the classification using K-Nearest Neighbor method by finding euclidean distance.

The results obtained from a Braille conversion application have an accuracy of 96.15% with computational time of 1.721 seconds at threshold 128,  $k=1$ , and distance of 7 to 9 cm.

**Keywords:** *Braille, android, K-NN, conversion.*