



Design of Mobile-Based Samosir Tour Hero Tourism Application

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ABSTRACT

Samosir Tour Hero is an innovative platform designed to help tourists who want to explore Samosir Island easily, integrated, and informatively. The application offers detailed information on vehicle rentals, accommodations, and tourist destinations, and serves as a direct link between tourists and experienced local tour guides. With advanced features such as searching for nearby tourist locations, customized tour packages, and user reviews and recommendations, Samosir Tour Hero provides a comprehensive solution to enhance the tourist experience. The application has significant potential to boost the local economy, support tour guide activities, and strengthen the tourism sector in Samosir. With a user-friendly approach, simple yet effective interface design, and integration of transportation, accommodation, and tour guide services, Samosir Tour Hero aims to create a more personalized, comfortable, and memorable travel experience.

1. INTRODUCTION

Samosir Island is one of the tourist destinations in North Sumatra Province that offers natural beauty, history, culture and interesting souvenirs [1]. The natural charm of Samosir Island is able to captivate the hearts of domestic and foreign tourists. However, many tourists have difficulty accessing tourist destinations in Samosir due to the lack of

information regarding tourist areas, customs, culture, and accommodation, as well as the difficulty of transportation to tourist attractions [2]. Public vehicles tend to operate in economic centers such as taxes, ports, and terminals. In addition, there is also difficulty in finding the services of a tour guide, although there are local residents who work as tour guides on Samosir Island. Most tour guides there

have great difficulty finding tourists who want to use their services. These tour guides get tourists in the areas around the port, terminal, and from person to person. Several tourist destinations on Samosir Island have not been exposed due to the lack of facilities, infrastructure, and the lack of tour guide services used in conveying information to tourists [3]. From the explanation of the problem above, it is necessary to design a mobile-based application called Samosir Tour Hero as a container that makes it easier for tour guides to find tourists who will visit Samosir Island and through this application tour guides no longer look for tourists from the port, terminal, person to person. The integration of digital technology in the tourism ecosystem has been proven to strengthen collaboration between local stakeholders and increase regional economic value [4]. Through this application, communication between tour guides and tourists is getting easier. Tourists who use this application are expected to get information about tourist areas on Samosir Island. Tour guides can help tourists explore tourism on Samosir Island, such as accommodation / lodging / hotel needs and transportation for mobility while exploring Samosir Island.

2. METHODS

2.1. Application Specifications

Application specifications are technical documents that contain detailed information about the features, functions, interfaces, performance, and limitations of a software application [5]. The specifications of the Samosir Tour Hero application are that this application is mobile-based and can be installed on a smartphone or tablet. This application acts like a marketplace where this application is a place for tour guides to promote their services to tourists. This application is specifically for tourists who want to use the services of a tour guide when planning a vacation to Samosir Island. This application is designed easy to use to make it easier for users to use it. Talent Tour

Guides in the Samosir Tour Hero application are local residents, fluent in English / other foreign languages, and understand the history of Samosir Island.

2.2. Market Analysis

Market analysis is the process of evaluating and assessing the target market for a particular product or service [6]. This activity is carried out to understand market potential, trends, competitors, and consumer behavior that will affect the success of a business strategy. Market analysis is very important as a basis for a company's marketing strategy, which includes market segmentation, targeting, positioning, and differentiation [7]. Some things relate to market analysis, including:

1. Market Segmentation

Samosir Tour Hero's market segmentation is tourists and tour guides.

2. Target Market

Samosir Tour Hero's target market is local and foreign tourists visiting Samosir Island and tour guides who are local Samosir residents.

3. Positioning

The Samosir Tour Hero application has advantages over other similar applications, namely the availability of facilities for tourists to access all the needs needed on Samosir Island such as hotels, transportation, entrance tickets to tourist areas, and easy access to enjoy traditional cultural tourism on Samosir Island.

4. Sales Plan and Market Share

Seeing the great tourism potential on Samosir Island, the Samosir Tour Hero application strives to help facilitate tourism on Samosir Island by offering features that increase the efficiency and effectiveness of tourists and tour guides.

5. Product Marketing Strategy

Samosir Tour Hero offers various services, such as tourist destination access ticket services, hotel / villa / accommodation reservations, vehicle rental (car / motorbike rental) while on Samosir Island.

- a. Price: the price offered in this application is the cost of tour guide services, vehicle rental, hotel / villa on Samosir Island. Tour guides are not charged a fee in the account registration process.
- b. Promotion: taking advantage of special dates and days (New Year, Eid, Christmas, etc.) to attract the attention of potential tourists.

2.3. Human Resources

In order for Samosir Tour Hero's operational activities to run smoothly, the role of human resources is needed, including:

1. Operational Manager

Someone is responsible for all daily operations, coordinating with all departments to ensure smooth operations, and handling complaints / problems that cannot be resolved by other staff.

2. Tour Coordinator

Arrange and organize tour schedules, coordinate with tour guides and drivers, supervise the implementation of tours and ensure everything goes according to plan.

3. Tour Guide

Accompany and provide information to guests during the tour, responsible for the safety and comfort of guests during the tour, provide an informative and enjoyable experience to guests.

4. Administrative Staff

Manage daily reservations and administration, handle payments and bookkeeping, arrange operational needs such as entrance tickets and accommodation.

5. Customer Support

Acts as an administrator in the application that monitors all user activities, provides assistance to application users when facing problems in the Samosir Tour Hero application.

6. Software Engineer

Carry out application maintenance, develop applications according to market needs, develop superior features following the times.

3. RESULTS AND DISCUSSION

3.1. SWOT Analysis

SWOT analysis is a tool used to understand the strengths, weaknesses, opportunities, and threats of a company or project [8]. In the context of Samosir Tour Hero, SWOT analysis aims to provide a clear picture of the company's internal and external conditions. The SWOT analysis of Samosir Tour Hero can be seen in Table 1, Table 2, Table 3, Table 4, and Table 5.

Table 1. Strength Analysis

No	Strength	Score
1	Samosir Tour Hero offers innovative solutions to connect tour guides and tourists, creating a more personal and memorable travel experience.	5
2	By focusing on tourist destinations on Samosir Island, this application promotes local tourist areas and helps the local economy on Samosir Island.	4
3	Collaborating with local businesses/enterprises such as accommodation and transportation providers, which can increase the added value and interest of Samosir Tour Hero application users.	4
4	The tour guides registered on the Samosir Tour Hero application are experienced and competent in their fields.	5
Total Score		18

Table 2. Weakness Analysis

No	Weakness	Score
1	An app's credibility depends on user reviews, and changes in behavior or	5

	negative ratings can have a negative impact.	
2	Difficulty in finding investors who will invest.	4
3	Safety and trust may be major issues as it involves face-to-face encounters between tourists and unknown tour guides.	3
4	It takes time for tourists to accept and use this application, especially for tourists who are used to looking for tour guides in the traditional way.	5
Total Score		17

Table 3. Opportunity Analysis

No	Opportunity	Score
1	Samosir Tour Hero has the opportunity to support the economy of tour guides and improve the regional economy.	5
2.	Exploring opportunities for expansion to other tourist destinations can open up wider market reach.	5
3.	Taking an active role in promoting local tourism and culture on Samosir Island can help increase the visibility of the app and strengthen relationships with local partners.	5
4.	Potential to increase user trust by adding identity verification measures for guides, addressing potential security concerns, and distinguishing Samosir Tour Hero as a safe and reliable app.	5
Total Score		20

Table 4. Threat Analysis

No	Threat	Score
1	Fierce competition from established competitors in the tourism sector is a major challenge.	5
2.	A crisis or natural disaster in Samosir can directly impact the tourism industry and the Samosir Tour Hero application.	4
3.	Economic uncertainty can affect the demand for tour guide services.	4
4.	The threat of policy changes at the local or national level can affect the company's condition.	4
Total Score		17

Table 5. Samosir Tour Hero SWOT Matrix

	Strengths	Weaknesses
	<ol style="list-style-type: none"> 1. Samosir Tour Hero offers an innovative solution to connect tour guides and tourists, creating a more personal and memorable travel experience. 2. By focusing on tourist destinations on Samosir Island, this application can promote local tourist areas and the tourism economy in the area has the potential to increase. 3. Collaborating with local parties such as accommodation and transportation providers can increase the added value and interest in using the Samosir Tour Hero application for users. 4. Tour guides registered in the Samosir Tour Hero application are guaranteed to be experienced and competent in their fields. 	<ol style="list-style-type: none"> 1. The credibility of the platform is highly dependent on user reviews, and changes in behavior or negative ratings can have a negative impact 2. Finding investors who are willing to invest may be difficult because it is still new. 3. Security and trust may be a major issue because it involves face-to-face meetings between tourists and unknown tour guides. 4. It may take time for tourists to accept and use the platform, especially if they are used to the traditional way of finding tour guides.

Opportunities <ol style="list-style-type: none"> 1. Samosir Tour Hero has the opportunity to support the local guide economy and improve the regional economy. 2. Exploring opportunities to expand to other tourist destinations can open up a wider market reach. 3. Taking an active role in promoting local tourism and Samosir culture can help increase platform visibility and strengthen relationships with local partners. 4. Potential to increase user trust by adding identity verification steps for tour guides to address potential security concerns, and differentiate Samosir Tour Hero from similar applications as a safe and reliable application. 	S-O Strategy <ol style="list-style-type: none"> 1. Develop Samosir Tour Hero into an innovative application that can support the regional economy. 2. Use digital marketing as a means of introducing the Samosir Tour Hero application which can also introduce the Samosir area and expand to other destinations. 3. Expand partnerships with third parties. 4. Recruit tour guides by determining specific and competent characteristics. 	W-O Strategy <ol style="list-style-type: none"> 1. Improve the quality of applications and service quality. 2. Build a good company image so that investors are interested in investing. 3. Awareness-raising strategy through marketing campaigns. 4. The company facilitates tourist security and ensures the security of transactions with tour guides.
Threats <ol style="list-style-type: none"> 1. Fierce competition from established competitors in the tourism sector is a major challenge. 2. Crisis or natural disasters in Samosir can directly impact the tourism industry and the Samosir Tour Hero application. 3. Economic uncertainty can affect the demand for tour guide services. 4. Threats of regulatory changes at the national and local levels. 	S-T Strategy <ol style="list-style-type: none"> 1. Continuously improve the quality and market research of consumer needs and develop competitive advantages to face competition. 2. The Samosir Tour Hero application is successful on Samosir Island, making it possible to expand the nearest tourist destinations. 3. Expand partnerships with third parties. 4. Prepare a business model that can be adjusted quickly depending on regulatory changes. 	W-T Strategy <ol style="list-style-type: none"> 1. The company conducts continuous analysis of competitors and market trends. Responds quickly to changes in competitor strategies and consistently improves service quality to ensure a positive user experience. 2. Focus on building a public profile and increasing Samosir Tour Hero's visibility. Participate in industry events, conferences, and exhibitions to introduce the application to potential investors, and build a risk management plan that includes crisis and natural disaster scenarios. 3. Conduct an aggressive education campaign to introduce the application's features and benefits to travelers. Provide interactive tutorials or guides in the application to help new users quickly get to know and use the service. For regulatory issues, you can actively monitor regulatory changes.

Based on the internal results, namely strengths and weaknesses, the internal value obtained is $18 - 17 = 1$, while the external results, namely opportunities and threats, the external value obtained is $20 - 17 = 3$. So, the strategy used is weaknesses and opportunities.

3.2. Business Model Canvas

Business Model Canvas is a visual tool in the form of a canvas consisting of nine interrelated blocks of main business elements, which are useful for understanding, designing, and developing business models. The main purpose of Business Model Canvas is to help companies create value for customers and understand how that value will be transformed into sustainable income [9].

Table 6. Business Model Canvas

Key Partners 1. Local tourism associations 2. Third parties: accommodation, car rental	Key Activities 1. Application development 2. Marketing and promotion	Value Proposition 1. An application that connects tourists and tour guides in one application with easy access and collaborates with several third parties such as accommodation and car rental services which will make it easier for tourists to travel.	Customer Relationship 1. Responsive and proactive customer support via chat, email, and phone. 2. Feedback and evaluation	Customer Segment 1. Tourists 2. Local tour guides
	Key resources 1. Development team 2. Tour guides 3. Information technology		Channels 1. Mobile applications 2. Digital marketing 3. Offline promotions	
Cost Structure 1. Development and technology costs 2. Marketing costs 3. Customer support costs			Revenue Stream 1. Matching fee	

3.3. Samosir Tour Hero Application Design Appearance

UI/UX design determines how users interact with an application, which includes the visual aspects, layout, and navigation of the application [10]. The Samosir Tour Hero application design can be seen in Figure 1 to Figure 16.



Figure 1. Onboard



Figure 2. Login

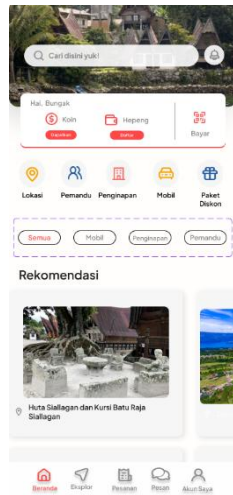


Figure 3. Traveler

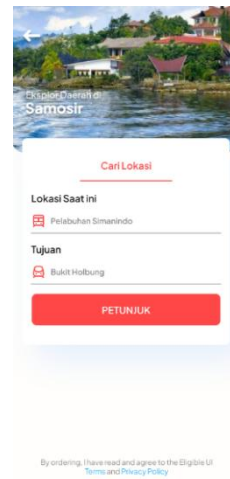


Figure 4. Location

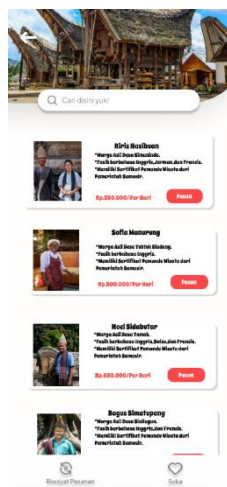


Figure 5. Four guides

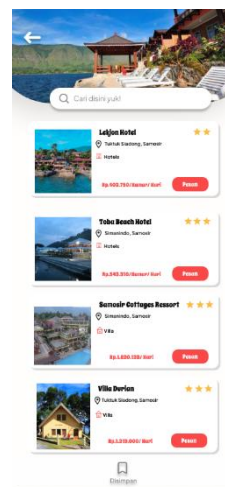


Figure 6. Lodgings

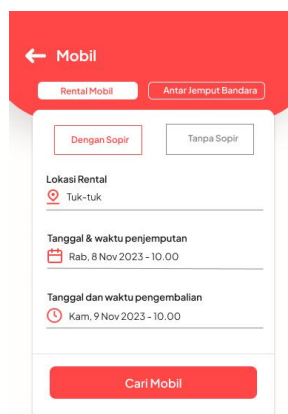


Figure 7. With driver



Figure 8. Without driver

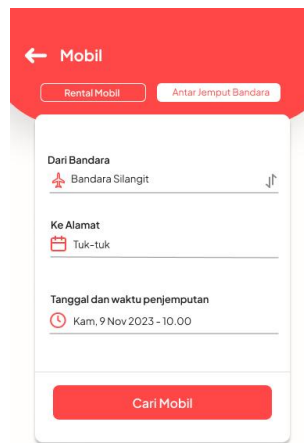


Figure 9. Pickup

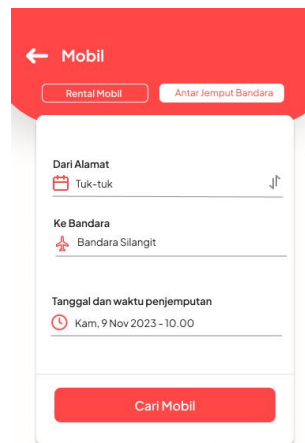


Figure 10. Delivery



Figure 11. Discount Package

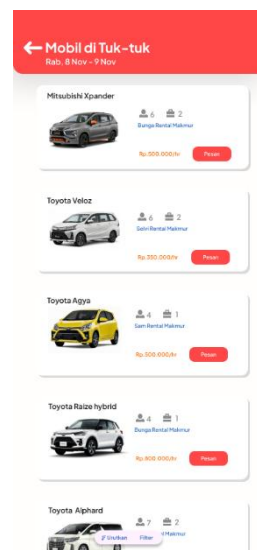


Figure 12. Car List

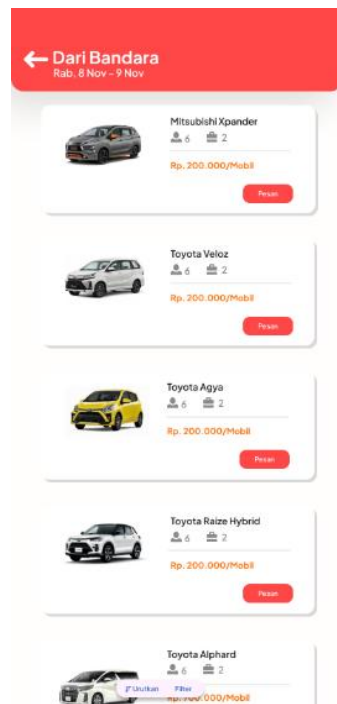


Figure 13. Choose a pick-up car from the airport

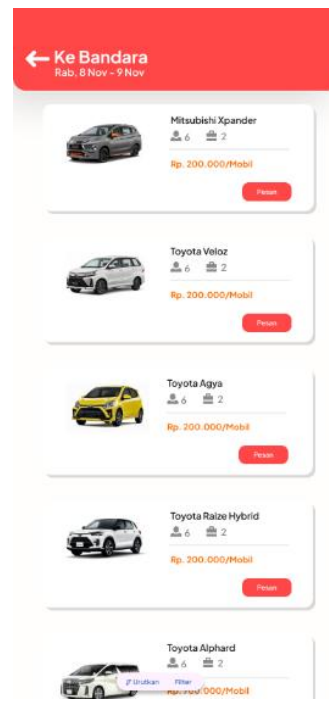


Figure 14. Choose a car for airport delivery



Figure 15. Payment

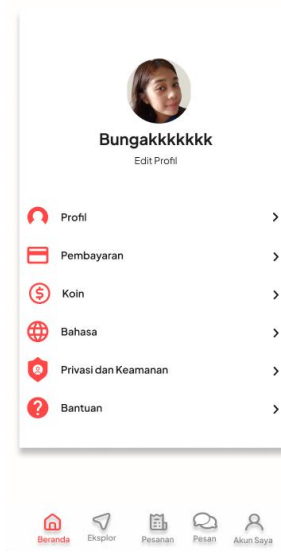


Figure 16. User Account

4. CONCLUSION

Based on the results of the research that has been done, the Samosir Tour Hero application helps tour guides and tourists on Samosir Island. In addition, this application displays tourist areas on Samosir Island along with routes and their

history which makes the application interface easy to use. Through the Samosir Tour Hero application, it is expected to increase insight into the history of Samosir Island for tourists, help tourists maximize their vacation time to visit several available tourist attractions, and help local

residents who work as tour guides in finding customers.

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