TEPIAN Vol. 6 No. 1 (March 2025) 50-57 p-ISSN 2721-5350 e-ISSN 2721-5369
https://doi.org/10.51967/tepian.v6i1.1451 © 2025 Tepian Politeknik Pertanian Negeri Samarinda

Tourism Information System for the East Kalimantan Provincial Tourism Office

Raodatul Annisa
Software Engineering Technology, Agriculture Polytechnic of Samarinda, Samarinda, 75242, Indonesia
raodatulannisa@gmail.com

Eny Maria*
Software Engineering Technology, Agriculture Polytechnic of Samarinda, Samarinda, 75242, Indonesia
enymaria@politanisamarinda.ac.id
**Corresponding author*

Annafi Franz
Software Engineering Technology, Agriculture Polytechnic of Samarinda, Samarinda, 75242, Indonesia
annafifranz@gmail.com

Submitted: 2022-09-11; Accepted: 2024-11-26; Published: 2025-03-15

Abstract— Restrictions on activities carried out by the government to suppress the spread of COVID-19, which has lasted for two years, have disrupted community activities. This causes people to carry out activities online or online through digital-based platforms. The use of computer technology for the application of information systems and business is very necessary. This research uses the Waterfall Model System Development Life Cycle (SDLC) development method using data analysis and system design, namely Unified Modeling Language (UML) . This travel information system aims to assist the marketing department in the Tourism Office in conducting tourism promotions and conveying information about travel to consumers or visitors such as tourists. For visitors, this system functions to order travel at the destination by selecting a destination, then the system will take the tour detail page and trip list. Then the trip list section will provide a booking order, after completing the required data input, the system will display a visitor dashboard page to upload proof of payment.

Keywords— Information System, Travel, Tour, Booking, Visitors.

I. INTRODUCTION

Restrictions on activities carried out by the government to suppress the spread of COVID-19, which has lasted for two years, have disrupted community activities. This causes people to carry out activities online or online through digital-based platforms. The use of Theater technology for the application of information systems and business is very necessary, one application is the internet is a very large public network, where we can access all the information needed (Susanto and Lubis 2016). An information system is an association of components or data consisting of several sub-systems that are interconnected, cooperate, and process these components or data to become useful information (Hakim, Pratama, and PS 2019).

Travel (Bureau), According to Law No. 9 of 1990, the second part of article 12, it is stated that the definition of a Travel Bureau is a business providing planning services and/or services and organizing tourism. Meanwhile, tourism is all activities related to travel, before and during the trip and returning to the place of origin, exploitation of tourist attractions or attractions (natural scenery, recreational parks, historical heritage, cultural arts performances). Indonesia is one of the countries with a very abundant number of tourist objects. We can find these tourist objects on all islands in Indonesia from Sabang to Merauke (Hidayat 2020; Zaliluddin & Rohmat, 2018). The lack of information about travel tourism in East Kalimantan Province is one of the reasons for researchers developing this research idea in the form of a website-based information system. Websites are web pages contained in a domain that contains information, usually in the form of text, sound, images, and others stored on an internet web server that will be displayed in hypertext form.

This research was conducted at the East Kalimantan Provincial Tourism Office. The East Kalimantan Provincial Tourism Office is an institution or agency engaged in tourism that is very familiar with computerization progress. For now, the East Kalimantan Provincial Tourism Office uses promotional media through print, brochures, and social media such as YouTube, Instagram, and Facebook. But on the other hand, there is still a lack of information, such as information on travel services, tourist objects, culinary, and some public facilities in East Kalimantan. So, it is still considered less optimal in solving problems involving aspects of separate transactions for visitors when they want to access travel information from the East Kalimantan Provincial Tourism Office. So, the existence of this travel website can make it easier for outside visitors to easily access all travel information in East Kalimantan. The problem that will be raised in this research is how to design a Web-Based Travel Information System for the Tourism Office of East Kalimantan Province, and how to optimize the work of the marketing department at the East Kalimantan Tourism Office in promoting and conveying information about tourist travel to consumers or potential visitors such as tourists, and how do I make a travel booking according to the destination. The limitations of the existing problem,

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57. https://doi.org/10.51967/tepian.v6i1.1451

namely the web-based travel information system for the tourism office of East Kalimantan Province, can only be accessed by opening the travel website directly. This study aims to design a Web-Based Travel Information System for the Tourism Office of East Kalimantan Province, simplify and optimize work, especially in the marketing section at the East Kalimantan Tourism Office in promoting and conveying information about tourist travel to consumers or potential visitors such as tourists, and apply the knowledge gained during lectures. And finally, the expected results of this research, hopefully with this website-based travel information system, can simplify and optimize the work of the marketing department at the Tourism Office in promoting or conveying information to consumers or potential customers and making it easier to book travel according to the destination.

II. Literature Review

A. Study of Literature

Several studies are used as guidelines and references in making this application, among others

In the research conducted by Susanto and Lubis (2016) under the title "Web-Based Tourism Information System on the Cloud Tour Travel" in analyzing and designing this information system, the activities carried out are focused on the elaboration of the system that is running to get something the facts in the research room, analyzing and designing this system is a very decisive job because in designing a new system, it is necessary to know the state of the system that is running and analyze the old system which must be done carefully and thoroughly so that existing problems can be resolved and complete the shortcomings of the existing system.

Research conducted by Abdulghani T, Jaelani L, and Ikhsan M. (2017) entitled "Creating a Website-Based Tour & Travel Information System (Case Study of Marissa Holiday Cianjur)" Tour and Travel applications at the Marissa Holiday Tour & Travel company as a promotional place that cheap but effective for travel agents (tour operators) to promote their tour package products, as well as a place for people to find information about the desired tour packages. The use case modeling targets used include defining functional requirements and operational systems by defining agreed usage scenarios between users and developers, which will focus more on admin, customer service, and visitors. The website-based Marissa Holiday Cianjur Tour & Travel Information System provides facilities and departure and early departure schedules and booking history for tours.

In the research by Riskiono and Reginal (2018), entitled "Information System for Web-Based Tour and Travel Services (Smart Tour Case Study)" uses the Extreme Programming method. The Extreme Programming method is a software development method that includes agile development that uses an object-oriented approach and includes a set of rules that occur in activities. Planning, design, coding, and testing. This Extreme Programming method was chosen because the process of making software is very fast and in accordance with the project that is ready to be built.

The research entitled “Web-Based Tour Package Booking Information System on Adeeva Tour and Travel” by Ros and Fachrizal (2019). Adeeva Tour is one of the companies in the field of tourism that provides tourism with tour packages for domestic. The purpose of this study is to build an information system for booking tour packages that exist in Adeeva Tours by identifying and analyzing the problems that exist in the company.

Research conducted by Chairunnisa (2020) entitled "Web-Based Geographic Information System Mapping Tourist Attractions in Samarinda City". This research is motivated by the unpublished tourist attractions in the city of Samarinda so that tourists can find recreational and culinary attractions around the city.

B.Theoretical Basis

1. Information System

   An information system is an association of components or data consisting of several interconnected sub-systems, processing components or organizations to become useful information to achieve a goal (Hakim, Pratama, and S 2019).
2. WWW (world wide web)

   WWW (world wide web) or commonly known as a website are web pages contained in a domain that contain information, usually in the form of text, sound, images, and others stored on an internet web server which will be displayed in hypertext form (Andru, 2018).
3. Hypertext Preprocessor (PHP)

   PHP (Hypertext Preprocessor) is a programming language used to create or design websites using HTML or a text editor that will be displayed on the user's page (Muhammad, 2021)
4. Flowchart

   A flowchart is a systematic presentation of the process and logic of information handling activities or a graphical depiction of the steps and sequence of procedures of a program. Because each analysis will produce results that vary from one another, in general, every flowchart design always consists of three parts: input, process, and output (Rahman, 2018)
5. Unified Modeling Language (UML)

   Unified Modeling Language (UML) In the development of software technology, it is necessary to have a language used to model the software to be made and standardization is needed so that people in various countries can understand software modeling (Risking & Reginal, 2018).
6. East Kalimantan Province

   According to Hikayat Banjar, the area of East Kalimantan (Pasir, Kutai, Berau, Karasikan) is part of the conquered territory of the Banjar Sultanate, even since the Hindu era. In the Hikayat Banjar mentions that in the first half of the 17th century the Sultan of Makassar lent land as a place of trade

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57.
https://doi.org/10.51967/tepian.v6i1.1451

covering the eastern and southeastern regions of Kalimantan to Sultan Mustin Billah of Banjar at the time Kiai Martasura was sent to Makassar and entered into an agreement with I Mangngadaccinna Daeng I Ba'le' Sultan Mahmud Karaeng Pattingalloang, namely the Sultan of Tallo who was appointed to the Sultan Malikussaid King of Gowa in 1638-1654 who would make the East Kalimantan region a trading place for the Makassar Sultanate (Gowa-Tallo), thus the tribes from South Sulawesi began to arrive. Since August 13, 1787, Sultan Tahmidullah II of Banjar handed over East Kalimantan to belong to the Dutch VOC company and the Sultanate of Banjar itself with the remaining territory being the protection area for the Dutch VOC (Kaltim 2020).

7. Profile of the East Kalimantan Provincial Tourism Office

   The East Kalimantan Provincial Tourism Office, which is a government agency located and responsible to the Governor through the Regional Secretary, is the front line of the East Kalimantan provincial government in managing tourism potential. Based on the Government Regulation of the Republic of Indonesia Number 18 of 2016 concerning Regional Apparatus which was later translated into Regional Regulation of the Province of East Kalimantan Number 9 of 2016 concerning the Establishment and Composition of Regional Apparatus of the Province of East Kalimantan, and then further elaborated into Regulation of the Governor of East Kalimantan Number 72 of 2016 concerning Organizational Structure, Duties, Functions and Work Procedures of the East Kalimantan Provincial Tourism Office, has the task of carrying out government affairs which are the regional authority in the tourism sector.

8. Tourism

   Tourism is one of the leading sectors in development to increase national income, absorb labor, and contribute to the country's foreign exchange. Therefore, local governments are expected to take advantage of these opportunities, especially in optimizing the potential of natural resources and cultural and traditional diversity (Ambarita 2018; Sari et al, 2021).

9. Travel

   Travel (Bureau), According to Law No. 9 of 1990, the second part of article 12, it is stated that the definition of a Travel Bureau is a business providing planning services and/or services and organizing tourism. The travel agency has the task and function of developing the tourism sector in an area. For foreign tourists, travel bureaus have a very important role (Septavia et al, 2016).

III. RESEARCH METHOD

A. Research Procedures

In this study, research procedures were carried out by obtaining the required data so that the preparation could be completed properly. The stages of the research procedure start from problem identification, study literature, system design, system creation, testing, success and finally implementation. It can be seen in Figure 1.

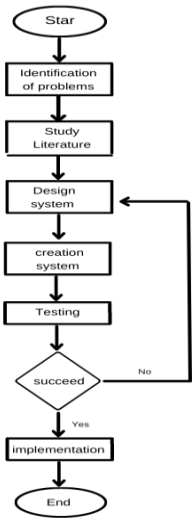

Figure 1. Research Procedures

B. Method of collecting data

1. Study Literature

   Literature study is an activity related to the method of collecting library data, reading and taking notes, and managing the materials needed in research (Nurmawan & Mulyati, 2019; Rosa & Fachrizal, 2019.)

2. Interview

   The interview is a method of collecting data by digging data directly from the source. Interviews are a way to collect data by holding face-to-face meetings between the questioner (who asks the question) and the informant.

3. Documentation

   Documentation is used to collect data in the form of written data sources containing information and explanations as well as thoughts about phenomena that are still actual and to the research problem. Such as books, notes, documents, photos, sketches, and others.

C. System Development Plan

This system development method uses the System Development Life Cycle (SDLC) with the waterfall model. The waterfall model proposes an approach to software development that is systematic and sequential starting from the level of system progress throughout the analysis, design, code, testing, and maintenance (Mahpud & Lestari, 2022; Kurniawan et al, 2019)

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57.
https://doi.org/10.51967/tepian.v6i1.1451

If stage 1 has not been completed then stage 2 cannot run, and so on. All stages are closely related, and each must be done in detail and documented. The waterfall model requires that each system specification, requirements, and objectives are defined in detail in the early stages of analysis and design before entering testing. This is because the waterfall model cannot accommodate changes in the middle of the development process. So, what has been mutually agreed upon by the analysis team and the client at the initial stage will be the end, it can be seen in Figure 2.

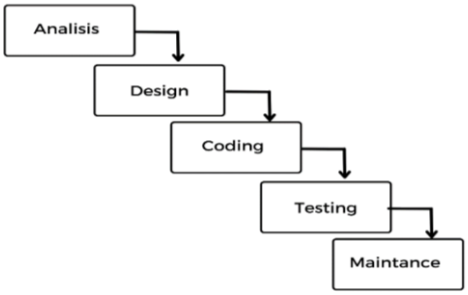

Figure 2. Waterfall Model

D. Analysis of Data and design system

Unified Modeling Language (UML () is a modeling language for systems or software with a paradigm (object-oriented). The results of observations, questionnaires, and interviews with resource persons are used in analyzing the need to develop the system (Setyorini and Pranoto 2021). System analysis that will be carried out using the Unified Modeling Language includes Use Case Diagrams, Activity Diagrams, and Class Diagrams.

a) Use a case diagram

Using a case diagram is the process of drawing done to show the relationship between the user and the designed system (Septavia). The result of the representation of the schema is made simple and aims to make it easier for the user to read the information provided. The admin logs in by entering the email and password then go to data management (input, edit, delete data), and after that the admin logs out. It can be seen in Figure 3.

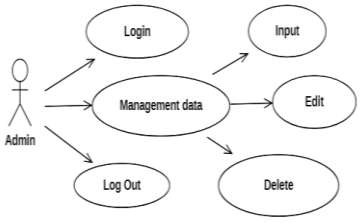

Figure 3. Use case diagram admin

And then visitors can view the available information, and visitors can make travel reservations. When placing an order, the system asks for payment, departure date, and personal data. It can be seen in Figure 4.

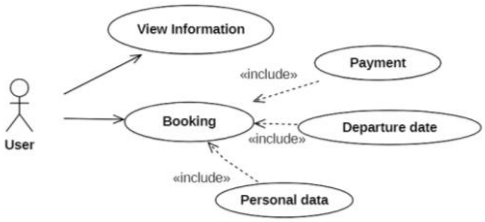

Figure 4. Use case diagram user

b) Activity diagram

An activity diagram is a design flow of activity or workflow in a system that will be run (Julia, 2021). Activity diagrams are also used to define or group the display flow of the system. Admin can select input, edit, delete data then the system performs the data search process. After that the database displays the data selected by the admin and the system will display a menu consisting of input, edit, and delete data. Then the system will store data into a database that has been approved by the admin. Otherwise, the system will display a menu. It can be seen in Figure 5.

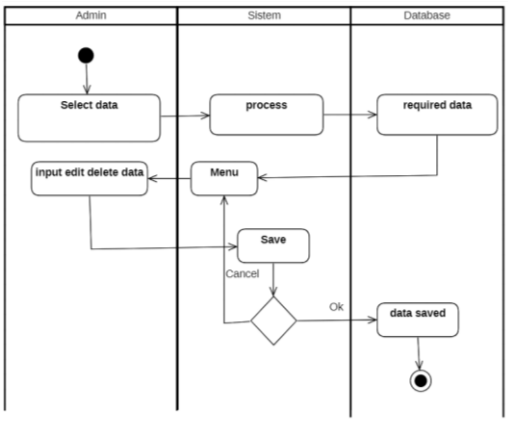

Figure 5. Activity Diagram Admin

Visitors to the main page can see the available information and visitors can make travel reservations. When placing an order, the system asks for input data (payment, departure date, and personal data). If you have made a payment, the system will display successful, if you do not make a payment, the visitor will return to the main page. It can be seen in Figure 6.

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57. https://doi.org/10.51967/tepian.v6i1.1451

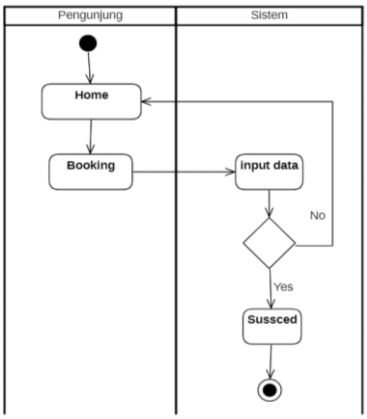

Figure 6. Activity Diagram User

c) Class diagram

Class diagrams describe the structure of the system in terms of defining the classes that will be created to build the system. Classes have what are called attributes and methods or operations. Class diagram of the structure of the Travel Information System to be designed. It can be seen in Figure 7.

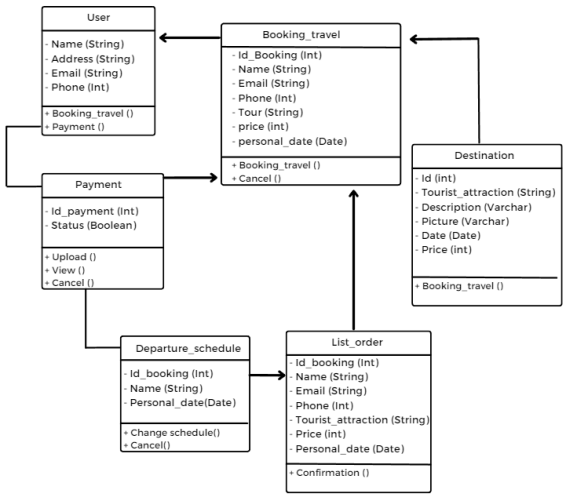

Figure 7. Class diagram

IV. Result And Discussion

The results of the Web-Based Tourism Information System of the East Kalimantan Provincial Tourism Office, which has been done by the author are as follows.

1. *Main Page*

When accessing this website, the system will display the main page first, after which visitors or admins can log in, can be seen in Figure 8.

Figure 8. Main Page

2. *Login Page*

Admin and visitor Login page. On this page, the user must enter an email and password. It can be seen in Figure 9.

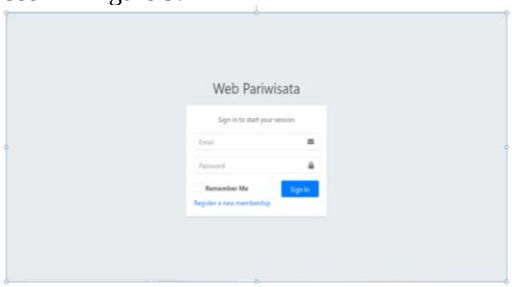

Figure 9. Login Page

3. *Dashboard Admin*

After the admin logs in, the system will direct you to the dashboard page. This page serves to set the payment status of visitors. If a new visitor places an order, the status that will be displayed is Waiting for Confirmation. if you have finished making a payment, the status that will be displayed is Full Payment. Meanwhile, if a visitor cancels his order, the status that will be displayed is Order Cancel. It can be seen in Figure 10.

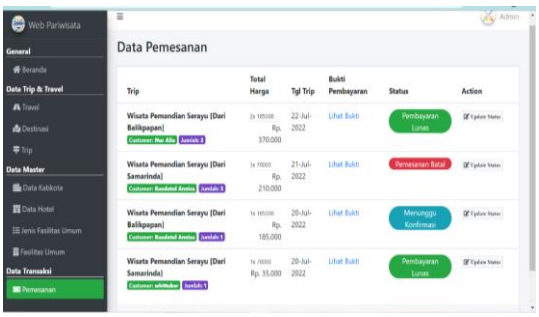

Figure 10. Dashboard admin

4. *Dashboard User*

Visitor dashboard page that serves to view information and input proof of payment. When the travel order has been paid, the receipt for the visitor can be entered into proof of payment as proof that a valid payment has been made. It can be seen in Figure 11.

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57. https://doi.org/10.51967/tepian.v6i1.1451

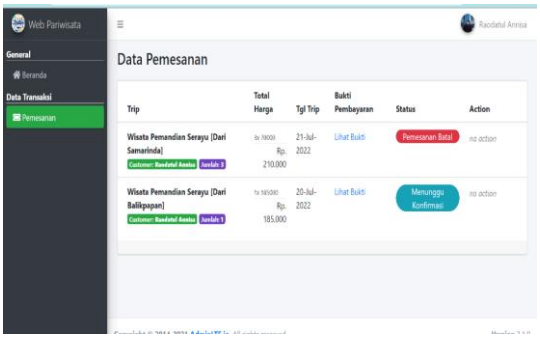

Figure 11. Dashboard user

5. *Destinations*

Visitors are required to click on the destination feature to place an order for a destination on this page. After visitors are interested in the displayed destination, visitors are expected to click on the destination feature because the system will display the next page, namely the destination details so that visitors can place an order for the destination. It can be seen in Figure 12.

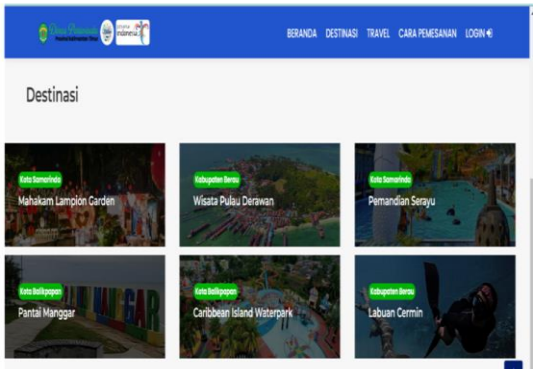

Figure 12. Destinations

6. *Travel*

This is a travel page that has been provided by the admin. This page serves to provide travel information in the form of the name, telephone number, and address. It can be seen in Figure 13.

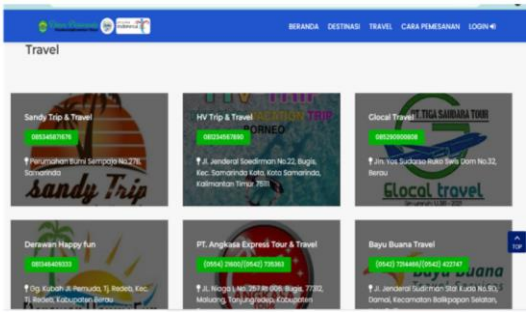

Figure 13. Travel

7. *About Us*

The about us page contains information in the form of addresses, telephone numbers, and several active social media from the East Kalimantan Provincial Tourism Office. It can be seen in Figure 14.

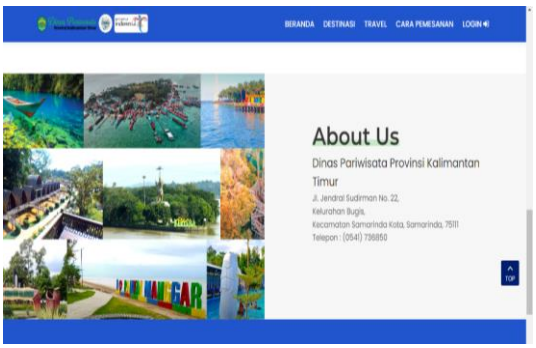

Figure 14. Travel

8. *System Testing*

Testing this system using the black box method. System testing is done from 18 inputs that can be clicked one by one, then you can see the functions and output pages that are displayed according to the design expected by the author. Researchers conducted testing using a questionnaire containing 10 questions to 30 users as a respondent test. It can be seen in Table 1.

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57. https://doi.org/10.51967/tepian.v6i1.1451

Table 1. System Testing

Input	Output	Results
Click login	login page	succeed
Click Dashboard	Dashboard page	succeed
Click Destination	Destination page	succeed
Click Travel	Travel page	succeed
Click List of trip orders	List of trip orders page	succeed
Click Order	Displays the order page (trip date, price, number of orders)	succeed
Click Upload proof of visitor payment	Showing upload proof of payment	succeed
Click Cancel order	Order will be canceled immediately	succeed
Click Home	Home page	succeed
Click Travel admin	Travel pages add data (name of travel, edit data, and delete)	succeed
Click Admin destinations	Destination pages add data (destination name, gallery, edit and delete)	succeed
Click admin trip	Trip data page adds data (trip destination, trip details, description, edit, and delete)	succeed
Click District/City Data	District/City Data page	succeed
Click Hotel	Hotel data page	succeed
Click public facility	public facility data page	succeed
Click public facility type	public facility type data page	succeed
Click Booking	Booking data page	succeed
Click Logout	Logout page	succeed

V. CONCLUSIONS

Based on the design of the travel information system, the work carried out by the author by collecting data, conducting analysis, database design and mock-ups (display), implementation (coding), and system testing according to the formulation of the problem, it can be concluded that the authors can design travel information system using the PHP programming language and using the Laravel framework, with this travel information system it can help the marketing department at the Tourism Office in conducting tourism promotions and conveying information about travel to consumers or visitors such as tourists, and visitors can choose a destination, then the system will take you to the tour detail page and trip list. Then the trip list section will provide orders and reservations, after completing the required data input, the system will display a visitor dashboard page to upload proof of payment.

REFERENCES

Ambarita, Ar. 2018. "Maritime Tourism Geographic Information System at the Ternate City Tourism Office". Ternate: Publishing Section of the Wiratama Science and Technology Polytechnic of North Maluku.

Andru, A. 2018. "Understanding Databases in General". Lampung: Publishing Department of the Faculty of Computers, Universitas Mitra Indonesia (UMITRA).

Chairunnisa, Liza. 2020. "Web-Based Geographic Information System for Mapping Tourist Attractions in Samarinda City". Samarinda: Publishing Department of Agricultural Management Department, Samarinda State Agricultural Polytechnic.

Hakim AA., Singgi P., and Fransiska PS. 2019. "Web-Based Customer Relationship Management Information System At PT. Arya Media Tour & Travel". Palembang: Publishing Section of STMIK GI MDP.

Hidayat, M. S. 2020. "Android-Based Hotel and Tourism Search Application in Klaten". Yogyakarta: Publishing Section of the Faculty of Information and Electrical Technology, Yogyakarta University of Technology.

East Kalimantan, Dispar Prov. 2020. East Kalimantan Tourism Information Data 2020. Samarinda: Publishing Section of the East Kalimantan Provincial Tourism Office.

Kurniawan, R, and Septedian M. 2019. "Student Data Processing System at Lkp Prima Tama Dumai Computer Using the Php Programming Language". Dumai: Publishing Section of the College of Informatics and Computer Management (STMIK).

Mahpud TR., and Lestari SB. 2021. "Designing a Mosque Cash Information System Using the Waterfall Method". Tangerang: Publishing Department, Universitas Muhammadiyah Tangerang.

Muhammad, F. 2021. "Development of Educational Games for Recognition of Flowchart Symbols and Their Functions for Vocational High School Students". Surakarta: Publishing Section of Universitas Muhammdiyah Surakarta.

Nurmawan ED., and Mulyati M. 2019. "A Website-Based Personnel Information System at PT Sumatera Panca Rajo Palembang". Palembang: Publishing Section of STMIK GI MDP.

Rahman, T. 2018. "Analysis of the Chocolate Chocolate Village Educational Tourism Sector to Increase Community Income and Job Opportunities in Plosorejo Village, Kademangan District, Blitar Regency." East Java: Publishing Section of UIN Satu Tulungagung.

Risking SD., and Reginal U. 2018. "Information System for Web-Based Tour and Travel Services (Smart Tour Case Study)". Lampung: Publishing Department, Faculty of Engineering and Computer Science, University of Technocrats Indonesia.

Rosa F., and Fachrizal MR. 2019. "Web-Based Tour

Annisa, R., Maria, E., & Franz, A. (2025). Tourism Information System for the East Kalimantan Provincial Tourism Office. TEPIAN, 6(1). 50-57. https://doi.org/10.51967/tepian.v6i1.1451

Package Booking Information System for Adeeva Tour and Travel". West Java: Publishing Section of the Indonesian Computer University.

Sari., Ratna., Fikri., Hamidy, and Suaidah. 2021. "Accounting Information System for Calculation of Cost of Production at Convection SJM Bandar Lampung". Lampung: Publishing Division of the Indonesian Technocrat University.

Septavia I., Rd. Erwin G., and Kurniawati R. 2016. "Web-Based Car Rental Information System at Karunia Tour and Travel Services". West Java: Publishing Section of the Garut College of Technology.

Setyorini S., and Pranoto E. 2021. "Analysis and Development of a Digital Book (Ebook) Sales and Rental System Using the Unified Modeling Language (UML) Method". West Java: Publishing Department, Faculty of Economics, Gunadarma University.

Susanto SA., and Lubis A. 2016. "Web-Based Tourism Information System on Cloud Tour Travel". East Jakarta: Publishing Department, Faculty of Computer Science, Borobudur University.

Abdulghani T., Jaelani L., and Ikhsan M. 2017. "Creating a Website-Based Tour & Travel Information System (Case Study of Marissa Holiday Cianjur)". West Java: Publishing Department, Faculty of Engineering, Suryakencana University.

Julia, H. 2021. "The Effect of Service Quality on Customer Satisfaction in Handling Umrah Travel Documents at Tara Tour During the 2018 Eid Al-Fitr Holiday Period". Batusangkar: Publishing Section of the Faculty of Economics and Islamic Business IAIN Batusangkar.

Zaliluddin D., Rohmat 2018. "Design of a Web-Based Sales Information System (Case Study on Newbiestore)". Department of Informatics. Majalengka: Publishing Department, Faculty of Engineering, University of Majalengka.