WEB-BASED GEOGRAPHIC INFORMATION SYSTEM OF BANTEN PIODALAN STORES MAPPING IN DENPASAR CITY

1,2,3) Information Technology Study Program, Faculty of Engineering, Udayana University

Correponding email [1) 2) 3)] :
sunia.pradnyantara.sp@gmail.com
dwiputragitha@gmail.com
agung.ayuputri@unud.ac.id

I Made Gede Sunia Pradnyantara[1)], Dwi Putra Githa[2)], Gusti Agung Ayu Putri[3)]

Abstract. Banten is a medium used in Hindu religious ceremonies and also as a medium of prayer in getting closer to Ida Sang Hyang Widhi Wasa or God Almighty. Hindus are required to be able to know the meaning and method of making a banten, but along with the development of an increasingly modern era resulting in a high level of activity in big cities, one of which is Denpasar City, this underlies the tendency of people to prefer buying banten rather than making it. because of the limited time they have. This also underlies the development of a web-based mapping information system for banten piodalan stores in the city of Denpasar. The public will find it easy to find out the mapping of the locations of Banten shops in the city of Denpasar through the system. The system is also equipped with a marketplace feature that makes it easy for the public to make transactions to buy banten piodalan they want and those who want to make transactions in selling banten piodalan.

Keywords : banten, geographic information system, marketplace, transactions, mapping

1. INTRODUCTION

Bali, where the majority of its citizens are Hindus, where traditions, culture and religion are very close, interrelated and complement each other. Especially in Bali, there is such a thing as Banten. Banten is an tribute and a medium for Hindus to get closer to Ida Sang Hyang Widhi Wasa or God Almighty [1]. Hindus are required to be able to understand things related to the banten, starting from the meaning and also the production technique, especially the supporting materials in it [2], Not a few Hindus in Bali also take advantage of their abilities in making a piodalan banten as a source of income for them, but not all Hindus in Bali understand about the complementary medium of banten. This could be because many people prefer to buy banten at banten store rather than making them themselves according to [2].

One of the solutions that can be done for this is to create a system that can display the locations of banten piodalan stores in certain areas. Technology combined with geographic information which certainly has a very positive impact, especially in terms of location knowledge. The purpose of making this system is to make it easier for users to access information from the location of the nearest banten piodalan stores, in addition to easy access to information, this system is also a marketplace between sellers and buyers. Sellers can directly promote their banten piodalan and buyers can compare the prices of banten at each seller on the system, buyers can also directly buy banten on the system and make payments via transfer to the banten merchant in the system. There are several previous studies that were used as a reference, among others; the banten management information system which discusses the web-based banten data management system displays data management from the content so that it can be displayed in an android-based banten information system [3]. Bebayuhan oton information system by applying a tree diagram that discusses the bebayuhan information system and displays procession data, banten and facilities as a complement to the ceremony [4].

Based on some of these studies, This research is a Geographic Information System (GIS) was developed

that was able to manage and display information on the location of banten stores in the Bali area, especially the Denpasar area, and a marketplace that assists users in buying and selling banten piodalan. This Geographic Information System will be built based on the web where the information is equipped with dynamic maps. This system is expected to overcome some of the limitations of manual maps, with dynamic map development, it is hoped that a geographic information system for mapping banten stores in the Denpasar area will be realized. This geographic information system is also expected to have the ability to update data quickly and easily equipped with complete information. Complete data about a banten shop in this application will later be managed by the merchant, namely the banten seller from the banten shop itself.

2. METHODS

2.1 Research Method

The research methodology used is the Design Scientific Research Methodology (DSRM) [15]. This methodology has 6 stages which can be seen in Figure 1.
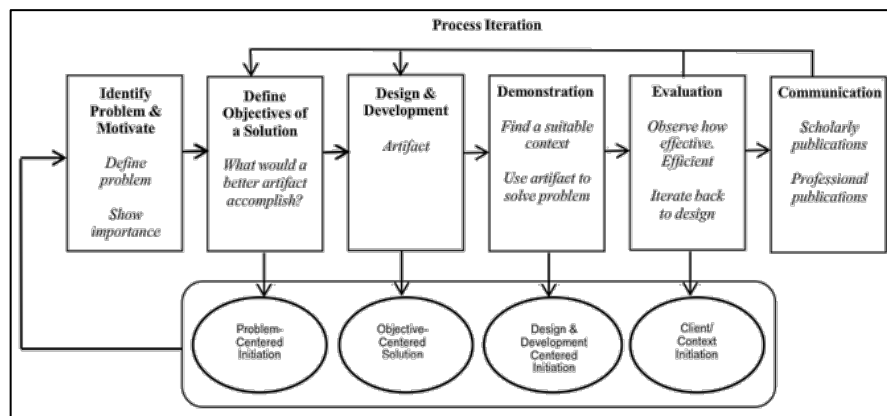

Figure 1. Design Scientific Research Methodology (DSRM)

a. Identify problem and motivate, This stage is carried out to find out the problem that not all Hindus in Bali understand about the complementary medium of banten. This could be because many people prefer to buy banten from the sellers of banten rather than making them themselves.
b. Define Objectives of a solution, carry out research analysis related to literature studies from previously collected and understood solutions, so that research objectives or research directions to be made can be determined by determining new solutions.
c. Design and development, carried out to make a temporary modeling of the system to be designed. The design consists of an overview of the system. System design consists of context diagrams, data flow diagrams, database design, and interface design.
d. Demonstration, This stage is carried out by conducting a demo of the system results that have been made to the supervisor to get advice in developing the system.
e. Evaluation, This stage is carried out with the aim of knowing the extent to which the system developed can run well according to its functionality.
f. Communication, In this method, it means documenting the results of research that has been completed by making reports or publishing them in journals.

2.2 System Overview

An overview of web-based geographic information system of banten piodalan stores mapping in denpasar city can be seen in Figure 2.
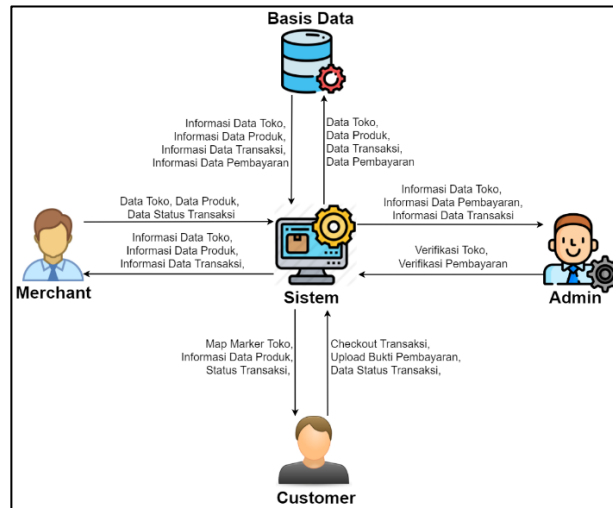
Figure 2. Geographic Information System Mapping of Banten Piodalan Stores System Overview.

Figure 2 is an overview of geographic information system mapping of banten piodalan stores which consists of 3 types of users, namely, merchant, customer, admin. Merchants can add new stores and products to the system. Admin can verify stores added by merchants, accept and approve payments for transactions that occur in the system. Customers can see the mapping of stores registered in the system, customers can make transactions directly from the system.

2.3 System Tree Diagram
The tree diagram is a hierarchy of a process in a system. The hierarchy of web-based geographic information system of banten piodalan stores mapping in denpasar city can be seen in Figure 3.
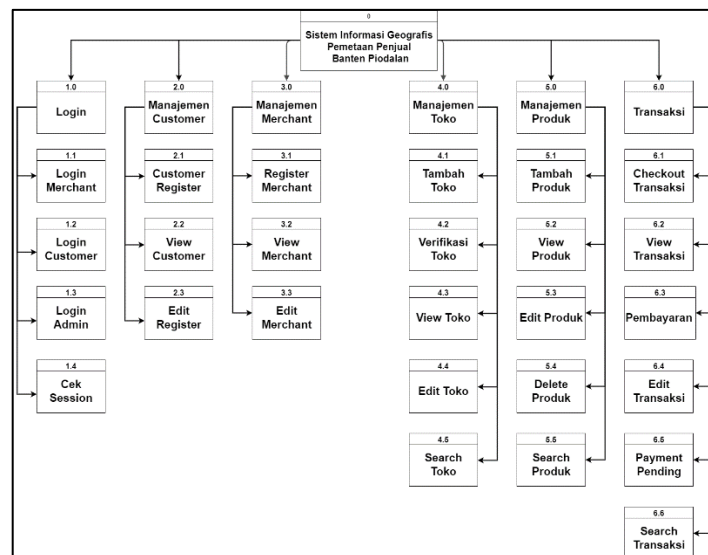

Figure 3. Tree Diagram of Geographic Information System Mapping of Banten Piodalan Stores.

Figure 3 is a tree diagram of geographic information system mapping of banten piodalan stores consisting of 2 levels, namely Level 0 and Level 1. Level 0 consists of 6 processes, namely Login, Customer Management, Merchant Management, Store Management, Product Management, and Transactions. Level 1 consists of sub-processes of each process at level 0.

3. RESULTS AND DISCUSSION
web-based geographic information system of banten piodalan stores mapping in denpasar city produces system results that can be implemented based on a previously established design. The following are the results of the system implementation consisting of the results of the customer display system, the results of the merchant display system and the results of the admin display system.

3.1 Customer Web Page Display

The system results from web-based geographic information system of banten piodalan stores mapping in denpasar city explain and display the system results for all the features contained in the system with access as customers.
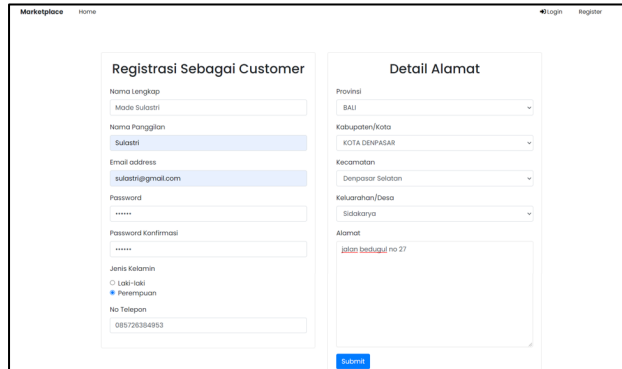

Figure 4. Customer Sign up Display

Figure 4 is a display of the registration page as a customer on the system. Customers need to register an account if they want to make a purchase transaction for banten piodalan.
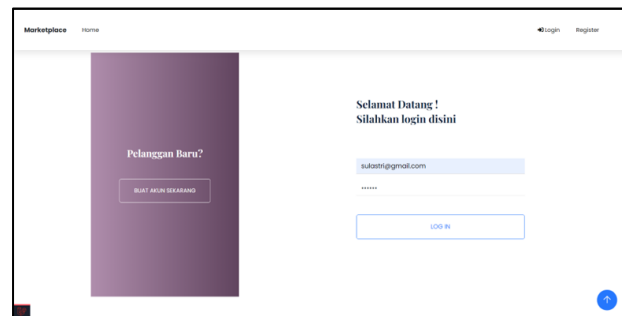

Figure 5. Customer Sign in Display

Figure 5 is a display of the sign in process page as a customer on the system which functions to check username and password in order to sign in to the system. Figure 6 is the display when the customer has logged in.
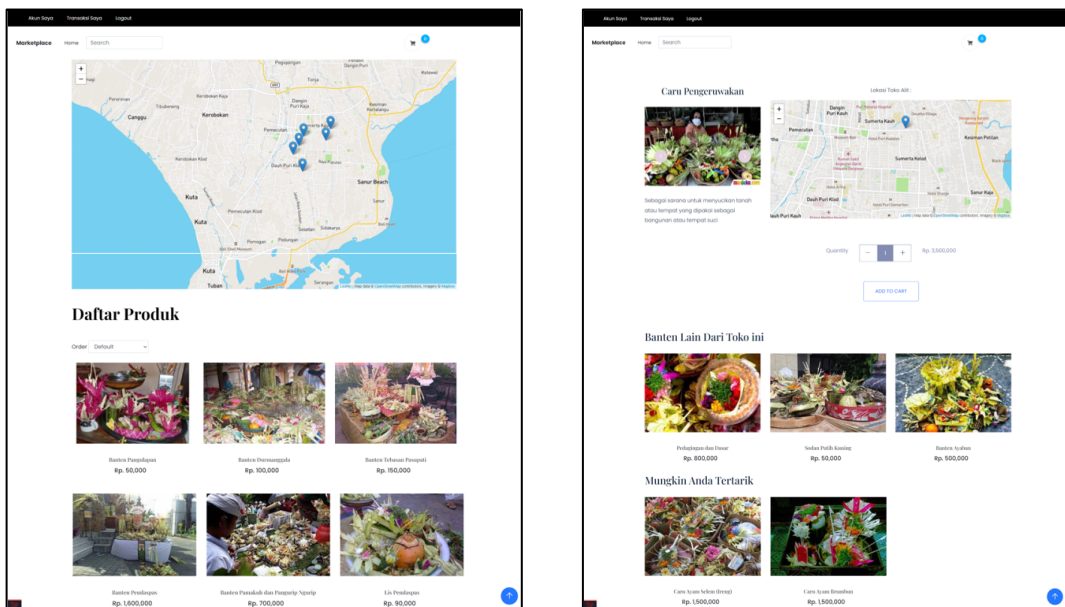

Figure 6. Customer Home Page Display

Figure 6 is a display from the customer's home page which displays a mapping of the location of the Banten stores, all banten products in the system and the display of the banten product page which displays photos of the banten product, the name of the banten product, a description of the banten product, recommendations for other banten products and the location of the banten product. the store that sells the banten product on maps, as well as the quantity accompanied by the price if you want to add the Banten product to the cart or shopping cart.
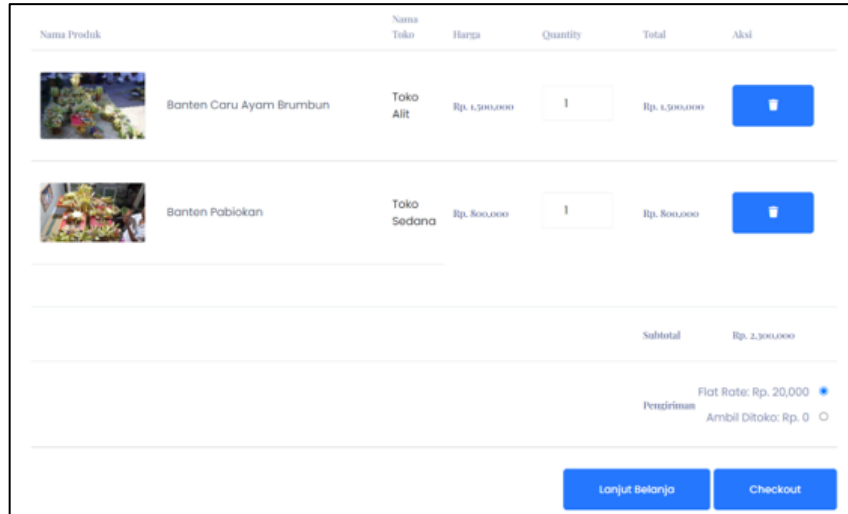

Figure 7. Customer Cart Display

Figure 7 is a display to see a list of Banten products that have been added to the customer's shopping cart on the system. Customers can see information about any banten product that have been added to the shopping cart. Figure 8 is a display of uploading payment confirmation receipt if the customer has made a transaction checkout and made a payment.
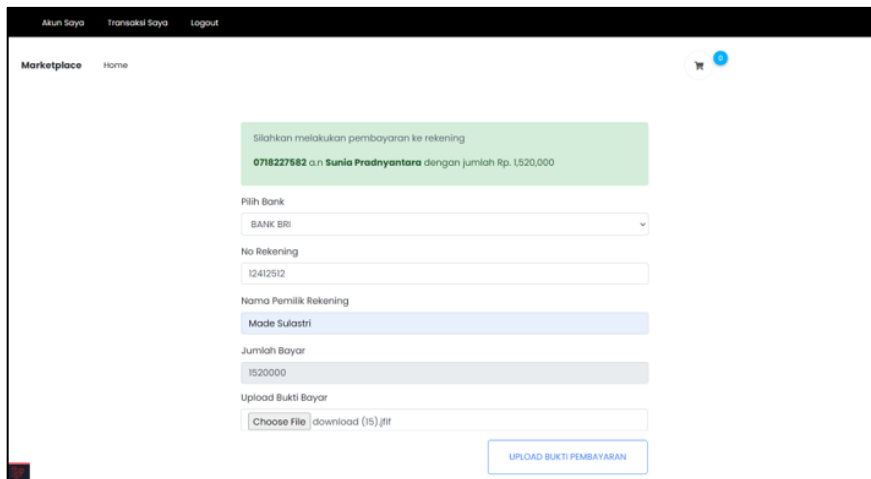

Figure 8. Payment Confirmation Receipt Upload

Figure 8 is the display of the payment confirmation receipt upload process page by the customer on the system, if the customer has made a payment via bank transfer to the admin account, then the customer needs to upload payment confirmation receipt to the system.

3.2 Merchant Web Page Display

The system results from web-based geographic information system of banten piodalan stores mapping in denpasar city explain and display the system results for all the features contained in the system with access as merchant.

Figure 9. Merchant Sign up Display

Figure 9 is a display of the registration page as a merchant on the system. Merchants need to register an account if they want to sell banten piodalan on the system. Figure 10 is merchant store display when the customer has registered and logged in as a merchant.

Figure 10. Merchant Store Display

Figure 10 is the page of the banten piodalan store owned by the merchant on the system. Merchants can see all the information related to their banten piodalan store.

Figure 11. Banten Product Display

Figure 11 is a list page for banten products owned by merchants in the system. Merchants can see all information related to the Banten store that has been added, merchants can also delete and edit their Banten
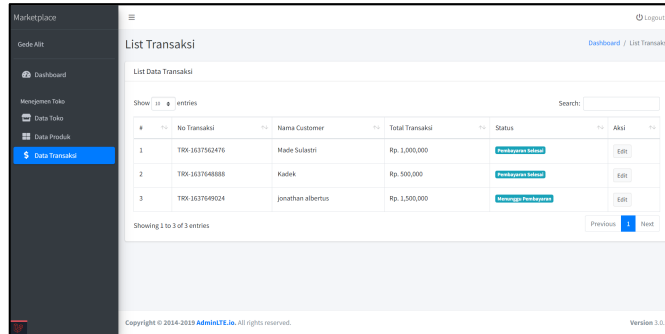
products.

Figure 12. Merchant Transaction Display

Figure 12 is a transaction list page owned by merchants on the system. Merchants can see all information related to transactions that occur, merchants must also make changes to transaction status on the system according to the status of transactions that occur.

3.3 Admin Web Page Display
The system results from web-based geographic information system of banten piodalan stores mapping in denpasar city explain and display the system results for all the features contained in the system with access as admin.
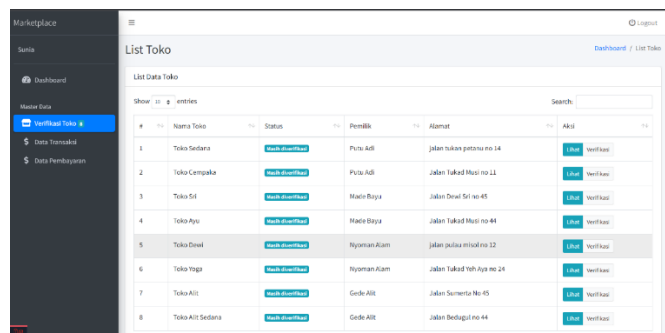

Figure 13. Store Verification Display

Figure 13 is a shop verification list page on the admin dashboard. the admin can see all the information related to the store that needs to be verified, the admin also has to verify the store that has just been registered in the system
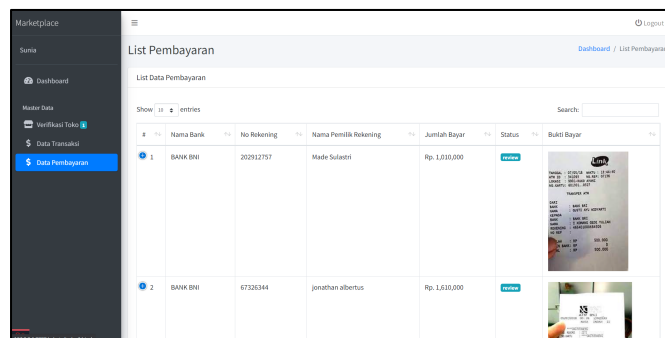

Figure 14. Payment Confirmation Receipt Validation Display

Figure 14 is a payment validation list page on the admin dashboard. admin can see all information related to new payment confirmation receipt that enter the system, admins also have to validate to accept or reject payment confirmation receipt that have been uploaded by customers.

4. CONCLUSION

Based on the results of the discussion of geographic information system mapping of banten piodalan stores, conclusions can be drawn, namely:

a. Web-based geographic information system of banten piodalan stores mapping in denpasar city is a system that allows users to mapping banten stores in Denpasar City, and is equipped with a marketplace feature that allows direct buying and selling interactions in the system between sellers and buyers.

b. The results of the web-based geographic information system of banten piodalan stores mapping in denpasar city are in the form of a website-based application with three types of users, namely. Merchants or banten sellers can add store locations to the system and sell banten products on the system. customers or buyers who can make purchases of banten products on the system. admin to validate the store added by the merchant and validate the payment made by the customer

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