

My Journey: DFD (Data Flow Diagram) for Digital Planners and Travel Guide Applications in Indonesia

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Abstract

Tourism is one of the important aspects in terms of increasing income in an area as well as people's welfare. The presence of a well-managed tourism area will improve the welfare of the community. Indonesia has a region that is very rich in tourism, but it is unfortunate that in Indonesia there are still obstacles in the information system so that tourists have difficulty in finding tourist attractions and facilities located in the area. Although Indonesia already has a relatively comprehensive online search, Indonesia does not fully help with access, accommodation cost planning for traveling. This made us have the idea to create a *My Journey* application for travel planning and guidance. This application is very appropriate to be applied in this moment of the modern era because technological advancements require us to do everything through digital. Development of digital applications *My Journey* By using GPS and DFD (Data Flow Diagram) Design Method to facilitate the service of the application. The *My Journey* application is equipped with location routes and accommodation advice to get to tourist attractions, especially accommodation access using public transportation so that tourists can easily go to tourist attractions with the help of the *My Journey* application. In this, *My Journey* application will help the tourists in manage and arrange travel tour planning following the needs that are needed. In addition, this application also provides an online souvenir sales service for MSME development and ticket purchase as well as providing rental services for vehicles, equipment, and other things that support online in one application. With this application, it is expected that both local and international tourists will find it easy to get information about the tours visited, as well as a form of tourism promotion in Indonesia.

Keywords: application; tourism; My Journey; DFD

1. Introduction

Tourism is a combination of activities, services, and industries that provide travel experiences, such as transportation, accommodation, food and drinks, shops, entertainment facilities, and other services available to individuals or groups that carry out (Suswantoro, 2012). In the life of a region, tourism can play a complex role that is influential, which is in line with the understanding of tourism conveyed by Professor Salah Wahab who revealed that tourism is a new type of industry that is able to accelerate economic growth in the form of providing employment, increasing income, standard life and other productive sectors (Hanif and Pramana, 2018). So, in this case it can be seen that tourism has a close relationship with the welfare of the community in an area. Indonesia itself is classified as a fairly large country that has many natural and cultural wealth that makes Indonesia known in the eyes of the world. Indonesia as a country is known as the land of a thousand islands and heaven on earth, which can reflect that Indonesia is a country that has the potential in tourism area which is overflowed and spread in various regions from Sabang to Merauke. Diverse attractions include natural mountain views, beaches, palaces to museums and other historic buildings so that there are so many enthusiastic people to travel. It needed a plan to enjoy the tourist attraction in some places because sometimes there are many tourist attractions which are rarely known by the general community, only known by those who live near the location or those who ever traveled to that place. The lack of information about the location of these tourist attractions can occur either

because there are many tourist attractions in the area or indeed the lack of publications and information related to these tourist areas (Agus, 2018). This is an obstacle for tourists who will go on trips. Also, planning on a tour is very important for tourists who want to travel so the needs and expenses for traveling by their budget. The existence of the evolution of industry 4.0 makes technology important and useful for people's daily lives, so that nowadays smartphones with mobile applications seem to be a basic need for people (Masood and Riza, 2020). As the smartphones with mobile applications users increase and the emergence of wireless network technology, the use of applications related to the tourism industry is also increase.

Therefore, it is necessary to create something new that must be made, so that people can easily find out what tourist and cultural attractions are in Indonesia's tourist areas and make travel plans to make it easier for them to manage their expenses and needs while traveling. The development of the *My Journey* application is intended to be a solution as a digital application that can provide information related to tourist attractions and guide travel planning. Applications that are developed in accordance with the progress of the times can certainly provide convenience and practicality in the activities of people's lives, therefore the number of smartphone users is currently considered very appropriate to use applications that can help people's lives. In addition, the development of this application is also at increasing development in Indonesia, especially in the field of tourism which can have a positive impact on the economy and improve people's living standards.

2. Methods

The stages of analysis and design of digital-based travel applications in Indonesia are in the form of information media needs that are easy and inexpensive and can be reached by all groups using Android smartphones. The application is implemented by a location and time-based system, considering that so far, the dissemination of tourism information is still limited through print media and billboards. Currently there is a presentation of tourism information through a display in the form of information on the condition of an area, this system is known as the Geographic Information System.

GIS aims to produce a system that can help determine the location of attractions and infrastructure of the region in graphical form using a map as an interface (Setiaji, 2011). Thus, GIS becomes a source of information for tourists that provide a more interactive and accurate. picture of the spread of tourist attraction's locations in a certain region. The design method used is the DFD (Data Flow Diagram) method. DFD (Data Flow Diagram) is a modeling tool that allows system professionals to describe the system as a network of functional processes that are connected by data flow, both manually and computerized (Kristanto, 2008). DFD itself is widely used to assist application developers in general, especially in the process of making information systems.

3. Results and Discussion

In the *My Journey* application, there are three main features including:

1. Tourist planning
2. Tourism support services
3. Souvenir products

The relative advantage of the *My Journey* Digital Application concept is the concept of developing tourism promotions through digital-based applications which can provide information about an online tourist attraction for tourists. *My Journey* application makes it easy for tourists to travel efficiently and pleasantly. Where *My Journey* offers a variety of services in helping tourists to get to know the tourism place to be addressed with feature maps that are connected directly in the GPS (Global Positioning System), this system is a navigation system using more than 24 MEO (Medium Earth Orbit or Middle Earth Orbit) . What distinguishes this application from maps, in general, is that this application can plan tourist trips effectively. This application provides a route for a tourist attraction to the other nearest tourist attractions . It makes it easier for a tourist to set the route while traveling. The GIS system included in the application works to help tourists obtain information related to nearby tourism locations from the detection of GPS signals that appear. This is because GIS is a technology that is often used in the spatial planning process, so it cannot be denied that GIS makes it possible to carry out a mapping and analysis process (Setiaji, 2011). Later, the steps that will be taken by tourists to find tourist attraction destinations are actually the same as the system that usually works on Google Maps, where there is a red marker on the map that serves to indicate the position of tourist locations. Then when the red marker is clicked, information will appear regarding the name of the tourist spot and the full address. Users of this application can also filter tourist locations to display by type of tourist destination. Thus, users will be able to easily find tourist destinations in an occupied area according to their wishes in just a few seconds.

This feature not only displays maps in directions on a tourist attraction but also can choose the option of a car, motorcycle, walking or public transportation (subway/bus) that will go directly from the starting point to the tourist destination with details. It has not yet available in other traveling applications, so we no longer need to open google maps. This application also provides information about how much money it cost to enter any certain tourist areas along with each ratings, so that users can use it to design a budget plan that is issued for traveling according to their funds and needs . That information is much needed by tourists, especially non-local tourists who do not come from the area around the region. Other information related to travel budgeting starting from itinerary, tickets, hotel bookings, car rental bookings and others are also provided in this application in one simple way. At the moment, matters relating to tourism budgeting are known to be in the form of separate applications, not all in one application. Therefore, because the times are getting more advanced and demanding to do everything practically, *My Journey* is here to increase the effectiveness and efficiency of tourism planning in the use of just one application.

Besides aiming to introduce tourism especially in Indonesia, *My Journey* also aims to be a good way to develop MSMEs ((Micro, Small and Medium Enterprises)) in each of the existing tourist areas. In general, in this case, local communities as home-based business owners or MSMEs can take advantage of tourism areas to improve their economy. In the *My journey* application, a feature is provided that is used as a space where there is an online sale of souvenirs or light meals that can be used by the surrounding community as business actors as well as to add convenience for tourists to get souvenirs of the tourist area. They can find culinary places or souvenirs directly by accessing the same application rather than opening other applications at the same time . Tourists who use this applicationa can order online when they don't have enough time to go around buying souvenirs typical of the area. So that, indirectly these features in *My Journey* can also be a means of branding MSMEs in tourist areas and simplify the online purchasing system. Additional features in the *My Journey* application are services where this feature also provides services in the form of ranging from tourist tickets,

hotel reservations, vehicle rental based on online. The use of various payment systems such as mobile banking, ATMs, SMS banking, and merchants who work together to pay for these tickets, so that it can make it easier for tourists to travel more effectively and efficiently.

4. Conclusion

Existence of tourist applications still leaves many gaps in their use. my journey digital application comes as an innovation and development for ease of travel to help in terms of access, accommodation, and cost planning. The use of GPS and DFD (Data Flow Diagram) Design Method is done to facilitate services in the application and understand the system logically, structured, and clear. Making this application will make the tourists easier and more enjoyable in traveling and can be a better promotional media for tourism in Indonesia.

5. References

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