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The Use of Turtle Graphics Algorithm in Digitizing and Developing Sumatra Batik Motifs Based on Local Wisdom

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ABSTRACT

The use of the Turtle Graphic algorithm in the digitization and development of Sumatra batik motifs is an innovative step to preserve local wisdom. This algorithm, which was originally used in graphics programming to educate children about computer concepts, is now being utilized to design and reproduce intricate and detailed batik motifs. **The problem is** that most existing batik motifs have not been digitally stored. Therefore, **the purpose of the research** here is to digitize Sumatra batik motifs, **the method used is** the Turtle Graphics algorithm. Turtle graphics utilizes command-based programming principles to draw geometric shapes. **The benefits of research results** with this approach, designers can easily modify and reproduce traditional batik motifs digitally. This algorithm allows the drawing of patterns with high accuracy, making it easier to create consistent and precise motifs. This digitization process also helps in documenting and preserving batik motifs. The use of this technology not only speeds up the design process but also provides wider access to the younger generation and the international community to appreciate and learn about Sumatran batik. By integrating modern technology and local wisdom, the digitization of rare batik motifs has the potential to strengthen cultural identity and increase the economic value of traditional batik products.

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