DEVELOPMENT OF BANJAR CITY TOURISM APPLICATION BASED ON ANDROID

Ray Ashari Rinaldy

Teknik Informatika – Universitas Komputer Indonesia
Jl. Dipatiukur 112-114 Bandung
E-mail: rayashari14@gmail.com

ABSTRACT

In line with the development of a city, tourism is the heart of the identity and characteristics of a city. As in most cities in Indonesia, the Government of Banjar City is working to manage tourism as good as possible. This is manifested by the Government of Banjar City such as developing Bendungan Situ Leutik, managing Situ Mustika, build rest areas with typical Sundanese snacks for riders outside the city who want to stop by, and Banjar Water Park attractions which is located in a strategic place. Based on the data obtained from the Department of Youth, Sports and Tourism of Banjar, there is a decrease in tourists visiting the city of Banjar significantly. This is caused by the lack of spreading information about tourist attractions, culinary, and accommodations available in Banjar.

By viewing from the capabilities and features of smartphones which become more sophisticated and the support of the Android operating system, this study intends to develop an application that includes a variety of things on tourism in Banjar City such as information of tourist attractions and its location, the use of virtual reality to provide new experiences for users by displaying 360-degree view of the typical places in Banjar, information about accommodation and culinary snacks available, the use of Google Maps to show the location of tourist attractions.

Tests was carried out using black box method to test the functionality of the program. Based on the results of testing the system, it can be concluded that the system can work well with the functionality to view information and tourist attractions located in Banjar City, information about culinary and accommodation , and news about event or activities organized in Banjar City.

Keywords: Banjar City, Android, Google Maps, tourist attractions.

1. INTRODUCTION

1.1 Background

In line with the development of a city, tourism is the heart of the identity and characteristics of a city. As in most cities in Indonesia, the Government of Banjar City is working to manage tourism as good as possible. This is manifested by the Government of Banjar City such as developing Bendungan Situ Leutik, managing Situ Mustika, build rest areas with typical Sundanese snacks for riders outside the city who want to stop by, and Banjar Water Park attractions which is located in a strategic place. Based on the data obtained from the Department of Youth, Sports and Tourism of Banjar, there is a decrease in tourists visiting the city of Banjar significantly. This is caused by the lack of spreading information about tourist attractions, culinary, and accommodations available in Banjar.

Based on the data obtained from the Department of Youth, Sports and Tourism of Banjar, the number of tourist arrivals in 2016 reached 102 617 people domestic tourists and 72 foreign tourists. There was a decrease significant tourist visits in which the first three months in 2016, total tourists reached 47 695 people, and three months at the end of 2016, the month of September, October, and November the number of tourists who visit only amounted to 16 073 people. This is caused by the lack of spreading information about tourist attractions, culinary, and accommodations available in Banjar.

Informative and interesting information about Banjar City tourism is very important in order to raise the promotion of tourism to improve the competitiveness of Banjar City. In this context its necessary to have an medium to deliver information in the form of a list of attractions along with location information, culinary snacks, accommodation and places of interest are available, and photographs of landscapes which could become an icon of Banjar.

The rapid developments in mobile technology encourage developers to create a wide range of applications. Besides the mobile platform is very easy to use, easy to carry anywhere, has many options for a wide range of connectivity, the camera features, and a variety of sensors are implanted makes the smartphone into a huge potential market for software development [1]. In the world of smartphones, Android become the operating system most widely used by users. Smartphone Android operating system installed until July 2016 to reach 2.1 billion units and that number will continue to grow as the number of smartphone vendors are starting to use the Android operating system and the continued presence of the latest updates to the

Android operating system. Some of the features offered by Android is a multitasking operating system with open source, which means allowing the software to be modified and distributed by device makers smarpthone, media support for audio, video, and images, support for a wide range of connectivity, and sustainable development on the display and features [2]. The amount of the features of Android makes many possibilities to create applications that can be implemented into various fields of science such as health, tourism, to education.

1.2 Purpose and Objectives

The purpose of this research is to build applications that can provide information about tourism in Banjar.

The objectives to be achieved in this peneniltian are:

1. Build applications that provide information on the introduction of Banjar.
2. Build apps that display the attractions located in Banjar.
3. Build apps that display information about the location of food and accommodation provided in Banjar.
4. Build applications that can accommodate information on the activities to be held in Banjar.

2.CONTENT

2.1 Brief History of Banjar



Picture 1 Banjar City Administrative Maps

The development and progress of West Java Province in general and in particular Ciamis District Subdistrict Banjar, require special governance arrangements in order to ensure the fulfillment of the demands of development and progress in accordance with the aspirations of communities in Banjar District.

Subdistrict Banjar shows the development and progress to the characteristics and nature of urban life, above it Banjar region needs to be increased into administrative city which required supervision and regulation of government and community development, in particular.

In 1992 the Government established Banjar Administrative City Government Regulation No. 54 Year 1991 on the Establishment of Administrative Kota Banjar inaugurated by the Minister of the Interior on March 2, 1992.

Some of the reasons why Banjar be administratively City among others, due to geographical location, demographic and sociological community life and require very rapid growth and service improvement in governance arrangements.

The rapid development and the demands of the aspirations of society who are urging Banjar Administrative City soon be upgraded to the City where it was in line with the demands and the law number 22 of 1999 on Regional Government and on the other hand the Government of Ciamis district along the Provincial Government West Java attention to these developments and to propose to the Central Government and the Parliament of the Republic of Indonesia.

Momentum inauguration followed Banjar Banjar Acting mayor's inauguration can be used as a historical basis and the right to be a day so Banjar [3].

2.2 Tourism

According to Richardson and Fluker, tourism is a journey that is done for a while, which was held from one place to another by leaving its place, with a plan and with a view not to attempt or make a living in the place visited, but solely to enjoy sightseeing and leisure activities or to meet the diverse desires [4]. Furthermore, Prof. One Wahab defines tourism as a series of activities such as the activity of the movement of people for a time to a destination outside the residence or place of his usual activities done during the stay at the goal, and the easiness that is provided to meet the needs both during the trip or at the location of its objectives [5].

2.3 Firebase

In building a good Android app, its require to have the the support of a qualified backend. Firebase present as the backend support services and DbaaS (Database as a Service) realtime concept owned by Google. Firebase with features and infrastructure to help developers to build high-quality applications. Firebase services were used in this study include:

a) Firebase Auth

Services provided by Firebase for membership user functions. The features provided are regisiter / logged by several methods such as login via gmail, facebook, twitter, and so on.

b) Realtime Database

A NoSQL Database provided by Firebase. NoSQL Database is a database that does not use a database system like traditional relationships such as MySQL. Data storage method in use NoSQL object in JSON format (JavaScript Object Notation). One feature of Realtime This database is able to store data locally when there is no internet connection, and then synchronize the data once connected to the Internet.

c) Firebase Storage

Providing security for file upload and download applications created regardless of internet connection. Developers can use it to store audio, video, and pictures [6].

2.2 Problem Analysis

Analysis of the problem is the stage of elaboration of the problems that existed before the construction of this application. Based on the analysis of the problems that have been done, there are fundamental problems are found, such as:

1. The Government of Banjar not yet have an official Banjat city tourism website. This resulted in the tourists who want to visit the city of Banjar only get information from colleagues or through articles on the internet that could still doubt the accuracy of the information.
2. To visit a tourist attraction in Banjar, tourists search for information through the internet. If tourists still have not found the location of attractions you want to target, tourists ask the locals.
3. Lack of information about where food and lodging in Banjar resulted culinary travelers looking for his own place and the closest accommodation by asking people around.
4. To find an activity held in Banjar, tourists and residents know from newspapers and from the information banner mounted on a side street Banjar.

Activity Diagram find tourists attractions information contained in Banjar can be seen in Figure 2.

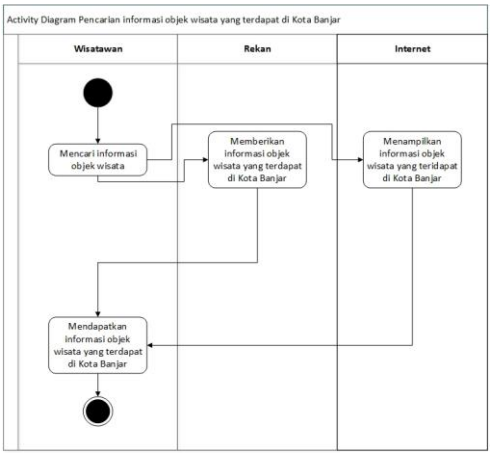


***Figure 2 Activity Diagram* find tourists attractions information contained in Banjar City**

a. Path searching attractions

The scenario of the track search procedures attractions located in Banjar, namely:

1. Travelers visited Banjar.
2. Travelers choose the attractions.
3. If a traveler knows the path to the attraction, then the tourists can go directly to the point of attraction.
4. If tourists do not know the track attractions, the tourists asked local residents.
5. Travelers visiting tourist sites.

Activity Diagram Find tourists attractions available in Banjar City can be seen in Figure 3.

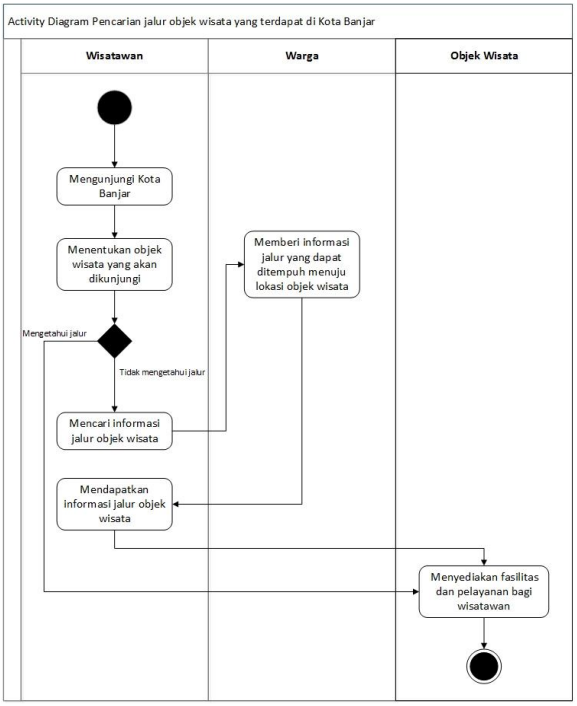


Figure 3 Activity Diagram Find tourists attractions available in Banjar City

Find culinary places and accommodation information is available in Banjar

The scenario of the search procedure culinary and accommodation information is available in Banjar, namely:

1. Travelers visiting the city of Banjar.
2. Travelers seeking information culinary venues and the nearest accommodation by asking people around.
3. If the information does not match with the expected, tourists visiting other places and come back asking local residents.
4. Travelers get information culinary venues and accommodation.

Activity Diagram Find culinary place and accommodation available in Banjar City can be seen in Figure 4.

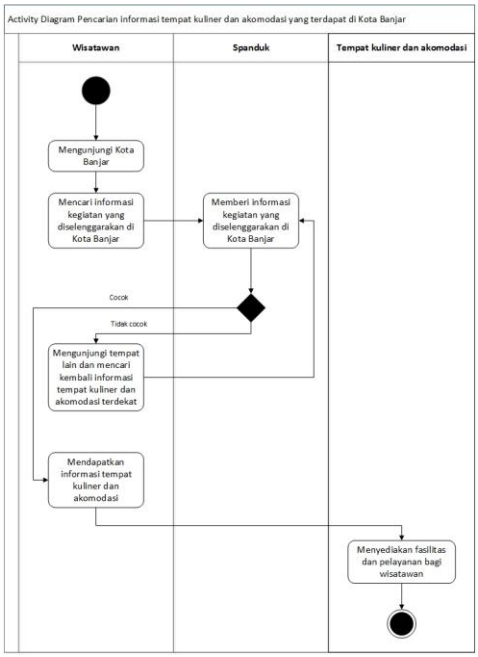


Figure 4 *Activity Diagram* Find culinary place and accommodation available in Banjar City

Find event information held in Banjar City

The scenario of the information retrieval procedure organized activities in Banjar, namely:

1. Travelers visiting Kota Banjar
2. Travelers are searching for information about the activities organized in Banjar
3. Travelers looking for information activities by reading banners strewn on the roadside Banjar and through newspapers.
4. Travelers to get information on the activities organized in Banjar.

Activity Diagram Find event information held in Banjar City can be seen in Figure 5.

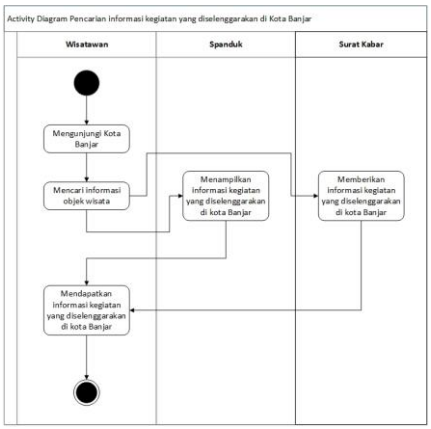


Figure 5 *Acitivity Diagram* Find event information held in Banjar City

2.3 System Architecture Analysis

Analysis of system architecture is an analysis of planning to create a general overview of the system to be built. The system architecture is built in this study consists of client and server using a web service Firebase back end. Web service Firebase used to be able to integrate and exchange data in real time by connecting the Android application with a database server. Application to exchange data with Firebase via JSON (JavaScript Object Notions). Firebase services used in the development of this application is Firebase Auth to function with a membership user to log in with your Gmail account, Firebase Database for the storage and exchange of data in realtime, and Firebase Storage to storage media such as images. Design of system architecture can be seen in Figure 6.

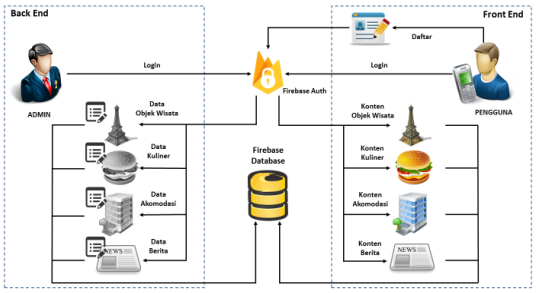


Figure 6 System Architecture

On the front end, users can access the content after log in or register if not already registered as a user. Content contained in the application consists of information content attractions, culinary, accommodation, and news that is connected directly to the database Firebase. At the back end, administrator can perform data processing after login through the Firebase Auth service. The data can be data processed by administrator are attractions, culinary, accommodation, and news. Data that can be process is add data, change data, and delete data. Changes made by administrator can be viewed directly on the user's application through the use of features Firebase Realtime Database.

2.4 Use Case Diagram

Use case diagram is a construction that is built to be able to describe the relationship between the actor with the activities contained in the system. Use case diagrams explain what processes exist in the system and how to respond to the actions performed by the actor. From the results of the analysis carried out, the use case diagram in this application can be seen in Figure 7.

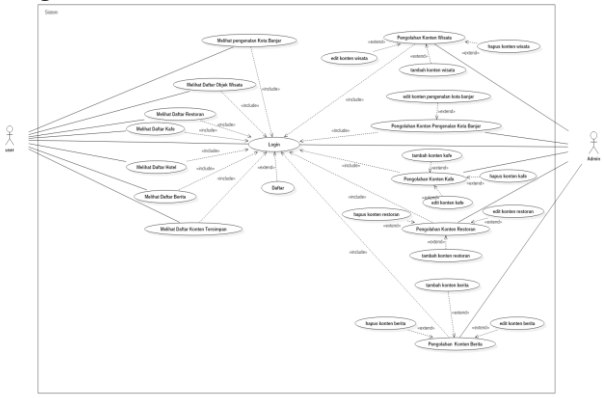


Figure 7 *Use Case Diagram* Class Diagram

2.6 Class Diagram

Class diagrams is static model that describes the structure and description of the class and the relationship between classes.

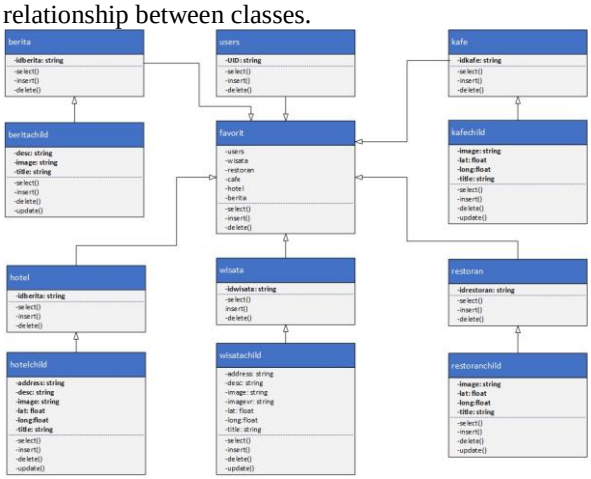


Figure 8 ***Class Diagram***

2.4 User Interface Implementation

Figure 9 is main user interface.

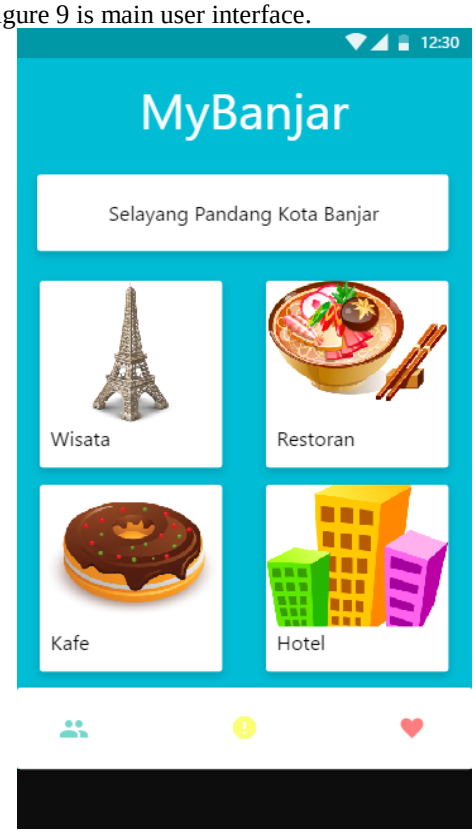


Figure 9 Main User Interface

Figure 10 is detail information of tourist attraction user interface.



Figure 10 Detail Information Of Tourist Attraction User Interface.

Figure 11 is list of tourists attractions user interface

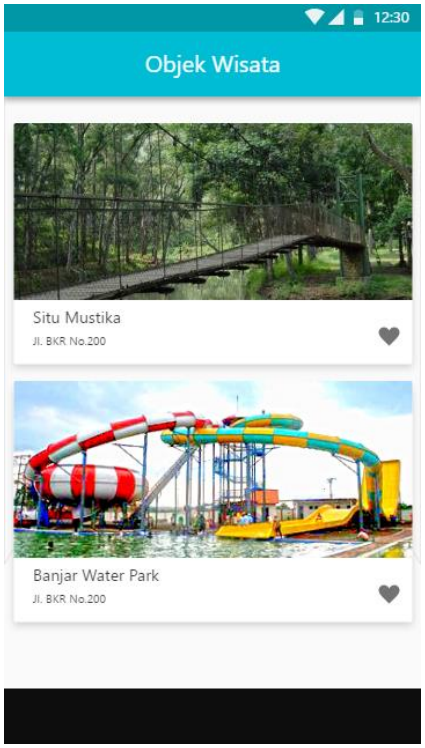


Figure 11 List Of Tourists Attractions User Interface

Figure 12 is add tourists attractions item user interface

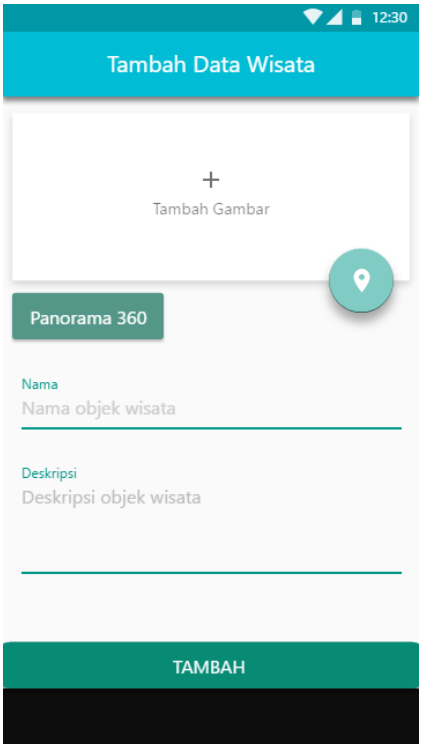


Figure 12 Add Tourists Attractions Item User Interface

Figure 13 is change the data of tourists attractions item



Figure 13 Change The Data Of Tourists Attractions Item

2.5 Black Box Testing Plan

2.6 Tabel 7 Front End Black Box Testing Plan

No	Item Tested	Test Detail
1	Login	Validating
2	Manage Introduction of Banjar Data	Change data
3	Manage Attractions Data	See data
		Add data
		Change data
		Delete data
4	Manage Restaurant Data	Add data
		Change data
		Delete data
5	Manage Café Data	Add data
		Change data
		Delete data
6	Manage Hotel Data	See data
		Add data
		Change data
		Delete data
7	Manage News Data	See data
		Add data
		Change data
		Delete data

Tabel 8 Front End Black Box Testing Plan

No	Komponen Yang Diuji	Detail Pengujian
1	Login	Validasi masuk aplikasi
2	See Introduction of Banjar	Lihat informasi pengenalan kota banjar
		Lihat lokasi kota Banjar
3	See Attractions Information	Lihat informasi objek wisata
		Lihat lokasi objek wisata
		Lihat Figure panorama objek wisata
		Menambahkan item objek wisata ke favorit
		MengDelete item objek wisata dari favorit
4	See Restaurant Information	Lihat lokasi restoran
		Menambahkan item restoran ke favorit
		MengDelete item restoran dari favorit
5	See Cafes Information	Lihat lokasi kafe
		Menambahkan item kafe ke favorit

		MengDelete item kafe dari favorit
6	See Hotel Information	Lihat informasi hotel
		Lihat lokasi hotel
		Menambahkan item hotel ke favorit
		MengDelete item hotel dari favorit
7	See news Information	Lihat informasi berita
		Menambahkan item berita ke favorit
		MengDelete item berita dari favorit
8	See Favorite Information	Lihat informasi favorit
		MengDelete item dari favorit

3 CONCLUSION

3.1 Black Box Testing Conclusion

Based on the results of testing the system, it can be concluded that the system can work well with the functionality to view information and tourist attractions located in Banjar City, information about culinary and accommodation , and news about event or activities organized in Banjar City.

3.2 Conclusion

Based on the results of the implementation and system testing has been done, then the conclusion of a thesis entitled "Development of Tourism of Banjar-Based Applications Android" is as follows:

1. From the results of previous system study, it was found that there is a decrease in a tourist visit resulting from the lack of dissemination of information on tourism in Banjar City.
2. Development of Banjar tourism applications based on Android can help travelers to find information and tourist sites, culinary, accommodation, and information activities organized in Banjar.
3. Tests performed on this system using black box testing method. Black box testing is testing with a focus on the passage of a function on the software that is built within the meaning of inputs and outputs are produced is absolutely precise and integration of external data goes well.
4. With the development application Banjar Android-based tourism is expected to help the community and tourists in finding information about tourist attractions, culinary, and accommodations available in Banjar City.

3.3 Suggestion

In the development of tourism in Banjar applications that have been built based on Android is still far from perfect and there are still many shortcomings. Therefore, it is necessary for the development and further refinement in order to meet users' needs are higher. As for suggestions on the development of applications based on Android Banjar tourism are as follows:

1. Addition of a search feature to ease of finding attractions, hotels and culinary item.
2. Adding trip planner features that can help traveler to make a plan visiting Banjar City.

REFERENCES

[1] Jagušt ,Tomislav," Mobile learning platforms: A literature review".

[2] S. Divya & M. Luv," ANDROID VS IOS", IJIRT., vol 1, 2014.

[3] Sejarah Kota Banjar. [Online]. http://banjarkota.go.id/sejarah/

[4] Richardson, John and Martin Fluker. 2004. *Understanding and Managing Tourism*. Australia:Pearson Education.

[5] Wahab, Salah. 1975. *Tourism Management*. London: Tourism International Press.

[6] Singh, Navdepp. *Study of Google Firebase API for Android*. International Journal of Innovative Research in Computer and Communication Engineering Vol. 4, Issue 9, September 2016.