



RESEARCH ARTICLE

Tourism Search Application within the Bima City Locale of West Nusa Tenggara Utilizing the Android-Based Location-Based Benefit Strategy Utilizing Visual Studio Code

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Abstract

Bima is one of the cities in West Nusa Tenggara which has various tourist objects. Apart from nature tourism, there are also many other tours such as modern water tourism that provides water parks, historical tours, religious tours and culinary tours. So far, recommendations for tourist destinations are usually word of mouth, mass media, browsing, and social media. This makes not all tourist objects can be visited, due to lack of information and the location of tourist objects that are scattered so that it is difficult to reach by public transportation. This research offers an android application that can provide convenience to tourists who want to visit tourist attractions. This application provides information about existing tourist objects starting from location information, facilities, opening and closing hours as well as guides for reaching locations using the Location Based Service method. Every tourist can download the application and run it on a smartphone. Application users can select tourist objects by category and the system will provide guide facilities to the tourist sites they want to visit. This application is expected to be a solution to the problems above and become a media for tourism promotion in the city of Bima.

Keywords

Travel Application; Location-Based Services; Bima City; Android.

1 | INTRODUCTION

Bima is a creative industrial city that has a diversity of religions as a tourism object. In addition to culinary tourism, Bima City also has beautiful natural attractions. However, information about all of this is sometimes difficult to obtain, and sometimes the people of the city of Bima themselves do not know the locations of tourism objects in several locations. Even more so if tourists are from outside the city. With the rapid development of information and communication technology, for example smartphones. Smartphones that are currently popular in Indonesia are applications on mobile devices with an operating system (OS) such as Android [1][2]. The tourist location search application is an application that helps tourists find the tourist attractions they are looking for [3]. This application uses GPS technology to determine the user's location and shows information about various tourist destinations around the area [4][5]. These applications also usually provide features such as reviews and ratings from previous travelers, maps to make navigation easier, and information on ticket prices and operating times. Some popular tourist location search applications today include TripAdvisor, Google Maps, and Airbnb [6]. TripAdvisor provides reviews and recommendations from other travelers, as well as information about local hotels, restaurants and activities [7][8]. Google Maps provides interactive maps and road information, and allows users to add their favorite locations [9]. Airbnb, although better known as an app for renting accommodation, also provides information about local tourist destinations and activities to do around the area [10][11]. The tourist location search application is very helpful for tourists who want to explore new places or search for certain tourist attractions. This makes it easier for them to find information and make more efficient travel plans. In addition, this application also allows tourists to share experiences and recommendations with other tourists, thus making the process of searching and planning tours easier and more enjoyable.

The tourist location search application is closely related to Industry 4.0 and Society 5.0. Industry 4.0 is an industrial development that combines digital technology and automation to improve efficiency and productivity [12]. Society 5.0 is a vision of a future society that is powered by digital technology and focuses on security, prosperity and a better quality of life for everyone [13]. The travel location search application shows how digital technology can simplify life and make travel more enjoyable. This application uses GPS technology and location data to show information about various tourist destinations around the user's area. This makes it easier for travelers to find information and make more efficient itineraries. With features such as reviews and ratings, the tourist location search application also helps the public to share information and experiences, thus making the process of searching and planning tours easier and more transparent. It also facilitates the exchange of information between tourists, which is an example of the collaboration and cooperation implemented in Society 5.0. Thus, the tourist location search application is an example of how digital technology and Industry 4.0 can help realize Society 5.0's vision of a better and more meaningful future society.

Problem Limitation This study emphasizes the creation of a tourism information system for West Nusa Tenggara Province, especially for Bima City based on android, which includes the following: Making tourism maps for West Nusa Tenggara province, especially Bima City itself by taking map data from Google Maps. The application is centered on the Bima City area, so data is obtained from the offices of the culture and tourism office, the website of the Bima City tourism and culture office. Map visualization is equipped with zooming facilities. **Problem Formulation** How to design a tourism geographic information system based on Android is able to provide specific information about tourism in Bima quickly, precisely, and more easily accessible to find tourist location information and at the same time to better introduce tourist attractions in Bima. The purpose of this research is; Developing an Android-based tourism application to make it easier to find the location of tourist attractions in Bima, Facilitate the community in determining the type of tourist object to go to, and Facilitate the community in terms of time to get to tourist sites. the topic of tourist location search applications is still feasible to be developed in research. The tourist location search application has the potential to continue to be improved and refined to provide a better travel experience for tourists. There are still many areas of research that can be done in the topic of tourist location search applications, and this shows that this topic still has the potential to continue to be developed and perfected.

2 | BACKGROUND THEORY

The travel search application is an application that helps users find tourist destinations that suit their needs and preferences [14][15]. In the context of the city of Bima, travel search applications have the potential to enhance the tourist experience for tourists visiting the city. The trend regarding applications developed based on Android is currently increasing, considering the popularity of the Android operating system which is very broad and covers almost the entire smartphone market in the world [16][17][18]. In this case, a tourist search application built on Android has a huge market potential and can be accessed by many users. In application development, Visual Studio

Code is one of the most popular software development applications and is widely used by application developers [19][20]. Visual Studio Code provides an intuitive and efficient development environment, and has many features and extensions that can help speed up the application development process. Thus, a tourist search application built on Android and in the Visual Studio Code development environment for tourism objects in the city of Bima has the potential to provide a better experience for tourists visiting the city. Therefore, this topic deserves to be continued in research to improve and enhance the quality of travel search applications in the city of Bima.

3 | METHOD

This research was carried out on January 5, 2022 where the research was carried out on Lawata beach Kp. Dara Kelurahan Sambinae kekematan tidal barant Bima In research, we often hear the terms data collection methods and data collection instruments. Although related, these two terms have different meanings. Data collection methods are techniques or methods used by researchers to collect data. Data collection was carried out to obtain the information needed in order to achieve research objectives [21]. Meanwhile the data collection instrument is a tool used to collect data. Because it is a tool, the data collection instrument can be in the form of check lists, questionnaires, interview guidelines, to cameras for taking photos or for recording images. There are various methods of data collection that can be done in a study. This data collection method can be used independently, but can also be used by combining two or more methods.

Use Case Diagram is a diagram that is used to describe the interaction between the system and the user. In building a travel search application in the city of Bima, Use Case Diagrams can be used to describe interaction scenarios between users and applications [22]. For example, a user can enter search criteria (such as location, price, and amenities) and the application will display a list of tourist destinations that match those criteria. Use Case Diagram helps in determining the tasks and functionality that must exist in the application, making it easier in the development process. Activity diagram is a diagram that describes activity in the system, showing the sequence of processes from start to finish [23]. In building a tourist search application in the city of Bima, an Activity Diagram can be used to describe the process flow from when the user enters search criteria until the system displays a list of suitable tourist destinations. Activity Diagram helps in determining the stages in the tour search process and ensures that each of these stages goes well. Sequence Diagram is a diagram that describes the interaction between objects or components in the system, showing the sequence of processes and responses received by objects or components [24]. In building a tourist search application in the city of Bima, Sequence Diagrams can be used to describe the flow of interaction between users, systems and tourist databases. Sequence Diagram helps in ensuring that the interaction between components in the system goes well and determines the response received by each component. Class Diagram is a diagram that describes the structure of objects in the system, showing classes and relationships between classes [25]. In building a tourist search application in the city of Bima, Class Diagrams can be used to describe object structures such as user classes, tourist destination classes, and tourist database classes. Class Diagram helps in understanding how objects in the system work and interact with each other, making it easier in the development process.

4 | RESULT

This section will explain the design of information media applications by considering the needs and feasibility. The requirements in question are the needs of the users (users) of the system to be created. This is the flow of running it. In designing and building the application there are several main elements, including: Main page, this page contains several tourist sites that have been detected by the application, catalog page, this page contains a list of tourist attractions from the application, about page, this page contains an explanation of personal data application maker. Use case diagrams describe the expected functions of a system that explains the overall work of the system by presenting the interactions between actors that are created and providing an overview of the functions of the system. This is an Android-based Location Based Service application use case for searching Tourism in the City of Bima, West Nusa Tenggara. Figure 1 below is an image of the Use Case Diagram of the system.

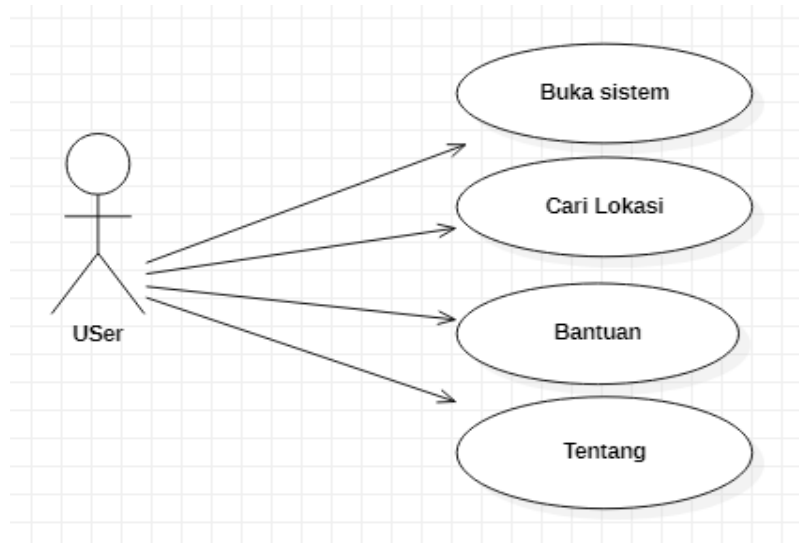


Figure 1. Use Case Diagram

The activity diagram outlines the process the user enters into the main page. The main page of this tourist location search application will show several application menus, where in the options there are lists and maps of the desired place. Figure 2 below explains the activity diagram.

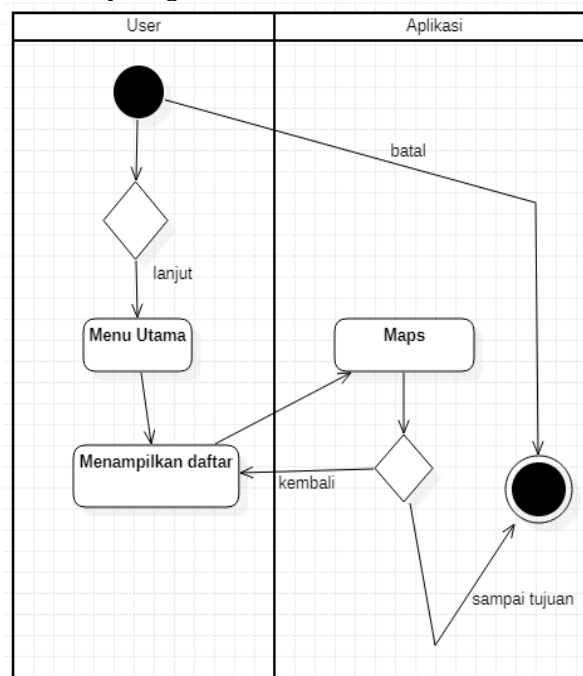


Figure 2. Activity diagram.

Sequence Diagram process The user will enter the application's main page where several menus will appear, then the user will select the location search menu. On the page that is clicked, the user will find a list of nearby tourist attractions and maps that lead to the selected place, as shown in Figure 3 below.

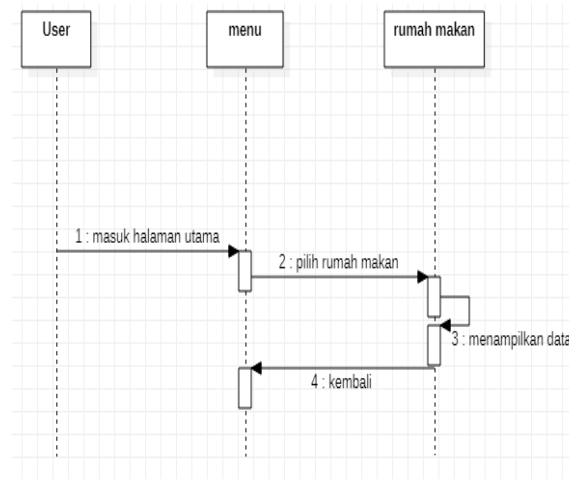


Figure 3. Sequence Diagram.

Class diagrams are the real thing that generates objects, and are central to object development and design. The class represents the status of attributes and characteristics in the system, and provides services to carry out this status. The class diagram in the search application for tourist attractions in the city of Bima, West Nusa Tenggara can be seen in Figure 4 below.

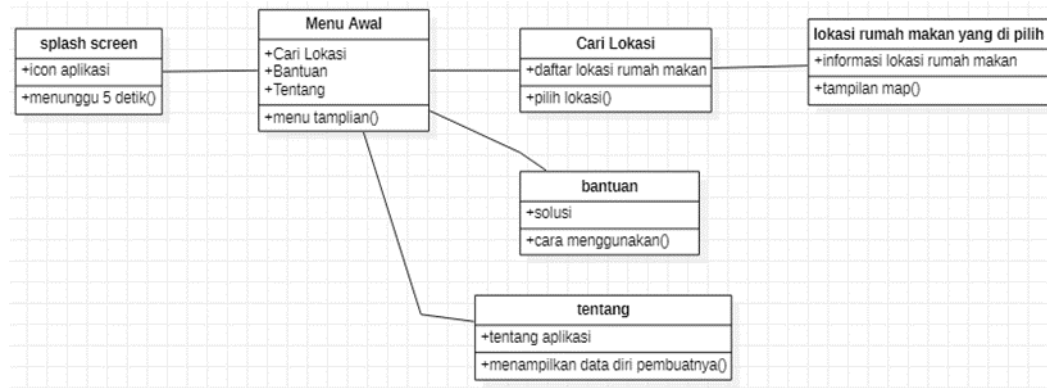


Figure 4. Class Diagram

The initial appearance of the application when entering the application when the user opens the application (figure 5.a). If you have successfully entered, the Hai BiTa location search application will display a page like Maps at the location point (figure 5.b). The mode display itself is on the main page display, the user only needs to press the red location mark, the image, name and address of tourist attractions in Bima will appear according to what the user has chosen (figure 5.c). If you have successfully entered the menu, the Hai BiTa location search application will display pages such as Profile, Catalog, and About at the location point. The following is a menu display image (figure 5.d).

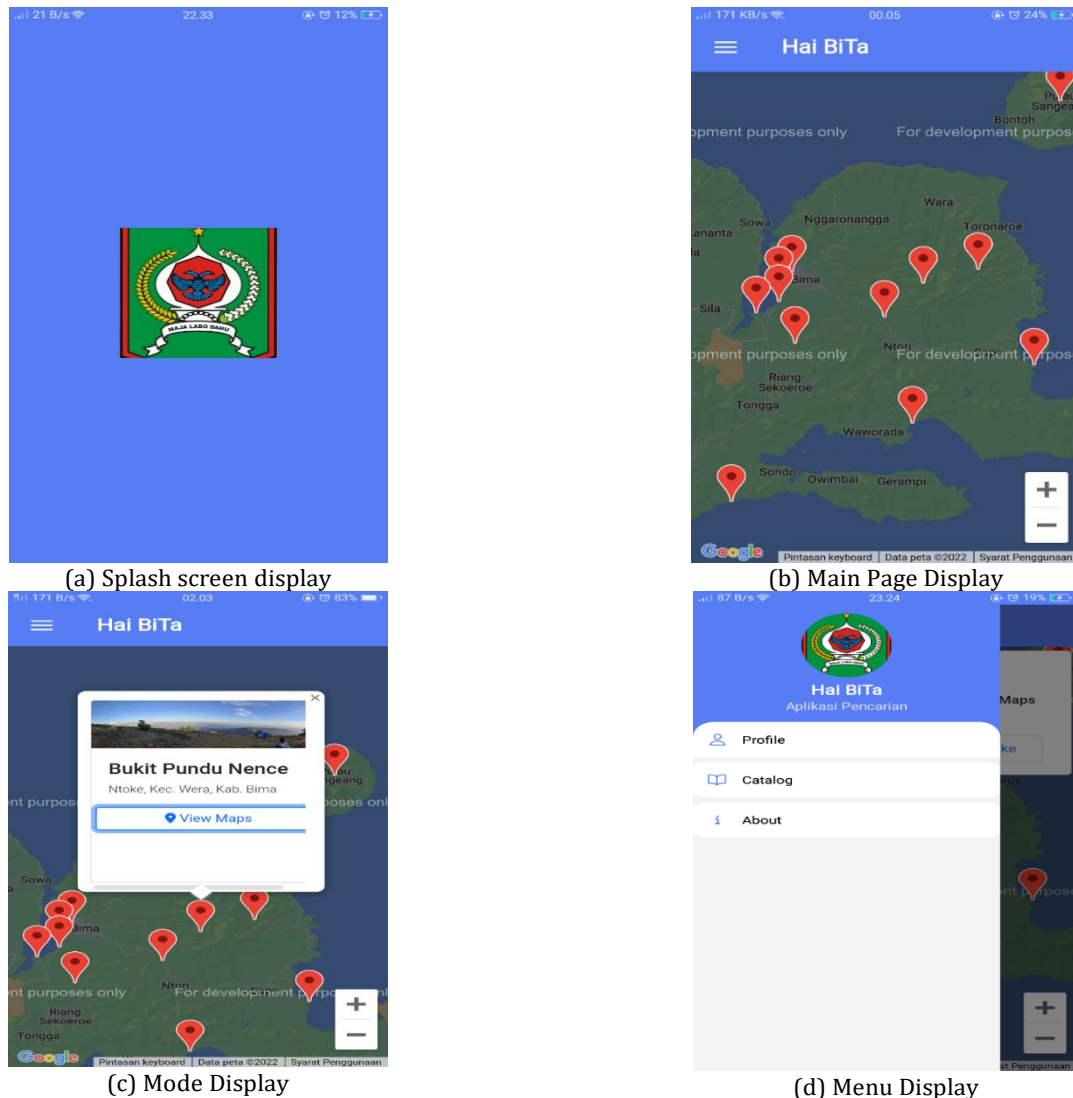
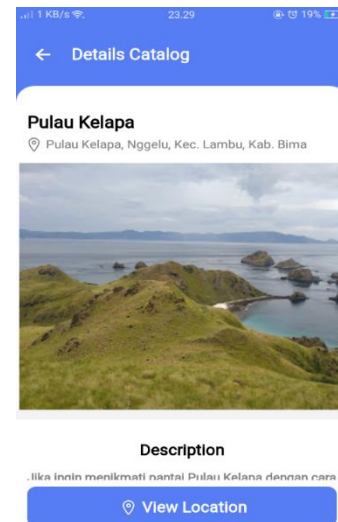


Figure 5. Application View

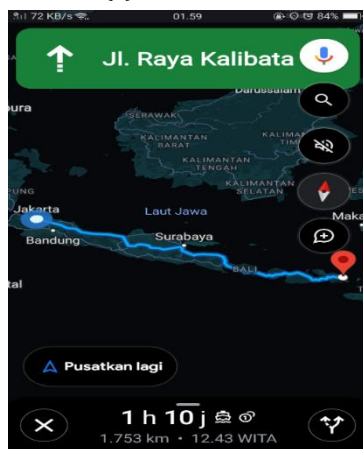
Profile of the Hai BiTa location search application, a display of the biodata of the Hai BiTa location search application maker, namely the researcher himself who made the application (figure 6.a). Catalog view here there are two views, namely the outside and inside view. The contents of the outer catalog display contain pictures, locations, along with the names of the tourist attractions that have been presented by the Hi BiTa application, while the contents of the inner catalog display contain examples of descriptions of tourist attractions, after which the user can immediately see the location of the tourist attractions chosen by the user himself. (figure 6.b). This display shows the user's route to the location of tourist points in the city of Bima according to the wishes of the user in the Hai BiTa location search application (figure 6.c). A display about the application Hai BiTa Parawisata service (figure 6.d).



(a) Profile View



(b) Inner Catalog View



(c) Route view



(d) About view

Figure 6. Advanced Application View

5 | CONCLUSIONS AND FUTURE WORK

Based on the results of research, implementation and testing as well as discussion on research, it can be concluded that; The research that produced the Hai Bitar application can help tourists find tourist attractions in Bima City along with information on tourist attractions based on location. It is proven by the results of the tests that have been carried out, and in the tests that have been carried out, the results show that the application built can make it easier for users to find the location of the intended tourist attractions. The travel search application is a very useful solution for people to find tourist destinations that suit their needs. In building a tourist search application in Bima City, the development of tourism potential is very important to implement. Through the development of tourism potential, the tourist search application will help increase the attractiveness of Bima City as a tourist destination. The use of the latest technology such as data visualization, recommendation systems, and integration with other platforms such as transportation and hotel booking applications can become a trend in developing travel search applications in the future. This will make it easier for users to plan their trips and make their travel experience more enjoyable. Thus, the travel search application is a very useful solution for the community to find tourist destinations that suit their needs and helps in promoting and increasing the tourism potential of the City of Bima.

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