ABSTRACT

Phalaenopsis or commonly known with the orchid has many types. There are 26 species that have been recognized in Indonesia. Orchids can be classified based on their Habitat, namely the Highlands and lowlands. Levels in need direct sunlight, and do not require much water. There are still many people of Indonesia who have yet to figure out what it is and what types of phalaenopsis-types of phalaenopsis itself.

In this final task has been made an application to analyze and classify phalaenopsis through the shape and color of the leaves. Where the leaves of phalaenopsis being used as test data and data training. In this final task used wavelet features extraction method. On wavelet decomposition process will do the extraction and characteristics of Neural Network method on Self Organizing Maps (SOM) will do the restoration image is to classify and group species of orchids which were used as the sample.

The results that have been achieved in the classification accuracy of phalaenopsis is with 100% with average computing time of 12.66 seconds with image capture vertically (horizontally) to the photo with the distance, the slope, backgroud, the light is exactly the same and everything is already in the database.

Keyword: *analysis of detection system of phalaenopsis, The transformation of wavelet, JST*