

Development Of A Tourism Management System Using A Prototype Model To Improve Management And Efficiency

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Abstract:

Background: Ranubedali is a village in Ranuyoso District, Lumajang Regency, East Java Province. Ranubedali Village has many potentials, starting from tourism, namely Lake Ranubedali tourism, and several other commodities, including coconut, avocado, and bananas. Most of the livelihoods of the residents of Ranubedali Village are farmers and traders. Ranubedali Tourism experienced its heyday in 2018-2019 with a significant increase in the number of visitors and increasing every day. However, the Covid-19 pandemic decreased tourists, so Ranubedali tourism was empty of visitors. Significant decrease in visitors to 50%. Based on the evaluation results, in 2022, the proposer has initialized tourism empowerment in Ranubedali Village. In 2022 the focus of empowerment will be the rebranding of the Ranubedali reservoir tourism. Rebranding is carried out by empowering digital marketing and social media marketing. The main problem raised in this study is that tourism transactions still need to be documented, and reporting and recapitulation are still manual.

Materials and Methods: The solution provided is implementing appropriate technology through a tourism management system. Developing a tourism management system uses a prototype software development life cycle (SDLC) approach. The prototype method was chosen because it has the advantage of improving software quality through feedback and iteration. The prototype method also has the advantage of minimizing development costs by identifying problems early to reduce significant changes in the development of subsequent iterations. The tourism management system generally has features including ticket management, account management, event management, financial reports, and visitor reports.

Results: It is hoped that empowering tourism villages in Ranubedali Village can benefit the people of Ranubedali Village, especially in increasing the village development index (IDM), especially the economic resilience index. Based on the evaluation of the implementation of the tourism management system, management efficiency has increased by up to 50%. This efficiency is seen in the time needed to manage tourist data.

Conclusion: From the analysis results Based on the evaluation of the implementation of the tourism management system, management efficiency has increased by up to 50%. This efficiency is seen in the time needed to manage tourist data.

Key Word: Tourism Management. Tourist Management System. Prototyping Models.

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I. Introduction

Ranubedali Village, Ranuyoso District, Lumajang Regency, is located on the northern border of Lumajang and Probolinggo. Ranubedali Village is located in the highlands, between hills, with an altitude of 300-900 above sea level with an average rainfall of 189.4 mm per year, while the average temperature is 29-30 degrees Celsius. Ranubedali Village has an area of 1,689 Ha. It has regional boundaries, the distance from the government center is about 2 km from the sub-district, 25 km from the Regency Government, and 127 km from the Province center. Ranubedali Village has 10 RWs and 40 RTs among seven hamlets. Ranubedali Village has various potentials ranging from tourism and several commodities, including coconut, avocado, and banana.

Ranubedali Tourism is a tourist destination that offers views of lakes, waterfalls, and ponds. Ranubedali Village Tourism has become one of the tourist village icons in Lumajang Regency; apart from presenting the charm of a beautiful lake and waterfall, which is known as Indrowati, there are photo spots. Ranubedali tourism is managed by a tourism awareness group (POKDARWIS). Entrance tickets for Ranubedali tours are affordable, for IDR 5,000, including parking fees.

Ranubedali Tourism experienced its heyday in 2018-2019 with a significant increase in the number of visitors and increasing every day. However, the Covid-19 pandemic decreased tourists, so Ranubedali tourism was empty of visitors [1] [2]. The lack of visitors resulted in tours becoming "suspended animation" [3]. The main problem raised in this study is that tourism transactions still need to be documented, and reporting and recapitulation are still manual. The solution provided is implementing appropriate technology through a tourism management system [4]. Developing a tourism management system uses a prototype software development life cycle (SDLC) approach. The prototype method was chosen because it has the advantage of improving software quality through feedback and iteration. The prototype method also has the advantage of minimizing development costs by identifying problems early to reduce significant changes in the development of subsequent iterations [5]. The tourism management system generally has features including ticket management, account management, event management, financial reports, and visitor reports.

The first solution is to increase soft skills and hard skills for partners through training in developing Ranubedali tourism business plans and financial training. This solution is to answer partner problems regarding the lack of skills and knowledge of Ranubedali Sejahtera Village BUM Partners in managing tourism [6]. The output of the first solution is increasing the knowledge and skills of BUMDesa Ranubedali partners in managing finances and Ranubedali tourism management. The output of this solution is a tourism management manual [7].

The second solution is implementing appropriate technology through a tourism management system. Based on the above phenomenon, it is necessary to develop appropriate technology in the form of a management system to manage Ranubedali tourism. The website can also be a promotional and tourism management platform [8] [9]. And also provide more attractions for tourists [10]. A website is the proper management and promotion tool choice, considering the number of internet users is increasing yearly. 132.7 million of Indonesia's 256.2 million population use the Internet, most of whom are on the island of Java [11]. Using a website will make it easier for tourism managers to manage tourism so that it is more organized in digitizing ticket sales and financial recapitulation, as well as being able to be used as a tourism promotion medium to attract tourists who want to visit Ranubedali tourism [12]. The proposer and partners have agreed to develop a tourist village in Ranubedali and resolve the partners' main problems first.

II. Material And Methods

Developing a tourism management system uses a prototype model to minimize costs and development efficiency by the pro rata problem to be resolved.. The stages of research used in this study can be seen in the following Figure 1:

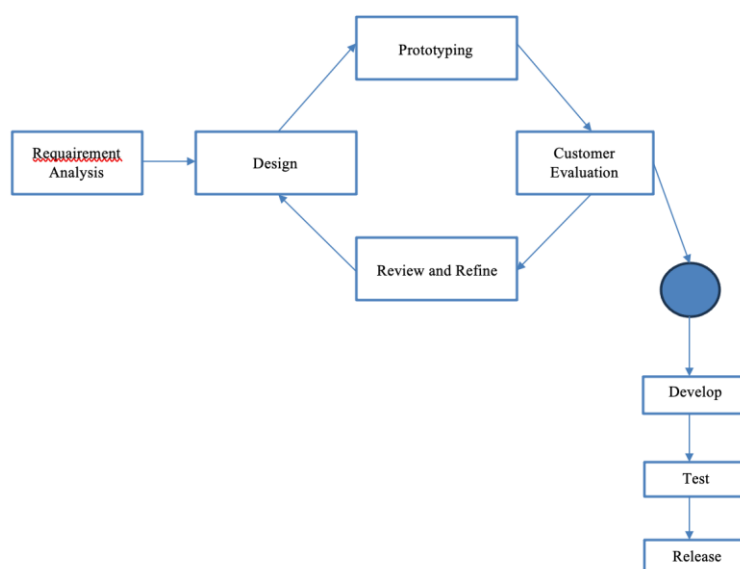


Figure 1. Flowchart Prototype Models

The first stage is to identify the basic needs and requirements of the application. The development team collaborates with stakeholders, namely tourism managers, village government, and empowerment services, to decide together on the objectives and features of the tourism management system. After the requirements are collected, the team designs a prototype according to the requirements. The results at this stage include the scope of the prototype, the main features to be built, the technology to be used, and the resources required. After that, create a rough design or initial concept of the prototype. Initial design using a wireframe. Detailed features of the tourism management system can be seen in Figure 2.

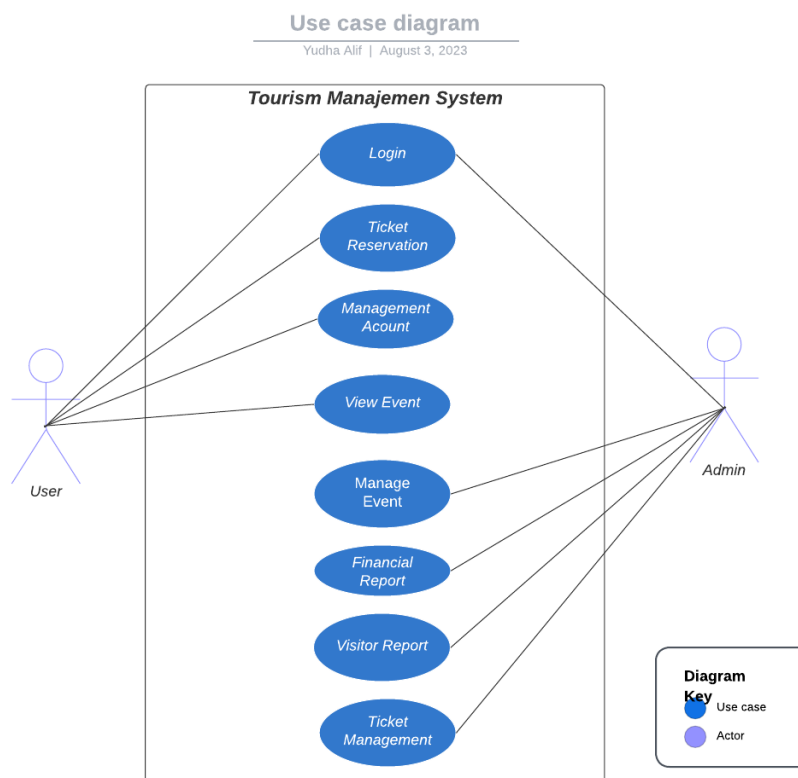


Figure 2. Use Case Diagram of Tourism Management System

The system has two actors: the user and the admin. Users can access login, ticket reservation, account management, and event viewing features. The login feature is used to enter the system and create new accounts for new users. The ticket reservation feature helps order tickets when entering the Ranubedali tourist area. The account management feature is used to update visitor profile data. The last feature, namely the event view, is used to see the agenda for events that will be held in Ranubedali Village. The next factor is the admin, who can access the login, event management, financial report, and ticket management features.

In this stage, the application prototype is built based on the initial design. The main focus is on critical features that will be tested and evaluated by users and stakeholders. Developers and stakeholders have agreed to develop eight main features for version 1.0. Once the prototype is built, the development team collects feedback from users and stakeholders. Users test the prototype to see whether it meets initial needs and goals. After it was developed, feedback was collected, and several suggestions were obtained regarding the appearance and flow of the system, which had to be adjusted to make it easy to use.

Based on the feedback received, the development team revises the prototype and fixes any deficiencies or weaknesses found. This process may involve several iterations until the prototype reaches the expected quality level. The system developed was adjusted based on user input and resulted in version 2.0. After the final prototype is approved and verified, further development is carried out to implement complete features and integrate application components. Once the application is fully built, testing is performed to ensure the application functions properly and meets overall requirements. The final product is delivered to users and stakeholders in this final stage. A symbolic handover is carried out to the tourism manager at this stage.

III. Discussion

The proposer and partners agreed to develop a tourist village in Ranubedali and resolve the main problem, namely the lack of management of the superior potential of Ranubedali village due to a lack of knowledge regarding the utilization of the village's superior potential and innovations to increase tourists in Ranubedali Village [13]. Complete photo documentation of the commitment to tourism development between the proposer, village officials, and Ranu Bedali Tourism managers can be seen in Figure 3.



Figure 3. Documentation of Tourism Development with Stakeholders

The socialization and training on making coconut jam was carried out on August 20 2022 at 1 pm with the target object of the training being the PKK mothers of Ranubedali Village. The activities carried out include providing materials and hands-on practice in making coconut jam, introducing ingredients, the manufacturing process, and storing the product so it can last longer [14]. The process of making jam can be seen in Figure 4



Figure 4. Training on Development of the Village's Superior Product in the Form of Coconut Jam

There was a significant increase in visitors after empowering and improving management using a tourism management system. In the first quarter, when empowerment was carried out on tourism managers, there was an increase in visitors to 50 people. In the second quarter, marketing increased, and tourism management strengthened to increase the number of tourists. The result was an increase in visitors to 150 people. In the third quarter, a tourism management system began to be implemented, making the bookkeeping and management process more effective and faster. A significant increase occurred in the third quarter, namely 450 visitors. The number of visitors increased exponentially, as shown in the number of visitors in the fourth quarter, which reached 600 people. The increase in the number of visitors is shown in detail in Figure 5.

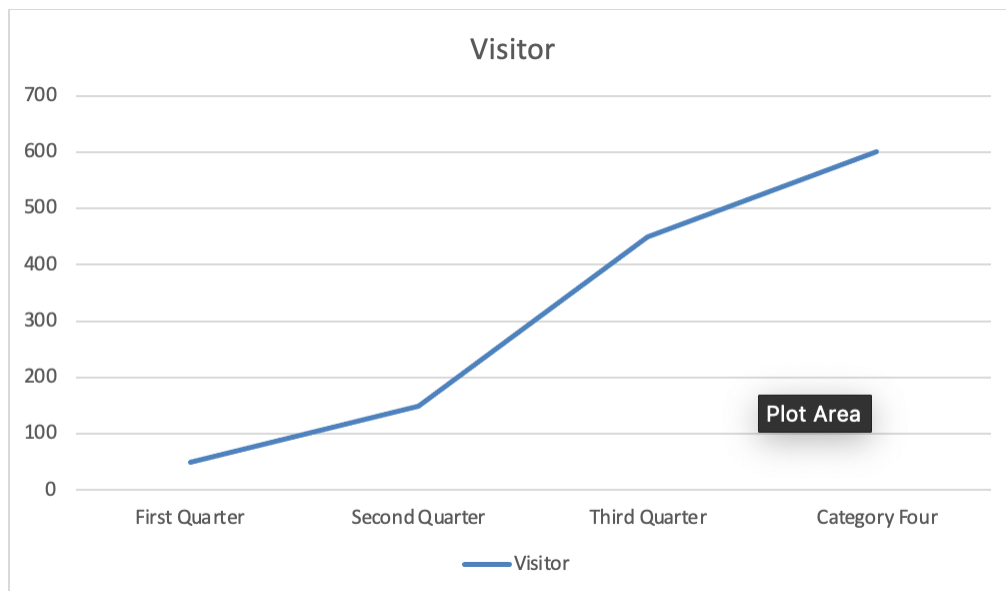


Figure 5. Diagram of the Increase in the Number of Visitors

IV. Conclusion

Developing a tourism management system using a prototype software development life cycle (SDLC) approach. The prototype method is effective in improving software quality through feedback and iteration. The prototype method has also been proven to minimize development costs by identifying problems early, thereby reducing significant changes in subsequent interaction development. A tourism management system generally has features including ticket management, account management, event management, financial reports, and visitor reports. After empowering and improving management using a tourism management system, there was a significant increase in the number of visitors starting from the first quarter with 50 visitors, in the second quarter with 150 visitors, in the third quarter with 450 visitors, and in the fourth quarter to a peak with 600 visitors. There has been an increase in partner empowerment in managing finances and tourism. This is demonstrated by the existence of digital data-based financial bookkeeping. Tourism management in Ranubedali has also improved with the tourism management system that has been implemented.

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