Designing a Mobile Web-Based Culinary Tourism of Information System in Pringsewu District

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Abstract

The rapid growth of information technology has significantly impacted various aspects of human life, offering immense importance and assistance in daily tasks. Information technology, with its swift and easy access to information, time and cost efficiency, and enhanced communication, has become an invaluable tool in numerous fields. In the culinary industry, leveraging information technology can elevate service quality, making operations more effective and efficient. This study focuses on the development of an information system for Nggruput Culinary Tourism in Pringsewu District. The research methodology adopufated for this project follows the waterfall model, ensuring a systematic and well-organized approach to the development of the Nggruput Culinary tourism information system. The implementation of this system is designed as a mobile web application, providing visitors with easy access to pertinent information about Nggruput Culinary Tourism. This mobile web-based approach aims to streamline marketing efforts for businesses and enhance public accessibility to comprehensive information about Nggruput Pringsewu Culinary. By employing a mobile web platform, the information system promises to offer a user-friendly interface for both businesses and the public, fostering efficient communication and interaction. The anticipated outcome is an improved marketing strategy for Nggruput Culinary Tourism, providing businesses with a competitive edge while ensuring that the public receives detailed and easily accessible information. This integration of information technology is poised to contribute positively to the advancement and effectiveness of Nggruput Culinary Tourism in Pringsewu District.

I. INTRODUCTION

The era of revolution 5.0 triggers information technology develops rapidly. This application can be very important and very helpful for human work. Some of the benefits of information technology include getting information quickly and easily, time and cost efficiency, and making communication easier. In the culinary field, the use of information technology can improve service quality to be more effective and efficient. Information technology supported by the internet can connect more people who can use it anytime and anywhere. So the application of information technology is very useful for business people or business actors carrying out marketing, sales, promotions, getting information and carrying out transactions.

'Nggruput' Culinary Tourism in Pringsewu Regency, Lampung, is an activity initiated by one of the social media group communities, namely Pringsewu *Community*, this event is a special attraction because it provides various kinds of traditional snacks which are starting to become extinct and sells various processed snacks without preservatives and which hard to find. [1] said that at the location where it is held every Sunday morning, people come to the Nggruput area to look for various culinary snacks sold by business actors. There are around 150 business actors in Nggruput Pringsewu. The Nggruput Festival in Pringsewu district has become one of the icons

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of the Pringsewu community. This festival is located on the road to the Pringsewu Regional Government office complex. This festival is usually attended by thousands of visitors both from the Pringsewu community and outside Pringsewu district. This festival will certainly make the Pringsewu community's economy continue to grow.

Research conducted by [2] stated that in Singapore there is no information explaining about culinary tourism that is halal certified. Therefore, researchers are trying to develop research with the aim of making tourists from Indonesia clearly aware of the halal culinary information that exists in that country. Then the research conducted by [3], regarding the development of Android-based culinary tourism information which was developed to find out culinary information in the Gunung Kidul area, therefore the research conducted by [3] tried to overcome this problem by building mobile based application in the area. Referring to these two studies, this researcher aims to develop similar information by designing a mobile web-based information system to develop culinary tourism which has great regional potential for improving the economy which will have an impact on the community in Pringsewu district, especially the development of Nggruput culinary tourism.

II. LITERATURE REVIEW

According to [4] Information is something that influences or change state of mind . In the context of information science, information is distributed through text, documents, or information, meaning what a reader understands from the text or document. According to [5] an information system is defined as a system within an organization that brings together daily transaction processing needs, supports operations, managerial and strategic activities of an organization and provides certain external parties with the necessary reports. Information systems have functions, namely: 1) To increase the accessibility of existing data effectively and efficiently to users, without SI intermediaries. 2) Improve the productivity of application development and system maintenance. 3) Ensure the availability of quality and skills in utilizing IS critically.

According to [6] mobile web is a website that can be accessed and viewed using a device such as a smartphone which is flexible because it can be accessed anywhere and at any time so that it is easier for users to find the information they need just using a mobile device. According to [7] mobile web is a website or internet web page that can be used or accessed on a mobile device. Line with [8] explains that the mobile web is a web or internet website page that can be used or accessed on a mobile device using PHP and Java Script language scripts.

In Pringsewu Regency, one of the districts in Lampung province, has a tradition or typical activity to fill their weekends by hunting for Indonesian food, namely by visiting the "Nggruput" culinary event which is specially held every Sunday along the road to the Pringsewu regional government office. This culinary activity eventually became the 'Nggruput' culinary tour. The meaning is an activity where people sell typical traditional food in Indonesia and this is only sold from six to ten in the morning. This is in line with the meaning of the word "Nggruput" which is "early Sunday morning" or an activity that is only done in the morning. When met by the team, the chief organizer and organizer of Nggruput, Sudar Elcostic, said that this activity had been around since October 2017, and initially they only wanted to make the event like a festival that was held in just one day. However, because it received a good response and encouragement from the community, the "Nggruput" event finally became a weekly agenda in Pringsewu.

According to [9] Culinary is a word that comes from the English loan element, namely *culinary* , or the Dutch word *culinair* , both of which are adjectives and have meanings more or less related to cooking and the kitchen, which is the art of making food, so culinary art starts from the art of choosing food ingredients, preparing, cooking, and presenting food into attractive dishes. According to [10] Culinary is defined as a series of activities to produce healthy food with an attractive appearance starting from selecting quality food ingredients, preparing appropriate and safe processing techniques and producing tastes that suit the purpose. Based on the definition above, culinary is a word that comes from an English loan element, namely *culinary* , or the Dutch word culinair, both of which are *adjectives* and have meanings more or less related to cooking and the kitchen, which is the art of making food, so culinary art starts with the art of choosing ingredients. food, preparing, cooking, and serving food into attractive dishes.

TABLE 1
LITERATURE STUDY

No	Title Study	Author	Year	Research Result
1	WEB-Based Culinary Sales Information System at Kedai Linda in Agung City, Tanggamus Regency (Case Study of Kedai Linda, Agung City)	Rima Mawarni , Supriyanto, Dodi Afriansyah , Uswandi , Linda Riyanti ,	2022	Development methods system used _ is a prototype, with tool development UML system With exists sale proven online culinary will makes it easier owner shop in do marketing culinary as well as help in making report

No	Title	Author	Year	Description
				income daily or monthly , so time used _ more effective and efficient .
2	Planning System Information Booking Food WEB based on FoodCourt Rskia Bandung	Dinni Indriani , Asep Saeful , Ardi Taryanto .	2021	In research This made something development system information booking food use prototype method with planning system *Unified Modeling Language* and implemented with Language PHP programming with *Code Igniter framework* and My SQL as a database. Testing application use *black box* . With exists application This expected as means processing transaction booking food become more effective and efficient .
3	WEB Based Café & Resto Administration Information System	Heri Yanto, Firdaus	2022	UML (Unified Modeling Language) is method modeling visually as _ means For help in design and create System Information about this Cafe & Resto ... In designing a web-based Cafe & Resto Information System, several UML methods can be applied so that it will make it easier to describe and design applications.
4	WEB-Based Restaurant Food Ordering Application Information System Using Agile Development Method	Vendy Blessing Gulo, Agung Triyudi , Agus Iskandar	2023	Research result show that level satisfaction customer to service booking food restaurant web- based by 87%. Average time booking reaches 3 minutes , so makes the ordering process easier for customer . Errors in the ordering process occur around 2.5%, with the majority caused by internet connection problems. The booking system's security score is at 92 out of 100, which indicates a good level of security.
5	WEB GIS Based Tourism and Culinary Information System (SIPAKU) in Tegal	Angga Ardiansyah, Suleman, Sandra J Kuryanti, Rezha Tama Marlantika	2020	Research results show planning System Information Tourism and Culinary in Tegal provides information to traveler with using a web browser, the web browser will displays point possible location _ made as possible location _ visited and also existed search route location so that makes the search process easier location .

III. METHODS

[11] literature study explains that activity research carried out use technique collection information and data with contribution many kinds of tool support available in the library like book reference , results study similar to what has been done previous , articles , notes , as well as various the journal concerned with the problem you want resolved . In terms of This study use 2 (two) things data sources , namely : 1) Primary data sources are original data collected by researchers themselves For answer problem his research in a way special like the original data related Culinary Nggeuput Pringsewu . 2) Secondary data sources is what has been processed more carry on become forms into tables, graphs , diagrams, pictures , and so on so that more informative by others. Object of research This done on tour culinary snacks Hanging out Pringsewu on the moon February – May 2023 .

The system development method used in this research is the waterfall development model. According to Sanubari (2020), the waterfall method or what is usually called the waterfall method is often called the classic life cycle *,* where it describes a systematic and sequential approach to software development, starting with the specification of user needs and then continuing through the stages. -planning , *modeling* , *construction stages* . as well as delivery of the system to customers/users (*deployment*), which ends with support for the complete software produced. Stages method *waterfalls* can seen in the image below This :
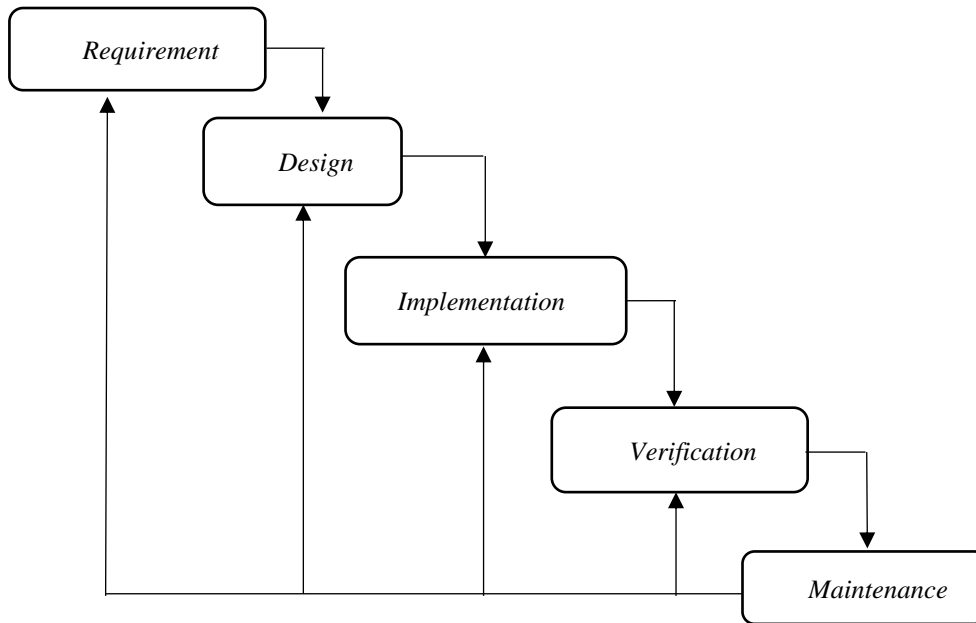
Fig. 1 Waterfall Method

In development method *waterfalls* own a number of sequential stages _ namely : *requirements* (analysis needs), *design system* (design system) , *Coding & Testing* , Implementation of maintenance programs Stages stages from method *waterfall* is as following :

1. *Requirements*

   Stage This developer system required purposeful communication _ For understand device user expected software and limitations _ _ device soft the Information This usually can obtained through interview discussion or survey direct Information analysis For get the data needed by the user .

2. *Design*

   The requirements specifications from the previous phase will be studied in this phase and a system design is prepared. System Design helps in determining hardware *and* system requirements and also helps in defining the overall system architecture.

3. *Implementation*

   In this stage, the system is first developed in small programs called units, which are integrated in subsequent stages. Each unit is developed and tested for functionality which is referred to as unit testing.

4. *Verification*

   All units developed in the implementation phase are integrated into the system after testing carried out by each unit. After integration the entire system is tested to check for any failures or errors.

5. *Maintenance*

   Stage end in the *waterfall* model . Ready-made software. operated and maintained. Maintenance includes correcting errors that were not found in previous steps. Improved implementation of system units and increased system services as new requirements.

IV. RESULT

In every systems created by humans _ besides own advantages and disadvantages , the system also has impact or the risks posed when system That applied . The Nggruput Pringsewu Culinary Information System Based on *Mobile Web* is the most popular at the moment but the risk that occurs in levels of society that don't know the internet and can't use the internet , then this Information System will not work. The risks of the system currently being created include, to open a *Mobile Web Based Nggruput Pringsewu Culinary Information System* , you need a computer or mobile phone device that is connected to the internet, the public will not be able to access this *Mobile Web* Based Nggruput Pringsewu Culinary Information System if the public We didn't teach you how to use the Nggruput Pringsewu Culinary Information System Based on *Mobile Web* .

The design stage aims to meet the needs of system users regarding a clear picture of the system design that will be created and implemented using *Context Diagrams* , Data Flow Diagrams (DFD), *Use Case Diagrams* , Data Dictionary

1. Context Diagram

    A context diagram is a diagram that consists of a process and describes the scope of a system. The context diagram is the highest level of the DFD which describes all input to the system or output from the system. He will give description about overall system .
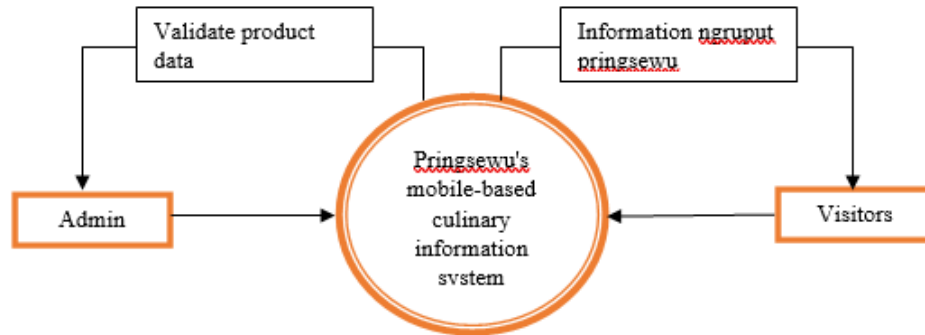
    Fig. 2 Context Diagram

2. Data Flow Diagram (DFD)

    Data Flow Diagram (DFD) is a method used to describe systems contextually by emphasizing interactions between the system and external entities. DFD is designed to show the breakdown of a system into smaller sub-system parts and highlight the flow of data between these entities. This diagram can be developed to provide a more detailed picture and show the models contained in it. In the context of an information system that is not explained further, there is a DFD that describes the structure and flow of data in the system. The DFDs in this information system are as follows:

3. DFD Level-0

    Data Flow Diagram Level 0 is description from the context diagram still there is various processes or activity inside it . Data Flow Diagram Level 0 contained in the System Information Culinary Hanging out Pringsewu Mobile Web Based can seen in the picture following :
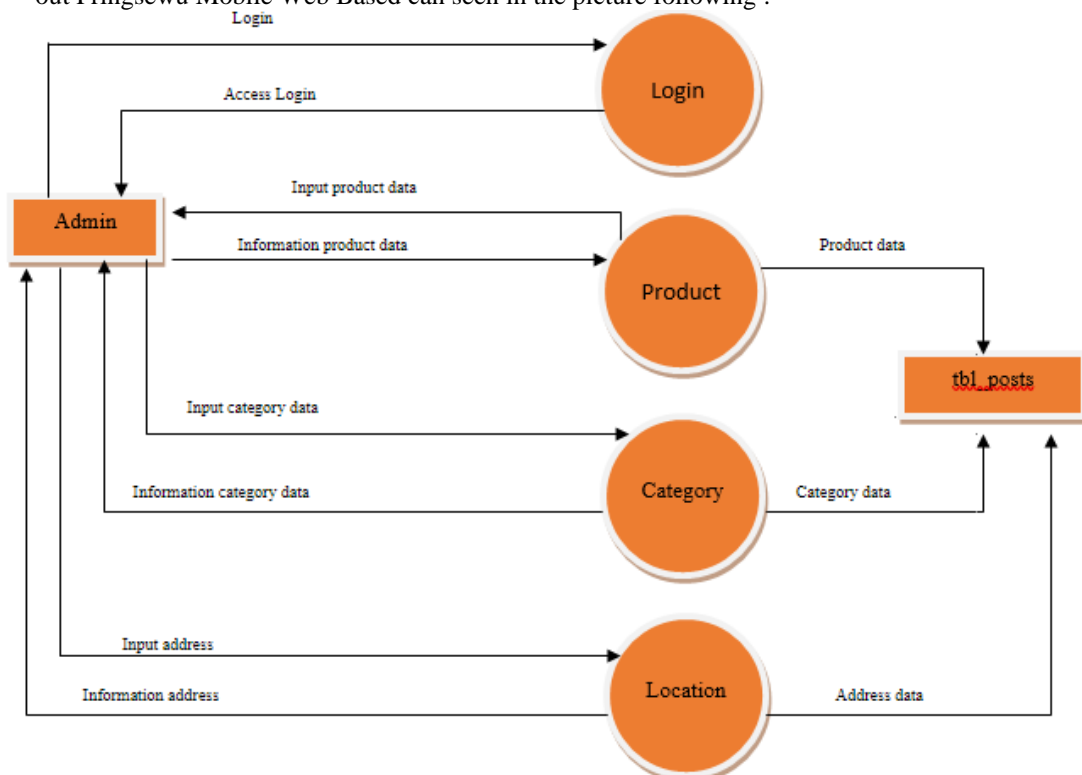
    Fig. 3 DFD Level 0

4. *DFD Level-1*

Data Flow Diagram Level 1 is description from diagram m level 0 which is still there is various processes or activity inside it . Level 1 Data Flow Diagram contained in the Application System Information Culinary Hanging out Pringsewu Mobile Web Based can seen in the picture following :
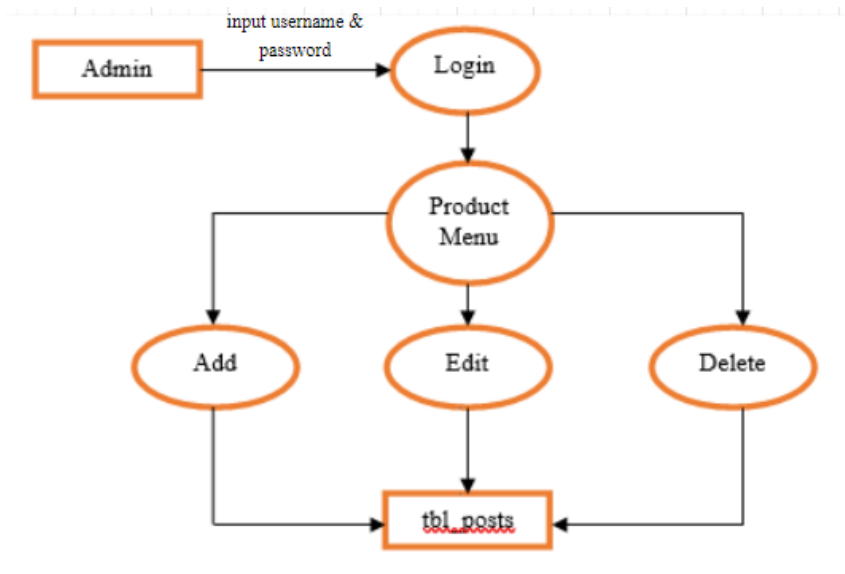

Fig. 4 DFD Level 1

Data Dictionary (Data Dictionary)

With a data dictionary, system analysts can define the data flowing in the system completely. At the system analysis stage, the data dictionary is used as a communication tool between system analysts and system users about data flowing into the system, namely about data entering the system and about information needed by system users. At the system design stage, a data dictionary is used to design input and databases. The data dictionary is created based on the data flow in the Data Flow Diagram (DFD). The data flow in DFD is global in nature, only the name of the data flow is shown. Further information about the structure of a data flow in DFD in more detail can be seen in the data dictionary.

1. Users Table Database Design

Database Name   : wp882
Table Name   : users

TABLE 2
USERS TABLE DATABASE DESIGN

Field Names	Data Type	Key
Id	Bigint(20)	Auto_Increment
User_login	Varchar(60)	
User_pass	Varchar(255)	
User_nicname	Varchar(50)	
User_email	Varchar(100)	
User_registered	Datetime	
User_activation_key	Varchar(255)	
User_status	Int(11)	

2. Options Table Database Design

Database Name   : wp882
Table Name   : options

TABLE 3
OPTIONS DATABASE DESIGN

Field Names	Data Type	Key
Option_id	Bigint(20)	Auto_Increment
Option_name	Varchar(191)	
Option_value	Longtext	
Autoload	Varchar(20)	

3. Posts Database Design
   Database Name   : ftikom
   Table Name   : posts

TABLE 4
POSTS DATABASE DESIGN

Field Names	Data Type	Key
Id	Bigint(20)	Auto_Increment
Post_author	Bigint(20)	
Post_date	Datetime	
Post_date_gmt	Datetime	
Post_content	Longtext	
Post_excerpt	Datetime	
Post_status	Varchar(20)	
Comment_status	Varchar(20)	
Post_name	Varchar(200)	
Post_modified	Datatime	
Post_type	Varchar(20)	

Implementation of the Ngurruput Pringsewu Culinary Tourism Information System

The visitor dashboard page is the first page that users see when accessing the system. The following is the Fig 5.

Fig. 5 Visitor Dashboard page

The food product page is a page used to view available food products. The following is the Fig 6:
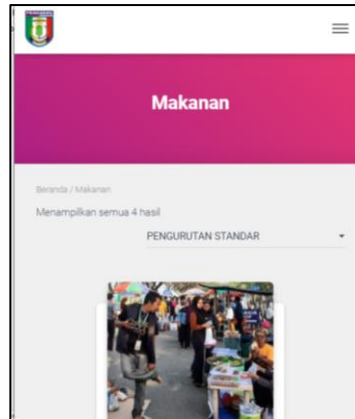
Fig. 6 Food Product Page

Beverage product page is a page used to view available beverage products. Following is the Fig 7:

Fig. 7 Beverage Products Page

A review or rating page is a page where visitors can provide reviews or comments on available products. The following is the Fig 8:
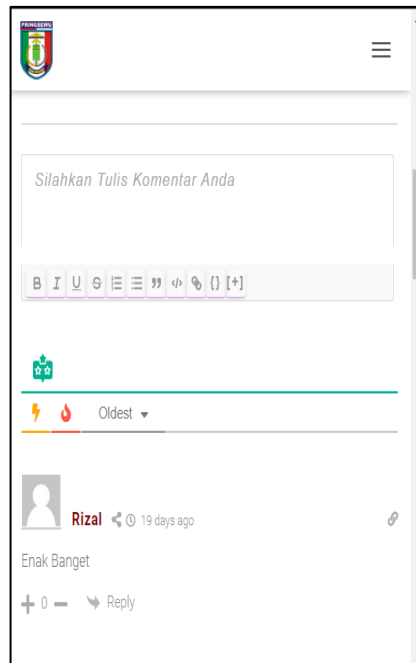

Fig. 8 Review/Rating Page

Analysis of System Test Results

Analysis of test results will be carried out by testing the system. The following information system testing uses black box testing by testing the menus in the system. Complete test results can be seen in the table below:

TABLE 5
ANALYSIS OF SYSTEM TEST RESULTS

No	Test Description	Test results	Conclusion
1	*Username* is filled in as "admin" *password is filled in as "admin"* then press the *"Login" button*	The application system will accept it, then it will be directed to the home page or *dashboard*	Succeed
2	*Username* is filled in as "admin" *password is filled in as "password"* then press the *"Login" button*	The system refuses and displays a notification *"The password you entered for the admin user does not match"*	Succeed
3	Home Menu	Displays the visitor's home page	Succeed
4	Product menu food	Displays the submission of available food data contents	Succeed
5	Added menu product	Displays the add product form when clicked and the data has been successfully entered	Succeed

Analysis of System Deficiencies

In this research, identifying the shortcomings of the system, apart from the advantages, this system also has weaknesses. The weaknesses of this system are as follows:

1. The information system does not yet have a menu for purchasing or include contact details for sellers so that visitors can check whether the product is available or not.
2. The system is very dependent on the main database because all processed data is the result of the database

CONCLUSION

Based on the results of research conducted, this system was built using *Balsamiq design software, wireframes, also using Visual Studio Code* development software and using the *waterfall method* . Thus producing an information system that provides information related to the snack menu at the Pringsewu Nggruput culinary delights. Make it easier for consumers to get information regarding culinary snacks available at the Pringsewu nggruput. And this nggruput culinary information system makes it easier for sellers to promote it to the wider community.

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