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# Buton Island's website-based tourism information system

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**Abstract**: Buton Island is host to an assortment of tourism-related activities, including agrotourism, culinary tourism, cultural tourism, and seashore tourism. However, information regarding the tourism industry is still primarily disseminated through word of mouth; consequently, a significant number of individuals remain uninformed regarding tourism-related details pertaining to Buton Island. The objective of this study is to develop a website that provides community members and visitors with website-based tourist information on Buton Island, as well as assist tourists in obtaining details about the excursions they intend to partake in. System testing employs the blackbox method, while system development employs the waterfall model. The findings derived from the conducted research indicate the presence of a visitor website dedicated to Buton Island. Alpha and beta testing have been employed to validate this information. Alpha testing yielded satisfactory results; consequently, twenty respondents participated in beta testing, and it was determined that 83% of them were pleased with the website. Based on the findings of this study, it can be concluded that the presence of a tourism website on Buton Island facilitates the retrieval of information regarding the island's activities and attracts tourists. Additionally, the website serves as a platform for promoting Buton Island's tourism, thereby increasing community awareness of the destination.

**Keywords**: Tourism, Website, Blackbox, Testing, Information

## INTRODUCTION

The tourism industry is a highly prospective component of the global economic structure and demonstrates remarkable adaptability to change. Furthermore, tourism may serve as a significant catalyst for governmental investment in infrastructure development, maintenance, and construction, thereby fostering job creation and an enhancement of the quality of life for the populace and contributing positively to the progress of the local community (Salim & Purbani, 2015).

Although it is the world's leading producer of asphalt, Buton Island also boasts a robust tourism industry in comparison to other Indonesian regions (Arsad & Amrizal, 2011). Buton Island offers a diverse range of tourism opportunities, encompassing agro-tourism, culinary exploration, cultural immersion, and seashore tourism. However, information regarding the tourism industry is still primarily disseminated through oral means, resulting in a significant number of residents being unaware of the various tourist destinations on Buton Island. However, the absence of websites or online promotional media owned by local tourism agencies adds layer of complexity to the process of information dissemination. As a result, obtaining information regarding the attractions they wish to visit is difficult for visitors. As a result of this circumstance, the local tourism office experiences a decline in the volume of visitors (BB et al., 2022).

The majority of the Buton Islands are situated in South Buton Regency and Buton Regency. The following is a trend in the number of tourists who have visited Buton Island over the past four years, as reported by the local tourism office: 39,529 visitors visited in 2019, which rose to

93,774 in 2020; 89,608 visited in 2021; and 118,647 visited in 2022. However, it is important to note that the volume of tourists visiting Buton Island remains significantly lower than that of Kendari City, which recorded 444,584 visits in 2018 and generated a 15.44% contribution to local revenue (Astiana et al., 2021; Saputra et al., 2022). This is due to the fact that Kendari City promotes tourism through the use of technology, specifically online media such as websites and YouTube (Laponangi, 2019).

In accordance with research titled "Web-Based Labuhanbatu Tourism Information System Design," Labuhanbatu Regency developed a tourism information system. The objective of this system is to serve as a communication medium for tourist destinations and regional culture, while also functioning as a promotional instrument for tourism in Labuhanbatu Regency (Gulo et al., 2019). Based on the aforementioned concerns, the author deduces that the general public requires access to accurate information regarding Buton Island's tourism through a website. The authors therefore conducted research under the title "Design of a Web-Based Tourism Information System on Buton Island" in response to these issues. With any luck, the system will assist travelers in obtaining comprehensive information regarding the destinations they intend to visit.

## METHODS

### *System Development Life Cycle* (SDLC)

The SDLC encompasses the creation and modification of systems, in addition to the models and techniques utilized in system development. Investigation, analysis, design, implementation, and maintenance are the phases comprising the SDLC. In the event that it is determined that the current system's implementation is no longer efficient, the process will revert back to the investigation phase (Andrian, 2021). The cascade model was implemented during the development of this software. One of the basic models encompassed within the system development life cycle (SDLC) is the waterfall. This model progresses methodically through each successive stage. The aforementioned model proposes a methodical and consecutive progression through the stages of software development, commencing with analysis, design, coding, testing, and concluding with system maintenance (Susilo, 2018).

Systems engineering and modelling, requirements analysis, design, coding, testing, and maintenance are all encompassed within this framework. The development model in question exhibits a linear progression, commencing with the initial phases of system development, specifically planning, and concluding with the final phase, maintenance. From highest to lowest, the succeeding stages are executed in a sequential fashion (Usnaini et al., 2021).

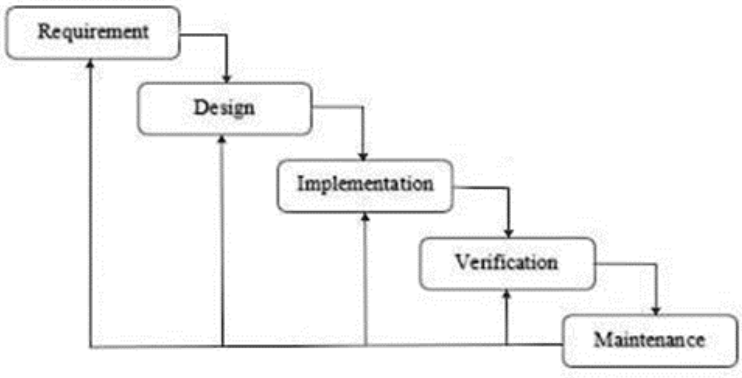


**Figure 1.** Stages of the waterfall method

This study employs the Waterfall technique, which consists of the following: (1) Recruitment: The procedure commences with the compilation of pertinent background information about the issue at hand, which encompasses the tourism sector of Buton Island. Subsequently, the problem and its constraints are delineated, and the research subject is identified. (2) Design: Subsequently, the program shall be designed utilizing UML, incorporating the insights gleaned from the literature review; (3) The implementation phase commences with the assessment of the website to identify its inherent strengths and shortcomings; (4) Verification: Following verification, the website is subsequently enhanced to meet the most recent requirements of its users; and (5) Maintenance: Following the verification process, the website is subsequently enhanced to align with the most recent user requirements.

## Research Design

The initial phase of system design, which encompasses the development of this website, entails the creation of a website structure and system documentation utilising Unified Modelling Language (UML) and a variety of diagrams that depict the operations of each programme: use case diagram, sequence diagram, class diagram, and activity diagram. An actor model is generated through the analysis of information data associated with the system process. This model delineates the activities that provide support for the intended operations of the system.

### System for Use Case Diagrams

The inclusion of administrators and visitors as actors in the system use cases is predicated on the identification of actors and proposed use cases.

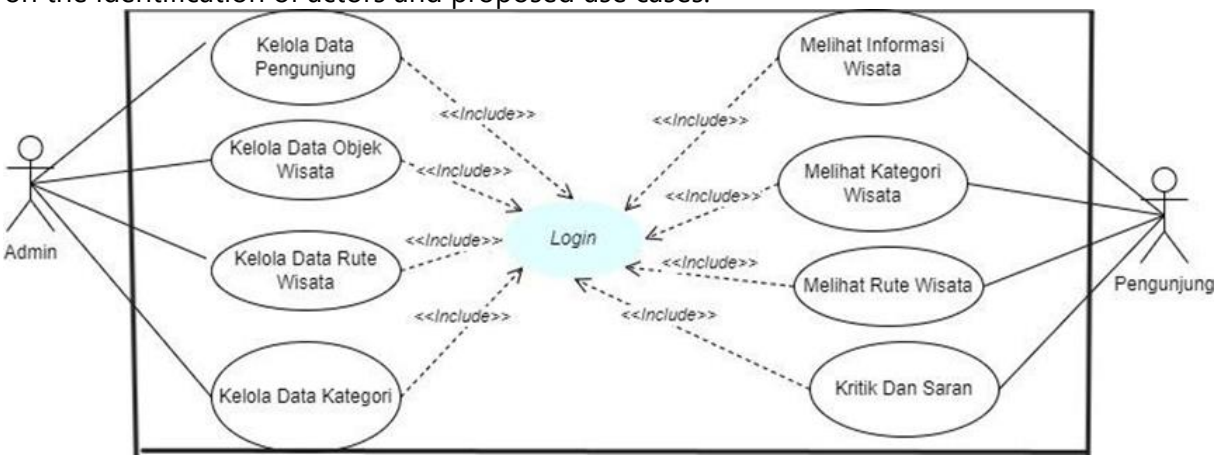


**Figure 2.** Diagram of the System's Use Cases

Admin activities depicted in Figure 2 require an active login in order to administer visitor data, tourist attraction data, tourist route data, and category data. In the interim, in order to access details pertaining to tours, tour categories, tour itineraries, and to offer critiques or recommendations, visitors are required to first log in.

### Activity Diagram Data Management for Tourism Objects

The activity diagram that follows pertains to Tourism Data Management and depicts the administrator's responsibilities in carrying out operations to administer tourism data, such as its addition, modification, and deletion.

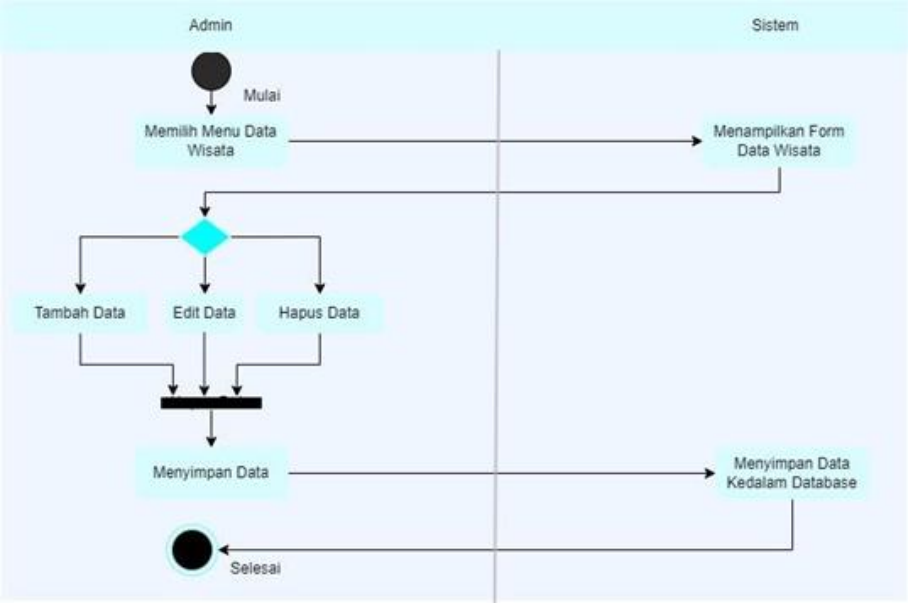


**Figure 3**. Diagram of Activities for Managing Tourist Data

## Activity Diagram Category Data Management

The activity diagram for administering category data illustrates the administrator's responsibilities, which include adding, modifying, and removing data.

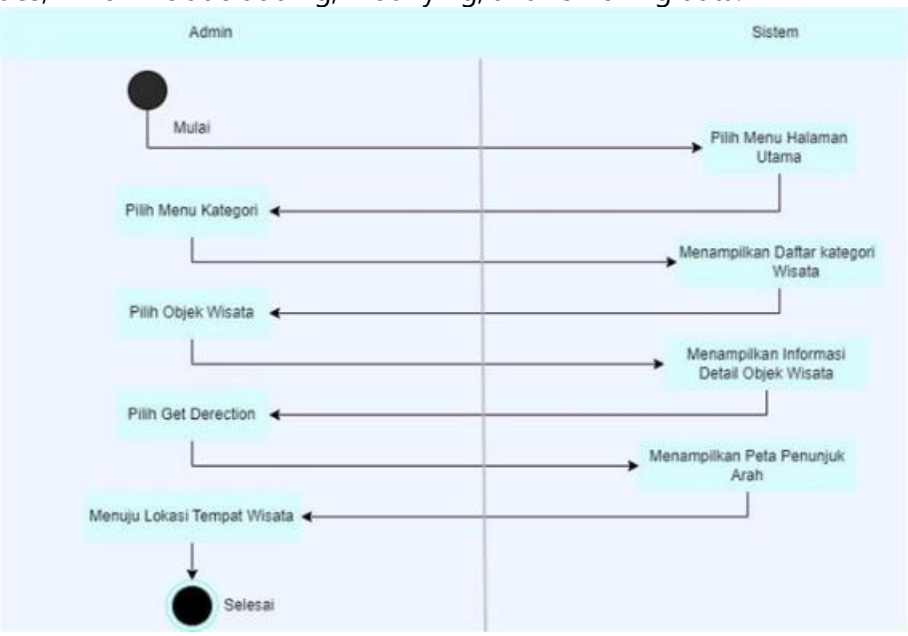


**Figure 4**. Diagram of Tourist Category Activities

## Class Diagram

Classes that will function as communication interfaces between actors and the system will be identified during this phase. The interface class will configure the system in accordance with the actor's requirements. The class diagram presented in Figure 5 comprises three distinct classes: administration, tourist attractions, and visitors.

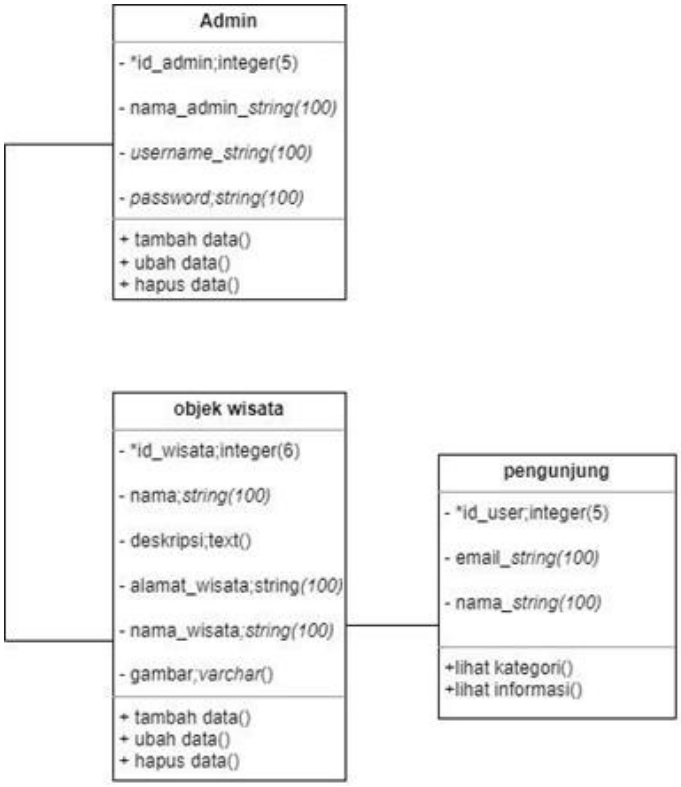


**Figure 5.** Class Diagram

## RESULT AND DISCUSSION

### Results

The implementation phase, which entails bringing the system into operational use, follows the thorough analysis and design of the system. The objective of the implementation process is to validate the intended modules. In this section, the research findings are explicated in a comprehensive, lucid, and consecutive fashion. Complementing tables, graphs, or other visual aids with discussions that are presented in a structured and methodical fashion are the outcomes of the research. It is necessary to provide an explanation of the performance, limitations, and benefits of the research findings.

#### Admin Login Page Implementation

As depicted in Figure 6, the admin login page's implementation interface requires the administrator to input their username and password prior to accessing the admin main page.

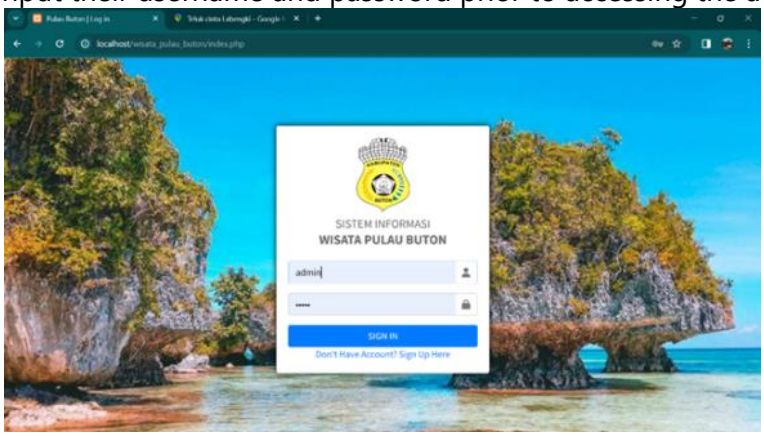


**Figure 6**. Administrative login site

### Admin portal for tourism data entry

The implementation of the tour table page is depicted in Figure 7. This is a page that the administrator uses to post tourist data.

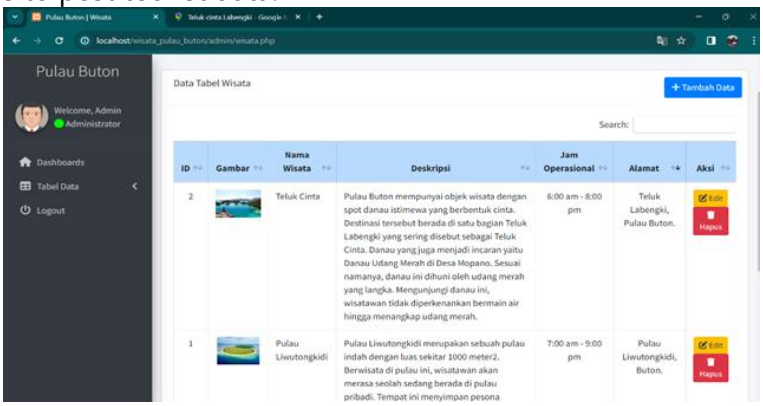


**Figure 7**. Add tourist data page

### Implementation of the User Homepage

The visual representation of the website's front page implementation is depicted in Figure 8. This is the initial page that loads following a successful authentication.


**Figure 10.** The homepage upon logging in

### Page Category Implementation

The implementation of the category site, which provides users with the ability to peruse the diverse tourist destinations on Buton Island, is illustrated in Figure 9.

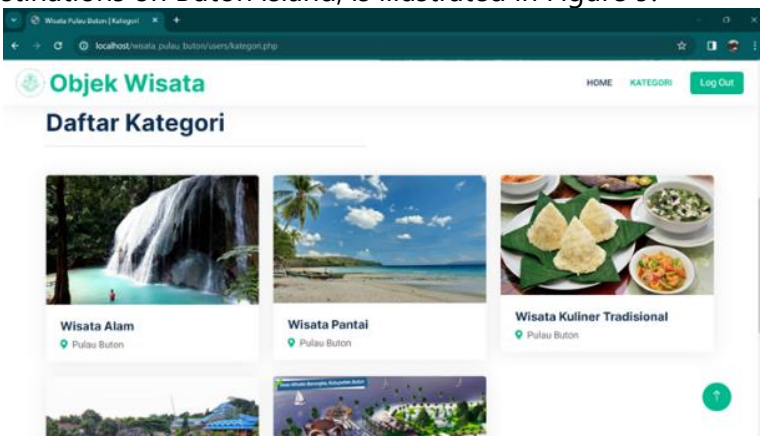


**Figure 9**. Main Page of the Category Menu

### Nature Tourism Page Implementation

The implementation of the natural tourist destination page when the user selects natural tourism after clicking on the category is depicted in Figure 10.

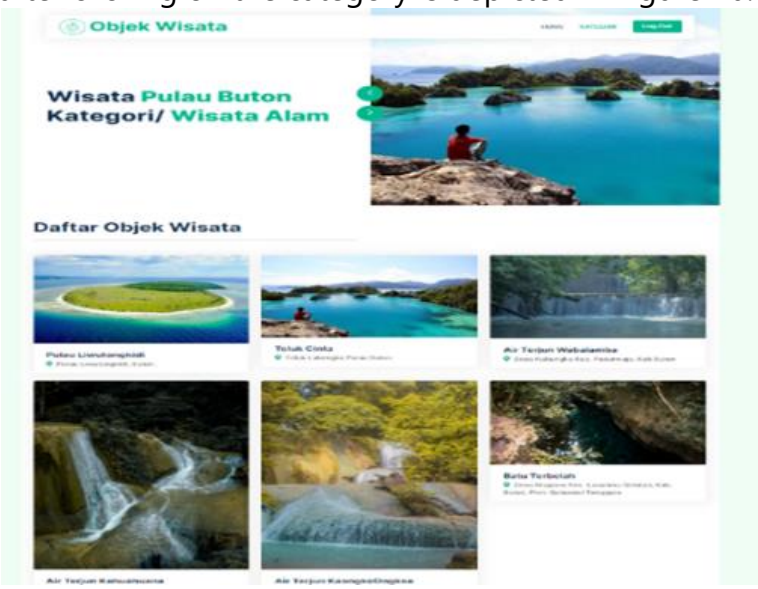


**Figure 10.** Page of the nature tourism

### Beach Tourism Page Implementation

The Beach tourist destination page is illustrated in Figure 11 as the user selects the beach excursion after clicking the category.

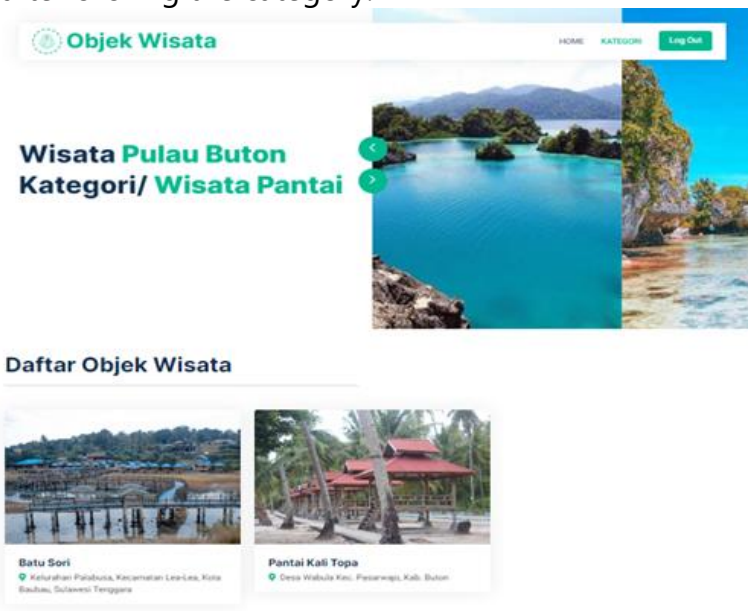


**Figure 11**. Beach tourism page

### Page Implementation for a Tourist Attraction Heritage Site

Figure 12 illustrates the implementation of the destination site for historical tourism, which is accessed by selecting the category and then history tourism.

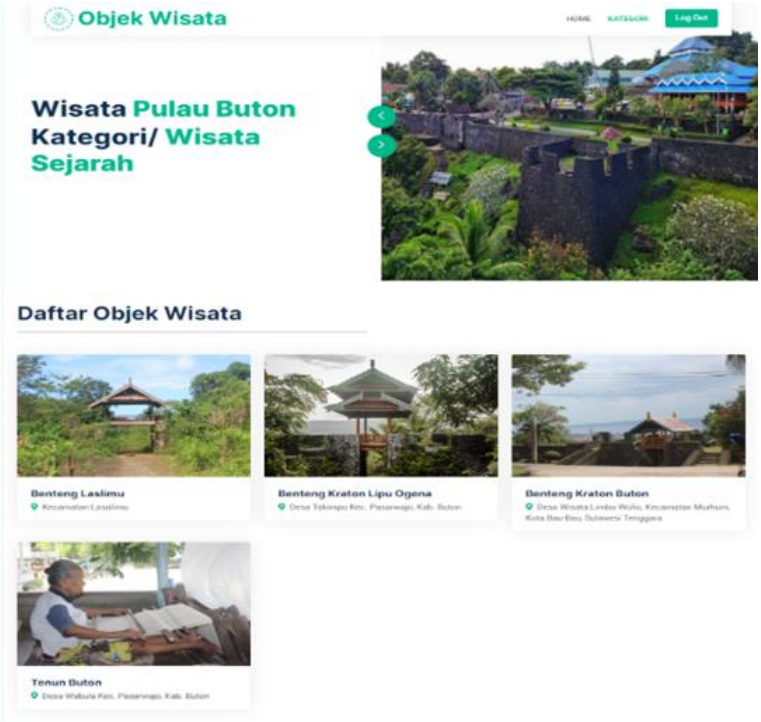


**Figure 12**. Page for a historical tourism destination

### The implementation of the traditional culinary page

The information page for a traditional culinary destination is illustrated in Figure 13 when a user selects a traditional culinary tour after clicking on a category.

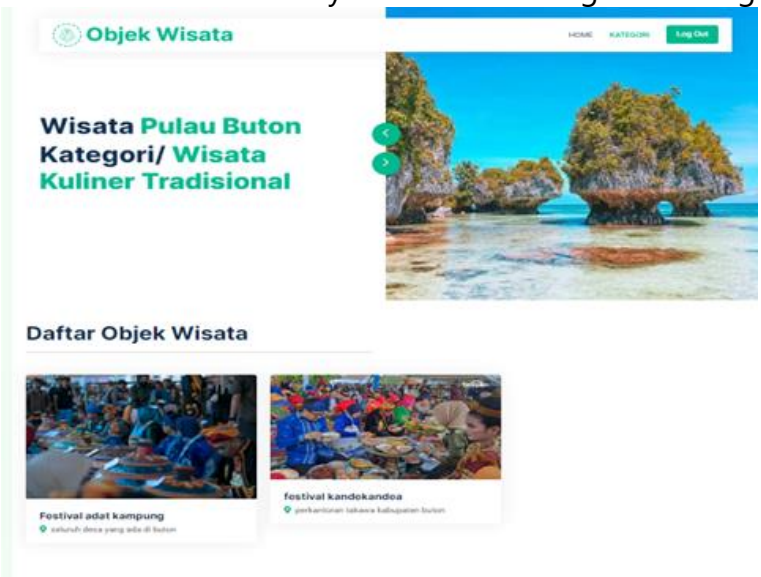


**Figure 13**. Page for traditional culinary destination

### Agritourism Page Implementation

An illustration of the map page implementation can be found in Figure 14. As illustrated in the following section, the information detail page features a map that furnishes directions to the designated tourist destination.

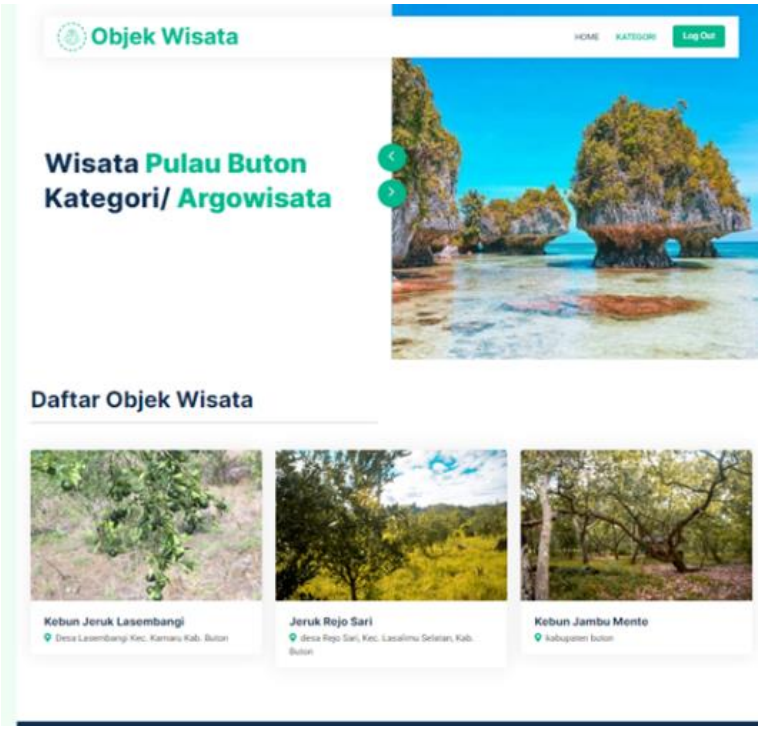


**Figure 14**. Page for Agritourism

### Implementation of the Maps Page

An illustration of the map page implementation can be found in Figure 15. As illustrated in the following section, the information details page features a map that furnishes directions to the designated tourist destination.

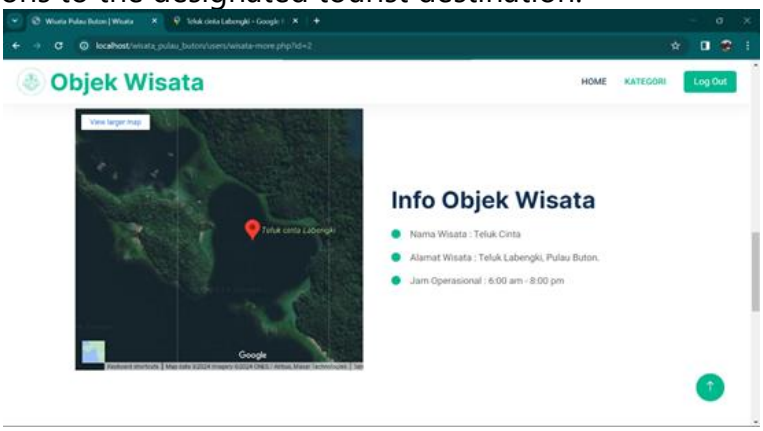


**Figure 15**. Page of maps

## Discussion

In order to evaluate the designed website program, the author employs the black box method, which places emphasis on the software's functional specifications. During this evaluation, the programmer's functional specifications and a set of input conditions are specified by the evaluator. Also referred to as "black box testing," black box testing is conducted without extensive knowledge of the internal structure of the system or component being evaluated.

### Alpha Evaluation

The outcomes of the alpha testing that was conducted indicate that the developed website satisfies the functional prerequisites for data storage. The constructed system's functionality is capable of generating the anticipated output.

### Beta Evaluation

Based on the findings of the system testing table recapitulation conducted via a questionnaire comprising ten inquiries and distributed to twenty native Buton residents, an average satisfaction rate of 83% was obtained about the utilization of the Buton Island tourism website.

## CONCLUSION

Based on the findings of this research, it can be concluded that the presence of a tourism website on Buton Island facilitates the retrieval of information regarding the island's activities and attracts tourists. Furthermore, the website serves as a promotional tool, increasing awareness and interest in Buton Island's tourism offerings.

The authors offer suggestions that can be utilized as input, namely that future iterations of the website could be designed as mobile applications to enhance usability and accessibility; additionally, aesthetic content could be incorporated to augment the website's appeal; and the research domain could be extended to encompass all regions of Southeast Sulawesi.

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