

Digital Motif Design Inspired By Paksi Naga Liman

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Abstract Nowadays the use of motifs has been widely used in all aspects of life, especially in fabrics. Looking at current technological developments, pattern design techniques can easily be done digitally. In Indonesia, there have been innovations in motif processing software, namely JBatik. According to Hariardi and Lukman (2013) JBatik is a software that is built using Java Programming with GUI and user friendliness for designers/ artists. By using JBatik, batik or motif design with fractal concept can be made easily. The methods used to collect data in this study are in the form of literature studies about motifs and development of patterns, interviews with Batik Fractal Chief Designer Officers (CDO) and observations of vector and JBatik software to create motifs and compositions. This study also carried out experimental methods in a quantitative way in the form of formula variables used in making compositions with JBatik's Lsystem and qualitative compositions in designing visual motifs and compositions. This study aims to combine the potential of vector-based and fractal-based software to process variations of motifs and fractal formulas to make pattern compositions that have efficiency and diverse visualization from the inspiration of Paksi Naga Liman which is a chariot from Keraton Kesepuhan Cirebon.

Keywords Digital Motifs, JBatik, Paksi Naga Liman.

1. Introduction

According to Sharma (2016) in his journal, motif is perceived as an important step in designing and can be repeated in a certain pattern or design, often times more than once, or perhaps once in a work. All motif that is used in any type of work has the same size even if the work itself varies in size. Every motif, just like the fabrics itself, has their own origin, evaluation, and variation in shape and orientation. Seeing technological development in present time, motif designing technique can now be done easily via digital.

The development of digital motif designing technique is influenced by the rise of vector based software that can be used to design motif. As said by Supriyadi (2010:7) vector based software generates illustration or picture emulated from a series of line and curve. In Indonesia itself there has been an innovation in the form of motif designing software called JBatik. According to Batik Fractal in their site <http://batikfractal.com/about/>

JBatik is a software specializing in designing Batik Fractal motifs. This software is made with Java programming that works in generative system or looping. Using fractal formula, JBatik will work the inputted formula and transform it into a picture. Observation on vector based motif producing software comes to an analysis which is an advantage in sharper quality of object and variative color palette. In compositioning motif, other vector based software does it manually, comparatively with JBatik that is able to automatically composition it with fractal formula. Based on the analysis, utilizing digital technology in form of vector based software with fractal formula feature have the potential in working with a variety of design and motif composition, resulting in ease of use and time efficiency.

The muse that inspires motif designing with digital technology in this research is Paksi Naga Liman. Paksi Naga Liman is a local content of chariot artefact currently stored in Keraton Kesepuhan Cirebon. Paksi Naga Liman has a classic motif that has potential to be developed. By joining digital motif designing software inspired by Paksi Naga Liman, the author hopes to achieve a variation of motif and new design that displays intriguing and different visual.

2. Method

This paper needs qualitative analysis with data gathering method, separation, and conclusion of literature, observation and interview of vector based software Adobe Illustrator, JBatik, and qualitative history of Paksi Naga Liman, in comparing its ornamental design (both visual and nonvisual) and the cultural background that helps shape and utilize it from one period of time to the other (in a certain amount of time). Qualitative and Quantitative methods are needed in gathering experimental result using vector based software Adobe Illustrator and JBatik.

3. Result

Presently, the use of motif has already been incorporated in many aspects of life, especially fabrics. Observing technology development these days, motif designing technique can be done via digital easily. According to Supriyadi (2010:7) vector based software generates illustration or picture emulated from a series of line and curve, one of which is Adobe Illustrator. The Adobe Illustrator software has an advantage in sharper quality of object as well as variative color palette. The software still composition motif manually.

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3.1. Paksi Naga Liman

Sofiyawati (2017) in her journal explained among numerous cultural production of Kesultanan Cirebon heritage in tangible form, the Paksi Naga Liman chariot artefact and the Singabarong located in Keraton Kasepuhan and Keraton Kanoman are arguably the most notable artefacts that gain public exposure and most often if not always, used as research subject of various aspect.



Figure 1. Paksi Naga Liman

3.2. Adobe Illustrator

Adobe Illustrator according to Adobe quoted from their site

<https://www.adobe.com/sea/products/illustrator.html> is a vector based graphic software with industry standard that lets you create logos, icons, drawings, typography, and complex illustration for print, web, video, and cellular. From observing the motif designing software, Adobe Illustrator has a series of feature that can make module by using *selection tool* so that users are enabled to design complex module or follow inspiration. In addition to *selection tool*, Adobe Illustrator has a feature called *layers* which enables user to make a number of module layers without interfering each other during work process. Adobe Illustrator also provides coloring feature, solid color, gradation, and texture.

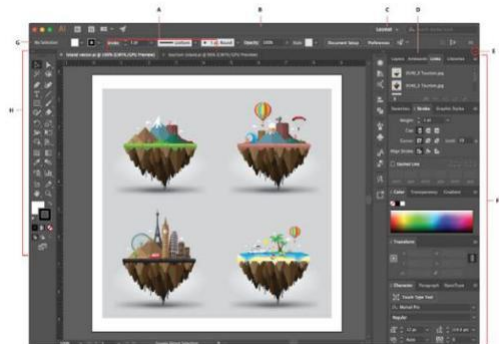


Figure 2. Interface of Adobe Illustrator

3.3. JBatik

According to Lukman and Hariadi (2009) JBatik is a Java Programming built software with GUI and user friendly interface for designer/artist. By using JBatik, batik composition design with fractal concept can be easily created. This software is even able to make a new pattern by tampering with the parameter. In an interview, Lukman (2019) explained that in the beginning, JBatik was made in order to help batik craftsmen who don't have background in composing motif and have trouble drawing a batik motif. For those reason JBatik is created as an alternative for batik craftsmen to create a variety of batik motif. Visually speaking, motifs created through Jbatik seemed more contemporary. In the process, with JBatik, motif can be designed with much more efficiency and variation because with JBatik, one main modular motif can be developed into a wide variety of motif composition.



Figure 3. Interface of JBatik

3.4. Experimental Result of Combining Software Adobe Illustrator and JBatik

In an effort to meet the intention of this research which is to combine potentials from vector based software and fractal based software to work with variety of motif and fractal formula in order to make a composition, the author did an experimentative by using Adobe Illustrator software to make a motif module, taking into consideration the module was easier to made following the inspiration, Paksi Naga Liman, and the availability of gradient tools which does not exist in JBatik software yet and also the adding of color visual as wished. JBatik software was chosen in making composition as it has *Lsystem editor* which enables user to make composition automatically and to have an interesting visual trade mark with regular iteration and looping.

Table 1 Experimental Motif

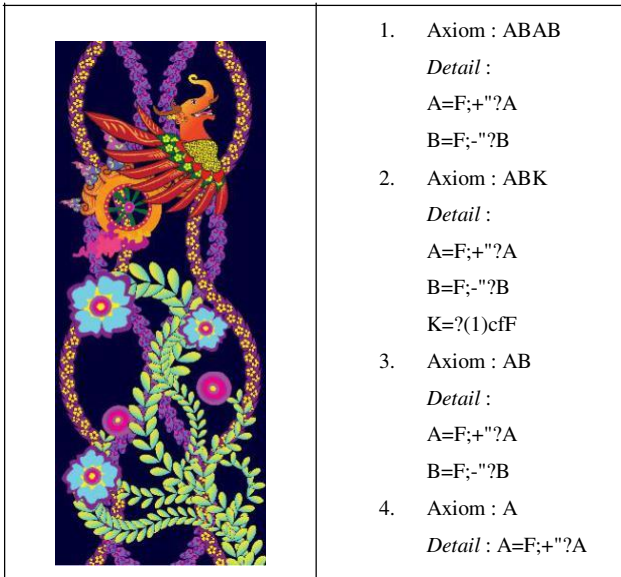
Source: Dewi, 2019

Inspiration	Motif

Table 2 Experimental Composition

Source: Dewi, 2019

Composition	Formula
	<ol style="list-style-type: none"> Axiom : ABA Detail : A=F;+"?A B=F;-"?B Axiom : AB Detail : A=F;+"?A B=F;-"?B Axiom : A Detail : A=F;+"?A
	<ol style="list-style-type: none"> Axiom : ABK Detail : A=F;+"?A B=F;-"?B K=?cfF Axiom : AB Detail : A=F;+"?A B=F;-"?B Axiom : A Detail : A=F;+"?A



4. Designing Analysis

The research is made based on a phenomenon already exist and exposed, the development of technology and software regarding to the designing of motif. Each of the softwares discussed in this paper have their own advantages and disadvantages that can be backed up by one another. Optimizing advantages of both software enables us to make composition and motif illustration in order to make a variation of motif and new design that projects an intriguing and different visual. Moreover, taking inspiration from local content, especially Paksi Naga Liman in this research, can expose and reintroduce one of the nation's cultural artefact located in Cirebon.

By doing data gathering through literature study, field data through interview, and observation, as well as experimentative of two software, Adobe Illustrator and JBatik, the author obtains an analysis that both software have potentials and disadvantages that can be backed up by each other.

In experiment that has been done by combining the advantages of each software can produce a motife module that has image visualization with color accuracy and diversity by using Adobe Illustrator and the composition of motifs that have modular and overlapping modular characteristics automatically using fractal formulas on Lsystem and Property Sheet feature, this results in the design of motifs with image accuracy and color diversity that provides new visualization of Paksi Naga Liman's inspiration and efficiency of processing and time.

5. Conclusion

Both software JBatik and Adobe Illustrator have their own advantages and disadvantages that can be solved by utilizing both their advantages in making motif module and motif composition. The combination of these potentials create ease of use and time efficiency in producing motif inspired by Paksi Naga Liman. However, it still needs further exploration in developing a much more complex and unique formula system in order to add more selling value into the composition design and the motif result that will be created.

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