ABSTRACT

The establishment of Batik into the Intangible Cultural Heritage Lists by United Nations Educational Scientific Cultural Organization (UNESCO) represents an international acknowledgement towards Indonesian culture [5]. Pertaining to this, the development of Android application on Batik may certainly enable people to explore their knowledge about Batik as well as make it known publicly, either to the national or international tourists that may contribute to the growth of Indonesian tourism.

The unique texture on the extracted batik motif can be identified by using GLCM feature extracting method. The information included in a feature of batik is reflected in statistical feature values. Based on the feature, the motives acquired from camera can be classified by using KNN method.

The test shows that the highest accuracy was at 81% on angular orientation pair of 45o with pixel distance of 2 in GLCM parameter. The test with k parameter = 1 in KNN shows the accuracy of 82% and it decreased significantly if the k parameter increased. An 80% accuracy was obtained at the acquisition distance of 10 cm taken from the object and it decreased if the acquisition distance increased. The light either in outdoor and indoor where light power difference was set for indoor shows accuracy of 80% yet it decreased if the light power was less than 8Watt. The parameter difference in Android smartphone resolution was also resulted in different accuracy level, i.e. maximum at 80% if the resolution was 13 MP and it decreased as the resolution decreased. The average computing time on Android smartphone with RAM of 512 MB and 2 GB was 163 ms and 29.95 ms.

Keywords : Batik, Gray Level Co-occurrence Matrix (GLCM), K – Nearest Neighbor (KNN), Android.