APPLICATION OF TOURISM RECOMMENDATIONS AT TANGGAMUS BASED ON ANDROID USING *FIGMA MODEL*

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Abstract

Tourism in Indonesia is currently increasing in number and attractive, especially in the Tanggamus Regency area. Tanggamus Regency is a district located in Lampung Province, this district has an area of $2,855.46$ km ^{2}. Tanggamus Regency also has a variety of tourism that can be explored. However, there are still many ordinary people who do not know clear information about these tourist objects. Therefore, it is necessary to have an information system that can help the community in finding information about the tourist objects they want to visit, especially in the Tanggamus Regency area. In this study, two data collection methods were used, namely observation and literature. In addition, the design model used in this study is the waterfall method which consists of requirements, design, implementation, verification and maintenance. This research will produce a tourism recommendation mobile application interface in Tanggamus Regency, which in making the interface design uses figma. In the interface, the sections that are displayed include the initial display, the login display, the registration display, and the appearance of a tourist attraction.

I. INTRODUCTION

According to Medyantiwi, Desfah (2021), Information Technology (IT) is a very important requirement for all organizations today. This technology helps improve the efficiency and effectiveness of your organization's business processes. The education sector is the government sector, including the tourism sector. Technology will make it easier for people to obtain and share the news they need. Now the advancement of internet technology is very beneficial for people 's lives. One of them is the internet, which is used in tourism, especially the emergence of Geographic Information Systems (GIS). GIS consists of the concept of many layers (layers) and relationships. The basic capabilities of GIS are to integrate various database operations such as queries, analyze them and display them as a map based on their geographic location. Lampung, Indonesia [1] .

Based on Law Number 9 of 1990 the establishment of the tourism industry is carried out on the basis of the principles of joint and family business profits, justice and equality of life that is balanced and confident [1] .

According to Wikipedia (2022), Tang Ga Mus Regency has an area of 2,855.46 km², an area of 1,799.50 km² and an area of 4,654.98 km² . The terrain of this region differs between lowlands and highlands, some of which are hilly. Mountainous area, about 40° Ri and altitude above sea level 0-2115 meters. The Tanggamus Regency also has many tourist prima donnas that must be visited by local residents and tourists who come from outside the district. Of the many tours in Tanggamus Regency, they include Kiluan Bay, Shark Tooth Beach, Lamuran Waterfall, Mount Tanggamus, Sawmill Beach, Way Lalaan Waterfall, Needle Lebuay Waterfall, Batutegi Dam, Bukit Pagar Alam Sulfur Crater, Valley Rainbow Waterfall, Green Lake , and many other tours [2] .

Surveys related to the search for tourist objects were previously conducted by Ardi (2016). Based on the results of his research, Aldi has succeeded in creating a web-based tourist information system that can be used as a guide in planning tourist trips in the city of Pekanbaru. This system is designed to facilitate tourist visits and as a means of promotion for Tanggamus Regency to increase the number of tourists. Other related research was conducted by Ivan and Andy (2017) The implementation of Dijkstra's algorithm on the system runs smoothly and shows results. Find the shortest route from one place to another on tourist objects on the island Because in Nias, users and tourists can get information and the shortest way to the destination[13] . Another research was also conducted by Desfah and Rahmawita (2021), With the Pecanval Android-based tourism application it can make it easier for tourists to get information about tourist attractions, accommodation, culinary tours, traveling trips with general information contained in [12]. Based on the background of the problem, the formulation of the problem that will be used in this study is how to design a tourism introduction application and how is the implementation of a tourism referral application in the Tanggamus Regency?

II.   LITERATURE REVIEW
2.1   Understanding Tourism According to Experts
According to Merdeka.com, there are several definitions of tourism according to experts, including the following.

1. According to Wahid (2015), tourism is a temporary natural stopover from one place to another as an effort to find balance or harmony and happiness with the environment in social, cultural, natural, and scientific aspects that can be carried out individually or in groups.
2. According to Pitana and Gyatri (2005), tourism is an activity that transports people temporarily to a destination other than their place of residence or work, carries out activities at that destination, and prepares facilities that meet their needs.
3. According to Muljadi (2009), tourism is a series of trips from home to other places by individuals, families or groups to visit tourists without having to work or earn income at the destination. The visit in question is temporary and will return to your original place of residence in time.

4. According to Suwantoro (2004), Tourism is a process in which one or more people temporarily go to a place other than where they live. Whether it's economic, social, cultural, political, religious, health benefits, or just other benefits, such as being curious, gaining experience, or wanting to learn, various benefits are crucial to leaving.

5. According to Sugiama (2013), tourism is the provision of a set of activities and services aimed at the needs of tourist attractions, transportation, accommodation and other services aimed at meeting the travel needs of individuals or groups. His journey is to leave his residence for a while to rest, do business, or other needs. [3] .

2.2   Application

According to Raharja in the journal Muhamad Muslihudin and Yusuf Setiawan (2019) *Mobile* Application is a program that is used to perform mobility using mobile devices such as cell phones or cell phones. Applications can be used for various needs ranging from entertainment, selling, learning, and so on. The use of more applications for entertainment media such as games, music, videos is facilitated by entertainment media whenever and wherever you need entertainment [4] .

2.3   Androids

According to Medyantiwi, Rahmawita Munzir , Desfah Iriandi (2021), Android is an operating system for *Linux* -based *mobile devices* . Android provides an open platform for developers to create their own applications to be used for various mobile devices such as smartphones, gadgets and tablets. Initially Google Inc. buy Android Inc. a start-up company that makes software for cell phones. Then to develop Android, the Open Handset Alliance was formed, a consortium of 34 hardware, software and telecommunications companies including Google, HTC, Intel, Motorola, Qualcomm, TMobile, and Nvidia. At the time of the initial release of Android on November 5, 2007, Android and the Open Handset Alliance expressed support for the development of open standards on mobile devices. On the other hand Google released the Android code under the Apache software license and an open standard for mobile devices [1] .

2.4   Figma

Figma is one such app that UI or UX designers use to create interfaces for Android or mobile apps. Unlike Adobe Photoshop, the Figma application allows multiple designers to easily collaborate on the same document, comment, make suggestions, and modify existing designs. I can do it. In addition, Figma is real-time and all changes are saved automatically [5] .

III. RESEARCH METHODS

According to Albi, Johan (2020) , this research using the Waterfall method. It is a sequential software development process, which takes successive stages from top to bottom (waterfall) in the form of requirements (requirements analysis), design

(drafting and modeling), and implementation (application), continuously flowing. , Verification (testing) and maintenance (maintenance).
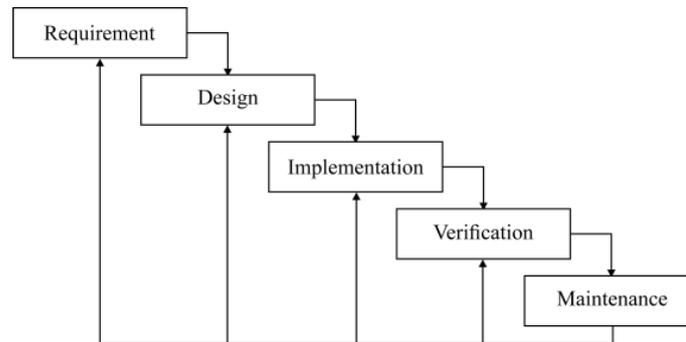

Figure 1 Waterfall method

a. *Requirements*

This step is an analysis of system requirements. Researchers will look for sources of information from users so that they will create applications that are expected by users so that they will create applications that are expected by users to help all activities.

b. *Design*

Stage *Design is the initial* design stage for making the application. Design will display all the requirements that were designed before implementation. The design process will be explained with a *flowchart.*

c. *Implementation*

This part of the stage is the implementation stage. This stage is the most important stage in the arrangement of the waterfall method. In this application, the initial design is a design that will add source code to make the application system intact. The generated program code is still in the form of modules which will later run as an application program.

d. *Verification* **(Testing)**

This stage is the testing stage. At this stage it can be concluded that the final stage in making the application. At this stage the user will test whether the system has been running smoothly or not. In accordance with the initial design that has been expected by the user. This stage is indeed the final stage, but a program will be upgraded to improve the application system.

e. *Maintenance*

This stage is the stage that will continue to be carried out when the application program is still being used. This stage is not the final stage, but a stage that will continue to be carried out to improve the application system [6] .

IV. DISCUSSION

4.1 Design

The system design used to develop this application is the *Unified Modeling Language* (UML model used is use case diagrams, activity diagrams, sequence diagrams, and class diagrams, then table. Combined with the Design Database application, graphical relationships are created between database table [8].
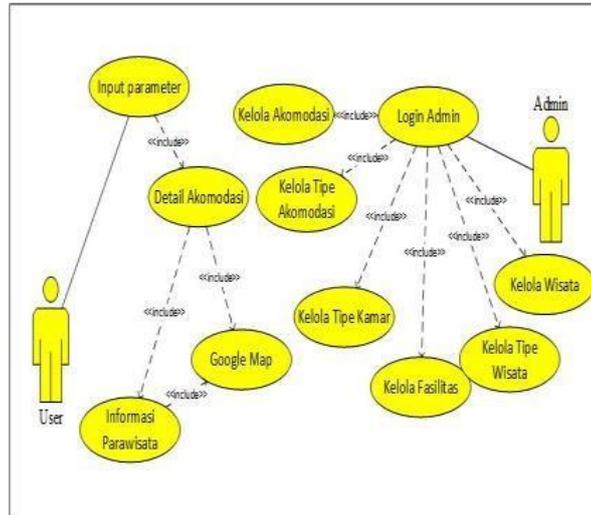
a. Use case diagrams

Figure 2. Use Case Diagram

A use case diagram is a series of actions performed by an agent system that represents users or other systems that interact with the system being modeled.

b. Activity Diagrams

Activity diagrams are used to show the flow of activities in use case diagrams [10].

c. Sequence Diagrams

Sequence diagrams are a very popular tool in the development of object-oriented information systems to show interactions between objects [11].
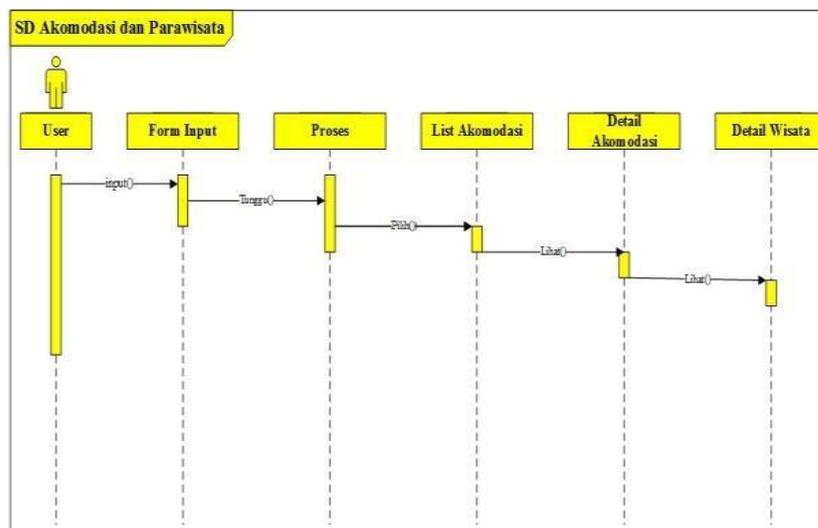
Figure 3. Sequence Diagram

d. Class Diagrams
Class diagrams describe the state of the system (properties) and provide services to manipulate this state (methods) [7].
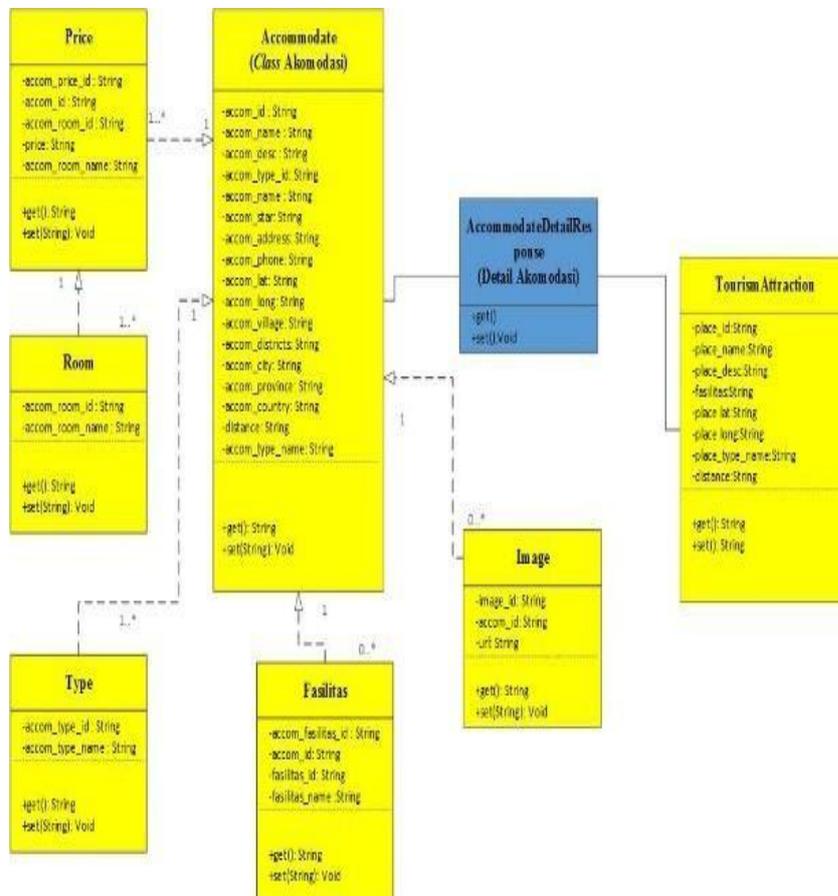

Figure 4. Class Diagrams

a.   **Implementation**
The implementation is the actual result of some research, and below is an image of the finished Android application [15] .

Initial View
In this initial view, it displays the full section of the header, menu button, search field and full narration, recommendations for tourist attractions.

Figure 5. Initial Display

Log - in view

  In this view it displays when the user login data input process will begin.

Figure 6. Log-in display

Registration View

  This display displays when the user registration data input process will begin.

Figure 7. Registration Display

View of One of the Tourist Attractions

At this stage the display displays the results of one of the tourist attractions. It is equipped with buttons for complete location details, open location via Google Maps, directions, and add to favorite locations.

Figure 8. View of Tourism

4.2   Analysis of Research Results

Questionnaire About the Opinions of Android Users. Description of Answer Choices:

SS   = Strongly Agree
S   = Agree
TS   = Disagree
STS   = Strongly Disagree

Table 1. Questionnaire

No.	Question	Answer Choices			
		SS	S	TS	STS
1	Can the android application run smoothly?	7	10	2	1
2	Is the appearance of the android application attractive and efficient?	4	8	4	4
3	Is the search going well?	2	12	5	1
4	Does the location description match the place?	5	15	0	0
5	Can Android applications run on cellphones or desktops?	10	3	3	4
6	In your opinion if the android application has additional features?	13	5	1	1
7	Is the image in the android application legible?	3	2	8	7
8	Do you feel helped by the tourism android application?	9	11	0	0
9	Did you find accurate results?	2	2	7	9
10	Do you agree with the tourism android application?	5	14	1	0

Questionnaire data can be categorized if added up per one question, if added up those who answered SS and S are more than 100, then this android is suitable for use by users, if added up those who answered TS and STS are less than 60, then this android is not suitable for use for users. From the 10 questions posed above, it can be concluded that the respondents who answered SS (Strongly Agree) had 60 answers, S (Agreed) had 82 answers, so if the total was 142 answers, TS (Disagree) had 31 answers, STS (Strongly Disagree) there are 27 answers, so if you add up 58 answers. Which answered positive responses from respondents to continue the development of this tourism android application.

V. CONCLUSION

Based on the research that has been done on the Design of Android-Based Tourism Recommendation Applications in Tanggamus Regency, this is used as a solution to solve the problem of identifying tourism spots in Tanggamus. The conclusion obtained in this study is that the media application for designing this android application is made using Figma. A tourism-based android application with a responsive display and registering on the Google engine search, making it easier for users to search for tourism in Tanggamus.

From the results of the research that has been done regarding the Design of Android-Based Tourism Recommendation Applications in Tanggamus Regency, the researchers provide suggestions for related parties, namely the Android-Based Design of Tourism Recommendation Applications in Tanggamus Regency. For future researchers, it is necessary to carry out a further and wider development both

in adding features and others to the Design of Android-Based Tourism Recommendation Applications in Tanggamus Regency.

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