

## ABSTRACT

Batik is one of the world heritage that has been recognized by UNESCO and has a strong cultural element in its development, especially in batik motifs that have the meaning and philosophy of life of the creator's creator. Making batik motifs can be developed according to the inspiration of the creator of the creator by exploring new things. One of the efforts made in the development of batik motifs is to use coral reefs as a new form of batik patterns. In designing this batik motif, the type of coral reef used was *Heterocyathus aequicostatus*. The type of coral that is often found in Indonesian waters has its own shape and uniqueness so that it matches the development of batik motifs.

Coral reef applications as batik motifs are carried out using the L-system method which is implemented in a web-based application. This application is expected to help preserve batik culture and art so that it continues to develop and has a variety of motives. The purpose of this study was to develop batik motifs using the L-system method implemented in web-based applications.

From the results of testing carried out on alpha testing, the shape of the coral motif can be changed according to the input value in the variables available in the application interface. The next test, namely beta testing found the similarity of coral motifs with native coral around 63%, and the feasibility of coral shape as the main motive of about 64% obtained from respondents. Whereas the quantitative test shows that the value of the tentacle length and the deviation of the tentacle angle affect the average length of the tentacles. It can be concluded that the quantitative test gets linear results if there is a change in the value of the length of the tentacles, whereas if the value of the deviation of the changing angles is not linear.

Keywords: L-system, *Heterocyathus aequicostatus*, Web-based