ABSTRACT

One of the main food for the majority population in Asia continent is rice, especially in Indonesia. Whether good or not good rice can be seen through visible eyes by its size, color, and also whether there or not there is a break in rice. Generally, the people of Indonesia get rice in the market, supermarkets and rice traders. Various types of rice circulating in the market demand a condition where the need for handling and supervision of rice quality standards.

In this study, related to the need for handling and supervision of rice standards, the author conducted research for image morphology of rice with the pre-processing process, feature extraction with the Principal Component Analysis method and classification using k-Nearest Neighbor metohod on digital image processing to determine the class of rice is grouped into three classes, namely A, B, and C. Previous researches used types of rice originating from their respective countries such as India, China, Philippines, Iran and Sri Lanka. For this reason, the author uses rice variables from Indonesia, namely pandan wangi rice. The image acquisition process and the system that has been designed is different from previous researches using android. With the system that the author uses using the android application, rice circulating in the market, supermarkets and customers can be accessed easily and easily for consumption.

With this final project, research on rice grouped by size, color and sosoh degrees which author do is expected to help the general public to know the quality of rice more effectively and can be done easily on android smartphone with 77% system accuracy.

Key word : Rice, Image Morphology, Principal Component Analysis, k-Nearest Neighbor, Android