

Tourist Information Center (TIC) Application for Department of Tourism – East Kalimantan

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Abstract- The activities of tourism information centers in Department of Tourism of East Kalimantan have not been exposed, which are still manually using brochure sheets, YouTube or Instagram to develop tourism in various fields in order to boost regional income from various potentials they have. Information systems are needed in order to produce the right and clear information in order to help tourists or tourists in their trips. The Tourist Information Center application in East Kalimantan Province is an idea that is expected to provide solutions to solve these problems. By using two methods of data collection, namely the interview and observation methods at agencies. The construction of the system used in this study uses the *System Development Life Cycle (SDLC)* with a *waterfall* model or called a waterfall, which is started by the stage of literature study, problem analysis, design (design), system implementation and testing. With the *Tourist Information Center* application, it can be used as a reference for tourists to vacation in East Kalimantan and provide information about tourism or lodging in East Kalimantan.

Keywords- Tourism, Tourist Information Center, East Kalimantan

I. INTRODUCTION

In line with the development of the computer world, the Internet has become a very important thing for society. The Internet can play a role in various fields such as tourism and culture. Tourists often experience difficulties due to minimal information media about *website-based* tourism. Tourist attractions found in an area are not widely known or known by tourists both domestically and abroad so that the income of the region and the surrounding community does not increase. Therefore, information needs in the field of tourism need to be well prepared, structured and easily accessible to prospective tourists (Maghribi, Aliyadi, and Buntoro 2017).

With so many existing tours, tourism and lodging information is a very much needed thing for tourists who want to visit, especially tourists who come from outside

East Kalimantan Province. However, this is still not optimal enough to increase tourist interest because there is still a lack of information provided by the organizers to the public.

Based on the description of the problem, the author decided to take the title "Tourist Information Center (TIC) Application For East Kalimantan Province Web-Based" in this research.

The purpose of this study is to the Tourism Office is able to provide sufficient information about tourism or lodging in East Kalimantan to the wider community such as local and foreign tourists so that it can be accessed easily. Also, it can increase the interest of tourists to visit with reviews

The expected result in this final project is to build a system application that can make it easier for users to obtain information about tourist attraction.

II. LITERATURE REVIEW

According to research conducted by Maghribi, Aliyadi, and Buntoro (2017), entitled "Design and Build an Android-Based Ponorogo TIC (Tourist Information Center) Application Using GIS and the Web" discussing the many existing tourist locations, tourist information, lodging, and routes to tourist attractions and inns are very much needed for tourists who want to visit, especially tourists who come from outside Ponorogo City.

In the research of Ipnuwati, Silviani, and Wulandari (2018), with the title "Application of E-Tourism Places of Worship and Tourism Islamic Center Bone Bawang Barat" discussed e-tourism is a concept of utilizing information and communication technology to increase usability in the field of tourism, providing various tourism services to tourists that make the implementation of tourism marketing more accessible. Based on this understanding, the internet in tourism basically reflects an e-tourism system in terms of tourism distribution which is more towards transforming the development of the tourism industry towards the internet which is usually in the form of a website.

Research conducted by Santoso, Ilamsyah, and Abilaji (2019), entitled Pandu Tangerang Tourist Location With a Web-Based Geographic Information System discussed the

need for a web-based information system that provides information about tourist locations in the city of Tangerang. One of the presentations of this tourism information is through the display in the form of data or information related to geographical conditions in the Tangerang city area, this system is often known as the Geographic Information System (GIS).

Research conducted by Chairunnisa (2020), entitled Geographic Information System mapping tourist attractions in Samarinda City Based web discusses the presentation of tourism in Samarinda City managed by the Department of Culture, Tourism of Samarinda City at this time is still presented in the form of leaflets, booklets, brochures, websites and promotions by participating in various exhibitions both held in Samarinda City and East Kalimantan Province and other regions every in the year, so any community who wants to know about tourist attractions or wants to get leaflets, booklets, brochures, websites about tourist attractions in Samarinda City can be done by coming to the exhibition or coming directly to the Department of Culture, Tourism of Samarinda City.

Research conducted by Leonard and Siwi (2022), entitled Tourist Information Center in Kampung Batik Babagan Lasem Based on Eco-Batik discussed That Babagan Batik Village located in Lasem is one of the centers of the home batik industry whose production process has begun to switch to using synthetic dyes without being balanced by the existence of these waste treatment facilities.

A. *Tourist Information Centre*

According to Hakim (2012), Tourist Information Centre is a central service in obtaining information both in oral, written, printed media, audio-visual about tourism.

B. *Tourist*

According to Manongga, Papilaya, and Pandie (2010), A tourist is a visitor who makes a temporary trip to a country where he does not live and stays at least 24 hours but not more than a year, with the aim of vacationing or for some business. It should be noted the difference in the definition of tourists and visitors in providing information, because visitors are everyone who lives in an area and travels to a place that still belongs to the area where they live.

C. *Tourism*

The word tourism, which comes from Sanskrit, consists of 2 parts, namely "rays" and "tours". The word "pari" has a common meaning, or traveling, while the word "tour" has the meaning of travel. When combined, tourism has the meaning of traveling around leaving the initial place, heading to another place (Nurhayati and Ristanto 2017).

D. *Google Maps API*

Google Maps API is a service provided by Google to users to take advantage of the Google Maps API in developing applications. The Google Maps API provides several features for manipulating maps, and adding

content through various types of services owned, as well as allowing users to build enterprise applications on their website. An API or application programming interface is a set of commands, functions, and protocols that can be used by programmers when building software for a particular operating system. According to the Google Maps for Bussines web, the Google Maps API is a collection of APIs that allow users to overlay data on a customized Google Maps (Dyah P.A and Arsandy 2016).

E. *Perl Hypertext Preprocessor (PHP)*

PHP stands for Hypertext Preprocessor which is a high-level scripting language attached to HTML documents. Most php syntax is similar to C, java, and perl languages. However, PHP has some more specific functions (Mediana and Nurhidayat 2018).

F. *XAMPP*

Xampp is an application that can turn our computer into a server. Xampp's usefulness is to create your local network in the sense that you can create websites offline for trial and error on your computer. So the function of the Xampp server itself is our website server for how to use it. It is called a server because in this case, the computer that we will use must provide services to access the web, and for that our computer must be a server. It can be concluded that XAMPP is an application tool to provide software packages that contain configurations for Web Server, Apache, PHP, and MySQL to help us in the process of making web applications that are integrated into one so that it is easier for us to create web programs. (Josi 2017).

G. *UML*

UML is the "language" that is becoming the industry standard for visualizing, designing, and documenting software. UML offers a standard for designing models of a system. UML (Unified Modeling Language) is a substitute for object-oriented analysis and object-oriented design (OOAD&D/object oriented analysis and design) methods which were introduced around the late 80s and early 90s. UML is a combination of the Booch, Rumbaugh (OMT) and Jacobson methods. But UML covers a wider range than OOAD. In the middle of the development of UML, standardization of the process was carried out with OMG (Object Management Group) with the hope that UML would become the standard modeling language in the future which is now widely used by various groups of people (Kurniawan et al. 2021).

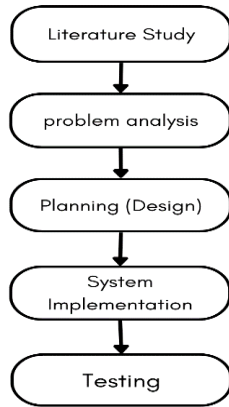
H. *Laravel*

Laravel is a framework used for web development in PHP. Laravel was developed by American programmer Taylor Otwell in 2011 to develop web-based applications released under the MIT license (Somya, Michelle, and Nathanael 2019).

III. RESEARCH METHODS

A. Research Procedure

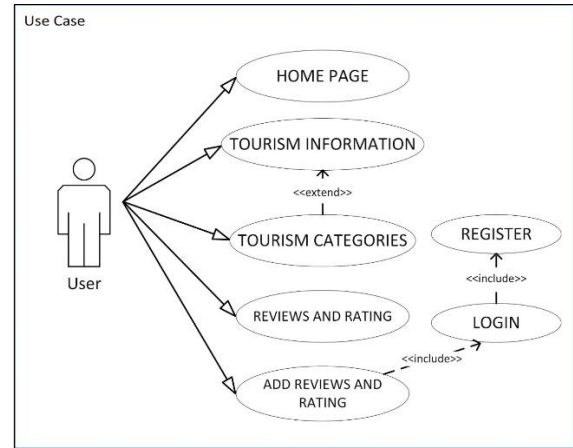
The research method used is the waterfall model. The research method is the steps that will be taken by the author to make it easier to conduct research can be seen in picture 1.



Picture 1. Waterfall Model

Description Picture 1:

1. Literature Study
The data collection used to create this website takes reference materials such as journals, books and data from the East Kalimantan Provincial Tourism Office and Google Chrome.
2. Problem Analysis
Problem Analysis is carried out with two methods of data collection, namely interviews and observations. The data collection interview was conducted directly to the East Kalimantan Provincial Tourism Office, namely Mr. Saprudin as one of the staff in the Marketing Sector, to adjust the data on registered tourist attractions or lodgings, so as to provide real information as research material. Then the observation of data collection is carried out by observing and analyzing the data directly.
3. Planning
In this process stages of developing this application using diagram namely use case diagrams. According to Tabrani and Rezqy Aghniya (2020), concluded that use cases are a collection of several things that are interrelated and form a system regularly carried out by an actor. The following is a use case diagram for this system which can be seen in picture 2.



Picture 2. Use Case Diagram

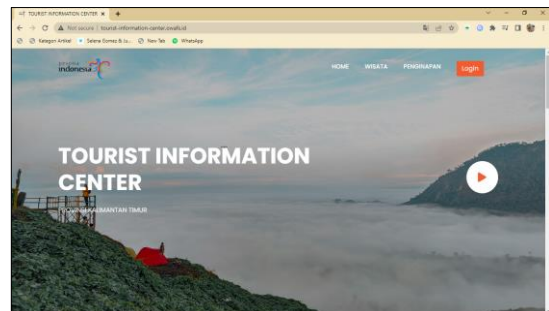
4. System Implementation
The implementation of this system uses the PHP programming language with the Laravel framework, resulting in a web-based TIC application.
5. Testing
The application trial stage has been made to find out whether there are errors in the system.

IV. RESULTS AND DISCUSSION

This system discusses the appearance of the Web-Based East Kalimantan Province Tourist Information Center (TIC) Application which will be used to obtain information about tourism and lodging in East Kalimantan. Here are some views of the apps that have been created.

A. Home page

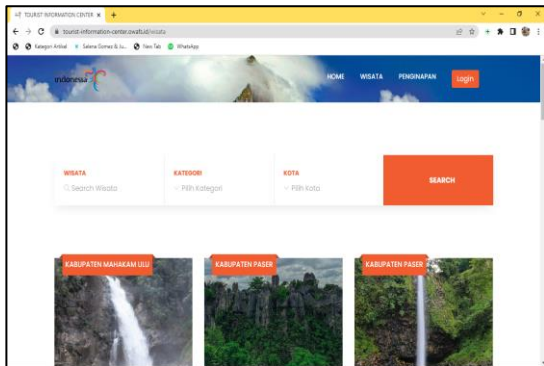
The home page is the page that first appears when the user accesses this application. This page is a bridge to be able to access other pages in this application. The home page can be seen in the picture 3.



Picture 3. Home page

B. Travel Page

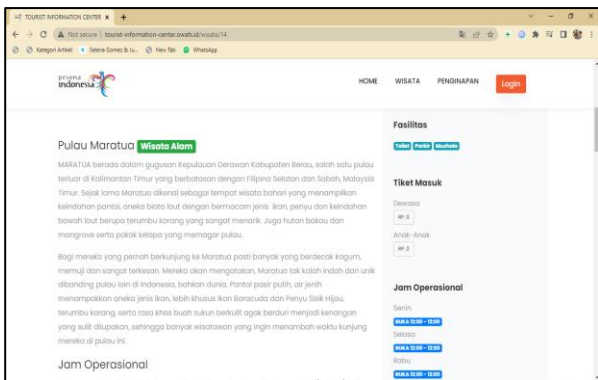
Next, users can access the travel page. This page will display a menu containing a collection of tours in East Kalimantan. The tourist page can be seen in picture 4.



Picture 4. Travel page

C. Travel Details Page

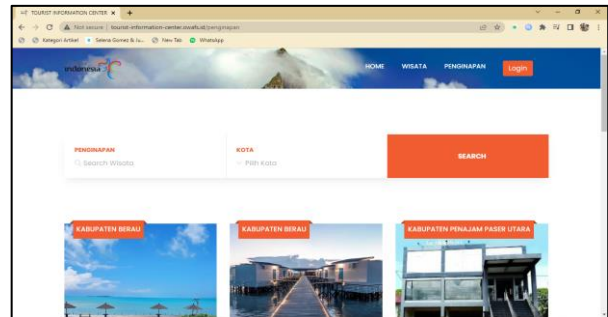
After selecting a tour, the system displays the travel information that the user has selected. The information displayed on this page is a description of the tour, facilities, operating hours, address, and has been equipped with a Google maps feature. The travel details page can be seen in picture 5.



Picture 5. Travel Details Page

D. Lodging Page

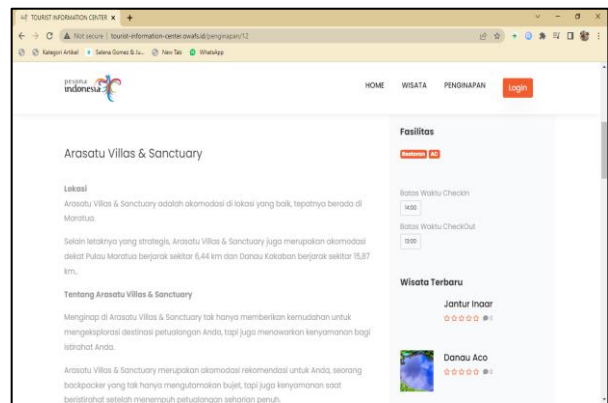
On the inn page the system will display a collection of lodgings in East Kalimantan. This page has been equipped with a search feature that can make it easier for users to find lodging. This page can be seen in picture 6.



Picture 6. Lodging Page

E. Lodging Details Page

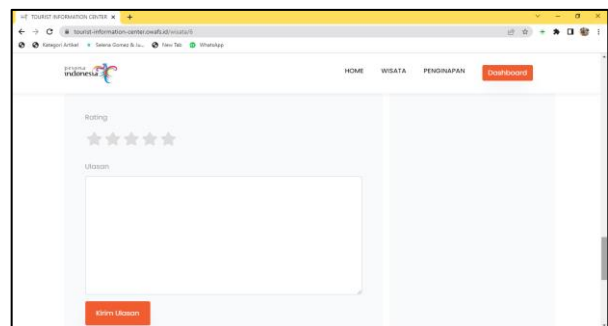
After selecting, the system will display the details page of the lodging that has been selected by the user. This page shows information about the description of the lodging, facilities, address, and operating hours. This page has also been equipped with a google maps feature. This page can be seen in picture 7.



Picture 7. Lodging details page

F. Rating Page

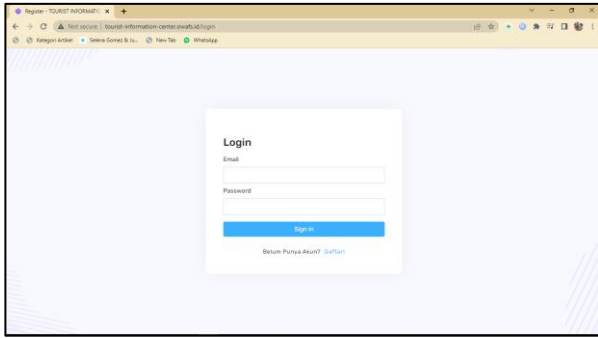
Users can provide reviews or ratings from the information they have obtained. The purpose of this review page is as a consideration or suggestion so that it can be better in the future. This rating page can be seen in picture 8.



Picture 8. Rating page

G. Login Page

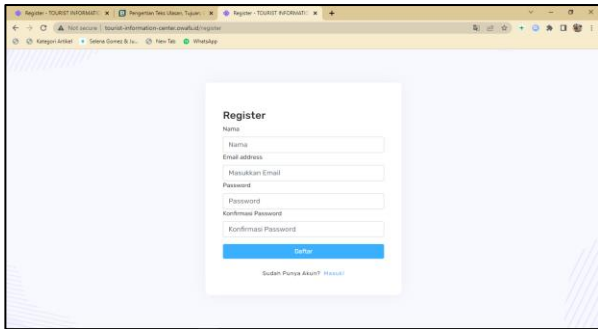
Before writing a review, users are required to log in first. This requires data in the form of an email and password. The login page can be seen in picture 9.



Picture 9. Vision and mission menu page

H. Register page

For users who do not yet have an account, click register under the login button to create an account. Then the user will be asked to fill in the required information such as name, email address and password. The register page can be seen in picture 10.



Picture 10. Register page

Black box testing is a method of testing that tests the functions in the system to find out whether these functions work as expected or not. The following is a description of several functions as samples in the application of Tourist Information Center for East Kalimantan Province based on web which will be tested using the black box method. The system test results are shown in Table 1.

Table 1. System testing

Input	Output	Test Result
Click Home	Show home page	Succeed
Click Travel	Displays the travel page and collection of travels in East Kalimantan	Succeed
Click the details travel	Displaying information of tourist attraction	Succeed
Click lodging	Displays the lodging page and collection of lodgings in East Kalimantan.	Succeed
Click the details lodging	Displaying information of lodging place	Succeed
Click login	Show login page	Succeed
Click register	Show register page	Succeed
Click rating	Show form rating page	succeed

V. CONCLUSION

The conclusion from the results of the design and implementation of the web-based east Kalimantan province tourist information center application is as follows, displaying information on tourist attractions and lodging in East Kalimantan equipped with location points so as to make it easier for tourists to obtain information. Based on the conclusions, the authors provide suggestions for the development of this application or system in the future, namely developing an android-based system so this application can be accessed more easily and adding a booking feature to the inn and adding a route feature to the location.

REFERENCES

- Chairunnisa, Liza. 2020. "Sistem Informasi Geografis Pemetaan Tempat Wisata Di Kota Samarinda Berbasis Web." 21(1): 18–25.
- Dyah P.A, Nur Rochmah, and Efawan Retza Arsandy. 2016. "Sistem Informasi Geografis Tempat Praktek Dokter Spesialis Di Provinsi D.I. Yogyakarta Berbasis Web." *Informatika Mulawarman : Jurnal Ilmiah Ilmu Komputer* 10(1): 65.
- Hakim, Arif Rahman. 2012. "Tourist Information Centre Di Semarang." *Imaji* 1(2): 2009–2218.
- Ipinuwati, Sri, Oktria Silviani, and Wulandari Wulandari. 2018. "Aplikasi E-Tourism Tempat Ibadah Dan Wisata Islamic Center Tulang Bawang Barat." *Explore: Jurnal Sistem informasi dan telematika* 9(1).
- Josi, Ahmat. 2017. "Penerapan Metode Prototyping Dalam Membangun Website Desa (Studi Kasus Desa Sugihan Kecamatan Rambang)." *Jti* 9(1): 50–57.
- Kurniawan, Hamid, Widya Apriliah, Ilham Kurnia, and Dede Firmansyah. 2021. "Penerapan Metode Waterfall Dalam Perancangan Sistem Informasi Penggajian Pada Smk Bina Karya Karawang."

- Jurnal Interkom: Jurnal Publikasi Ilmiah Bidang Teknologi Informasi dan Komunikasi* 14(4): 13–23.
- Leonard, Natalia Lie, and Samsu Hendra Siwi. 2022. “Pusat Informasi Turis Di Kampung Batik Babagan Lasem Berbasis Eco-Batik.” *Jurnal Sains, Teknologi, Urban, Perancangan, Arsitektur (Stupa)* 3(2): 2793.
- Maghribi, Charisma Audia, Aliyadi Aliyadi, and Ghulam Asrofi Buntoro. 2017. “Rancang Bangun Pembuatan Aplikasi Tic (Tourist Information Center) Ponorogo Berbasis Android Menggunakan Sig Dan Web Server.” *Komputek* 1(1): 73.
- Manongga, Danny, Samuel Papilaya, and Selfiana Pandie. 2010. “Sistem Informasi Geografis Untuk Perjalanan Wisata Di Kota Semarang.” *Jurnal Informatika* 10(1): 1–9.
- Mediana, Delia, and Andi Iwan Nurhidayat. 2018. “Rancang Bangun Aplikasi Helpdesk (A-Desk) Berbasis Web Menggunakan Framework Laravel (Studi Kasus Di PDAM Surya Sembada Kota Surabaya).” *Jurnal Manajemen Informatika* 8(2): 75–81.
<http://ejournal.ukrida.ac.id/ojs/index.php/TIK/article/view/1495/1617>.
- Nurhayati, Siti, and Vilda Giovanni Ristanto. 2017. “Sistem Informasi Pariwisata Provinsi Papua Berbasis Web.” *seminar Nasional APTIKOM (SEMNASITIKOM)*: 302–8. www.merdeka.com.
- Santoso, Sugeng, Ilamsyah Ilamsyah, and Rio Abilaji. 2019. “Pandu Lokasi Wisata Kota Tangerang Dengan Sistem Informasi Geografis Berbasis Web.” *Jurnal Sistem Informasi dan Informatika (Simika)* 2(1): 91–101.
- Somya, Ramos, Tan Michelle, and Esmeralda Nathanael. 2019. “Pengembangan Sistem Informasi Pelatihan Berbasis Web.” 16(1): 51–58.
- Tabrani, Muhamad, and Insan Rezqy Aghniya. 2020. “Implementasi Metode Waterfall Pada Program Simpan Pinjam Koperasi Subur Jaya Mandiri Subang.” *Jurnal Interkom: Jurnal Publikasi Ilmiah Bidang Teknologi Informasi dan Komunikasi* 14(1): 44–53.