

Batik Information Based E-Commerce

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ABSTRACT

Traditional batik as a cultural heritage contains the value of local wisdom or cultural heritage (heritage) and the art of batik is one of the cultural products known from our ancestors. The sales of batik made by Small and Medium Enterprises (SMEs) in the country are still very potential, and try to expand their sales distribution abroad through export channels. In today's digital era, introducing batik to the world is quite easy. Just post it on social media, people will see it, but that doesn't mean they will understand. Therefore, to help Batik SMEs players in providing an understanding of batik, we need a system in which the system, apart from providing information about batik, can also be used for buying and selling transactions. The development of this system uses the waterfall method and system design uses UML. The result of this research is a website-based application that can be used by batik craftsmen in providing information about batik and also can make buying and selling transactions online.

Keyword : Batik, E-Commerce, Waterfall, UML



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1. INTRODUCTION

Traditional batik as a cultural heritage contains the value of local wisdom or cultural heritage (heritage) and the art of batik is one of the cultural products known from our ancestors (Hakim, 2018). Batik is highly admired not only for its complex processes but also for its unique and beautiful motifs and colors, which are full of symbolic meanings (Sariyatun, 2018). The demand for batik is increasing from time to time (Singih, 2016). In addition to the development of fashion, the existence of an intense government program regarding the empowerment of regional potentials, has made batik increasingly recognized in the national community and abroad (Rahmawati, 2018).

Although the sales of batik made by Small and Medium Enterprises (SMEs) in the country are still very potential, the craftsmen are also not reluctant to expand their sales distribution abroad through export channels (Setiawati et al., 2016). In today's digital era, introducing batik to the world is quite easy. Just post it on social media, people will see it, but that doesn't mean they will understand (Untari & Fajariana, 2018). Therefore, to help Batik UKM players in providing an understanding of batik, we need a system in which the system, apart from providing information about batik, can also be used for buying and selling transactions.

In the world of information technology, the process of buying and selling goods or services is implemented in the form of an e-commerce application. There are several studies that have been conducted in developing e-commerce applications, including research conducted by (Putri et al., 2014), in her research designing an e-commerce system to assist the ordering, sales and marketing systems at Mr. Pienk shoe shop. The system design used is the waterfall model which consists of the design, analysis, design, implementation and testing phases. From this system design can meet the needs of system users, namely admin and user.

In addition, there is also research conducted by (R & Suryani, 2018) and (Dedi et al., 2017), they conducted research on e-commerce systems for batik craftsmen and entrepreneurs. The system is built based on web. However, the manufacture and system development carried out is still specific to a particular place and business name. Of course, this causes difficulties for other batik business actors to

promote and buy and sell, because the application built is only devoted to certain places or business locations.

Based on the explanation given, the researcher feels the need to build an e-commerce system for national batik craftsmen, which in this application can later be used by batik craftsmen anywhere to carry out promotions as well as the process of buying and selling batik transactions.

2. RESEARCH METHOD

A. Systems Development Method

In this study using the waterfall method. Waterfall is used as a software development approach model. This method describes a fairly systematic as well as sequential approach to software development (Tabrani & Pudjiarti, 2017). The waterfall stages used in developing this application are as follows:

1. Requirements

At this stage, researchers used interviews and field surveys to find information about batik craftsmen and the systems they use in promoting and selling their batik handicrafts.

2. Design

The next stage of design, in this design begins with designing a system business process, where the system business process is built using UML (Unified Modeling Language), namely Use Case Diagrams, Activity Diagram and Class Diagrams.

3. Implementation

The code writing process is at this stage. The software development will be broken down into small modules which will be combined in a later stage. In this stage, there will also be a deeper examination of the modules that have been made, whether they have fulfilled the desired function or not.

4. Testing

After the modules have been made, then the system is tested, this test is carried out to find out whether the batik e-commerce application that was built is running according to its function or there are still errors.

5. Operation and Maintenance

At this stage the batik e-commerce application that has been tested is then operated by the user, be it a batik craftsman or a buyer.

B. System Design

1. Use Case Diagram

Use case diagrams are used to describe the interaction between system users (actors) and use cases that are adjusted to the steps (scenarios) that have been determined (El-Attar, 2019). The following is a use case diagram of the system being built.

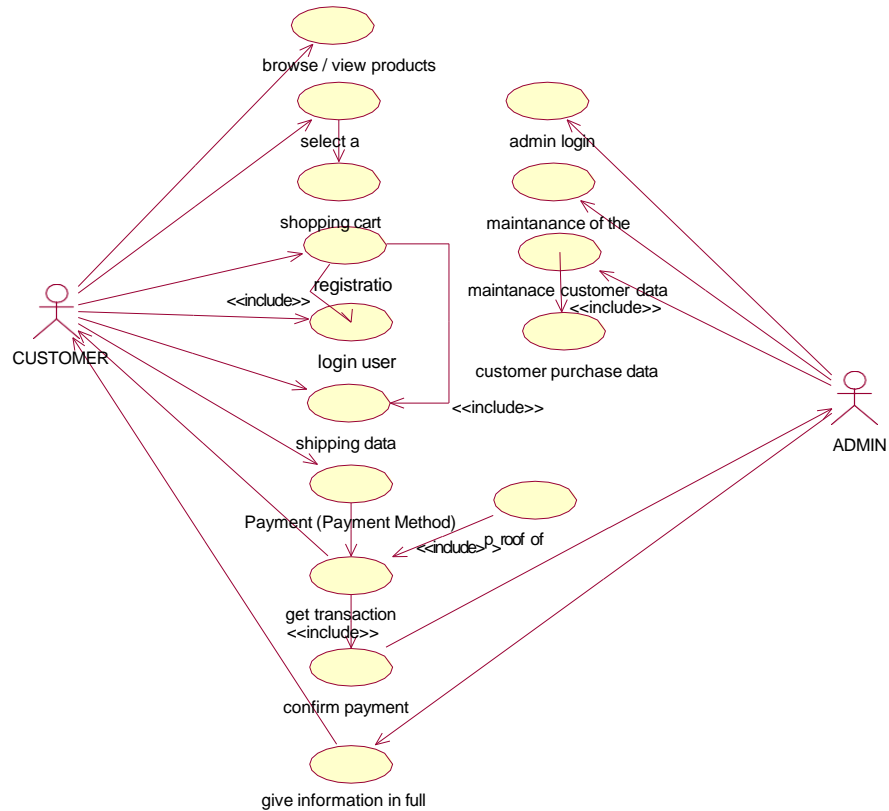


Fig 1. Use Case Diagram System

2. Class Diagram

The following is a class diagram design on the design of this batik e-commer system.

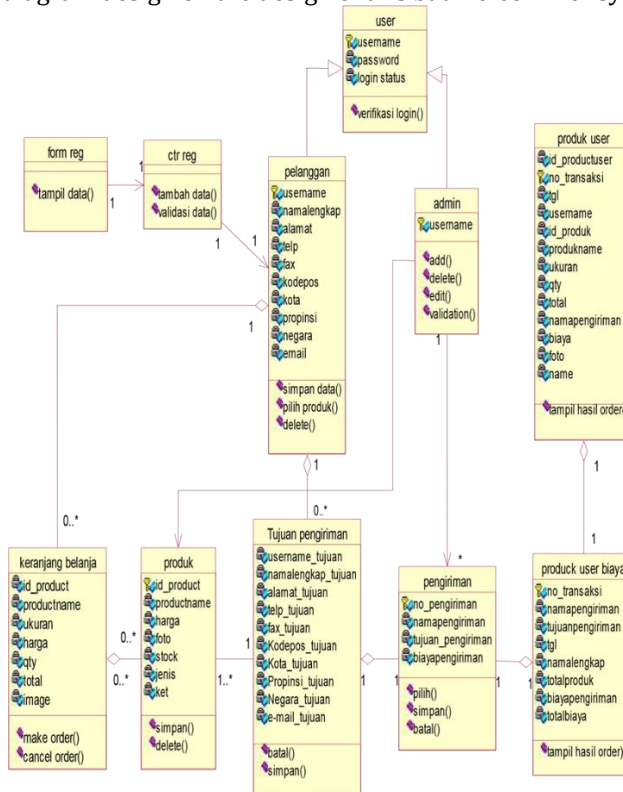


Fig 2. Class Diagram system

3. RESULTS AND DISCUSSION

This stage is the final stage to reach conclusions related to the results of the analysis. The targeted research result is the development of the batik e-commerce system.

A. Implementation

The existing interface has been built consisting of several menus, namely: Products, News, Batik Stories, Videos, About Us, Batik History and Videos. There are 18 categories of batik motifs, namely: Sekar Jagad Batik, Sidomukti Magetan, Keraton, Jepara, Solo, Kawung, Tasik, Malang, Pekalongan, Megamendung, Cuwiri, Pringgondani, Sida Luhur, Semen Rama, Sida Asih, Tambal, Sudagaran, Farmers. The appearance is as follows.

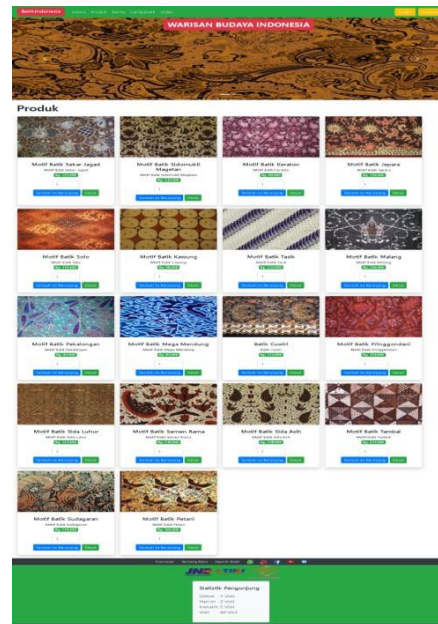


Fig 3. Display of Batik Product Types

Besides being able to see batik products, visitors can also see and read about the latest news about batik information.

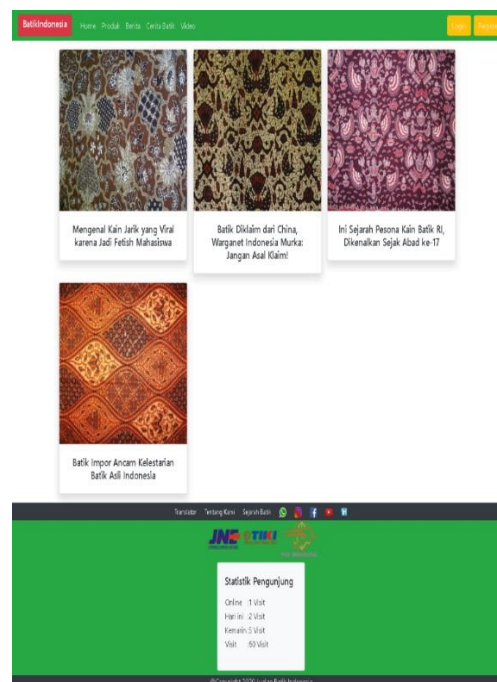


Fig 4. News About Batik

Furthermore, visitors can also see the video menu, on this menu you can see a video guide on batik that can help visitors, buyers and craftsmen.

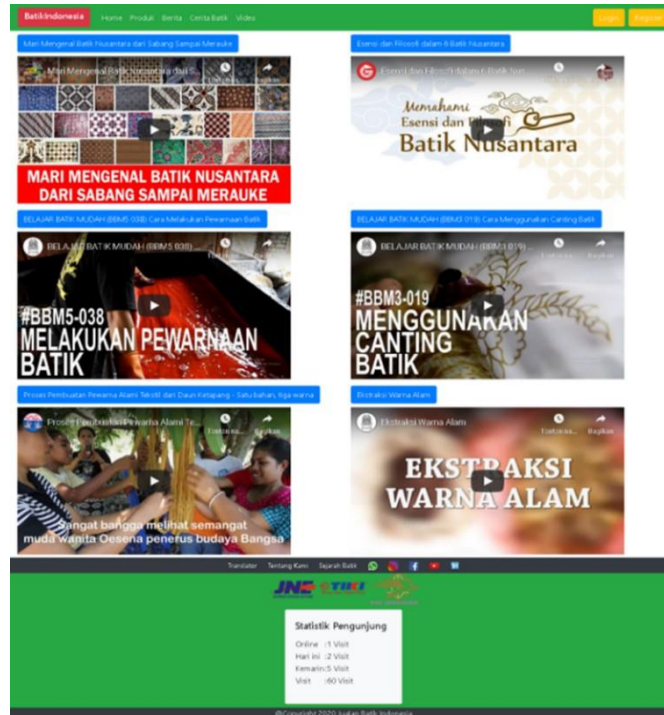


Fig 5. Video Batik

B. Result

The following provides information about the test results on the system.

Table 1. Craftsman Testing

Test Class	Test Items	Type of Testing
Access to the Website	Test the initial appearance of the website	BlackBox
Login	Verify password	BlackBox
Story Data	Displays the story data menu	BlackBox
Inventory	Display item data menu	Blackbox
Button Logout	Remove the account from the website	Blackbox

Table 2. Buyer Testing

Test Class	Test Items	Type of Testing
Access to the Website	Test the initial appearance of the website	BlackBox
Login	Verify password	BlackBox
Product	Test product page views	BlackBox
News	Displays the news menu	Blackbox
Batik Story	Showing a menu of batik stories	Blackbox
Transaction	Displays the transaction menu	Blackbox
e-Elearning	Displays the elearning menu	Blackbox
Button Logout	Remove the account from the website	Blackbox

Table 3. Admin Testing

Test Class	Test Items	Type of Testing
Access to the Website	Test the initial appearance of the website	BlackBox
Login	Verify password	BlackBox
Inventory	Test the display of the item data page.	BlackBox
News Data	Test the appearance of the news data page	Blackbox
Batik Story	Showing a menu of batik stories	Blackbox
Invoice	Display invoice menu	Blackbox
e-Elearning	Displays the elearning menu	Blackbox
Button Logout	Remove the account from the website	Blackbox
Video menu	Displays the video menu	Blackbox
Transaction Status	Displays the results of the transaction	Blackbox
Shopping cart menu	Displays a grocery chart	Blackbox

Table 4. Testing Access to the Website (Craftsmen)

Cases and Test Results (Normal Data)			
Input Data	Which is expected	Observation	Conclusion
Access the website Jualanbatikindonesia.biz.id	Accessed normally via hosting	Well accessible in the browser	be accepted
Cases and Test Results (Incorrect Data)			
Input Data	Which is expected	Observation	Conclusion
Access the website Jualanbatikindonesia.biz.id	Accessed Normally via hosting	Failed because the url link is wrong	be accepted

Table 5. Login Testing (Admin)

Cases and Test Results (Normal Data)			
Input Data	Which is expected	Observation	Conclusion
Username: admin password: 123	Admin is listed in the username text, the password is listed in the password text	Admin is listed in the username text, **** is listed in the password text	be accepted
Click the Login button	Admin data is searched in the user table, enter the Dashboard menu page	Login button can work. As expected.	be accepted
Cases and Test Results (Incorrect Data)			
Input Data	Which is expected	Observation	Conclusion
Username: admin password: admin	Admin is listed in the username text, the password is listed in the password text	Admin is listed in the username text, **** is listed in the password text	be accepted
Click the Login button	User data not found in the users table, login failed and returned an error	The user fails and displays an error	be accepted

Table 6. Testing Dashboard (Admin)

Cases and Test Results (Normal Data)			
Input Data	Which is expected	Observation	Conclusion
Clicking an item Data menu	Displays the item data page menu	The item data page menu appears on the website	be accepted
Input data to the item data page	The input data was successfully entered into the database	The input data was successfully entered into the database	be accepted
Cases and Test Results (Incorrect Data)			
Input Data	Which is expected	Observation	Conclusion
Clicking an item Data menu	Displays the item data page menu	There is an error coding so that it cannot display the item data page menu.	be accepted
Input data to the item data page	The input data was successfully entered into the database	The input data did not make it into the database, due to a SQL syntax error	be accepted

4. CONCLUSION

1. This e-commerce batik application makes it easy for customers / consumers to find and buy batik products from batik craftsmen in Indonesia.
2. This batik e-commerce application makes it easy for customers to access the e-commerce application of this sales system anywhere and anytime with a media device that is connected to the internet.
3. With this batik e-commerce application, it is hoped that it will increase the selling power of batik craftsmen in Indonesia.

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