




Development of Tourism Village Applications for Competitive and Comparative Branding Case Studies in West Java and Banten Provinces with Qualitative Methods and Design Thinking

Sularso Budilaksono^{1*}, Rilla Sovitriana¹, Euis Puspita Dewi¹, Nurina¹, ST Trikariastoto¹,
Woro Harkandi Kencana¹, Ahmad M Thantawi¹
¹ Universitas Persada Indonesia Y.A.I., Indonesia

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Abstract

Tourism villages in Indonesia welcome many tourist students, students, teachers, and lecturers for comparative study activities, internships, and community service. Tourism villages in Banten province, Margaluyu village and Lebakmuncang village in Bandung Regency are the objects of this research. The three tourist villages are representations of those often visited by academics. Academics want to enjoy the beauty of natural resources in the village while enjoying educational services on agriculture, animal husbandry, plantations, local arts and culture. This study aims to develop a tourism village application so that it can be used as a branding promotion of competitive advantages and comparative potential in a village. The research method used is qualitative and design thinking. Qualitative methods for formulating competitive and comparative advantage variables. The design thinking method consists of 5 stages: empathize, define, ideate, prototype and test. In general, this design thinking method consists of 2 groups of stages: the research stage and the group of stages of developing solutions. This research results in the formation of a prototype tourism village application that can be used by several users, namely prospective tourists, tourists, tourism village managers, guides, educational tour managers and MSME actors. The empathy map shows the results of interviews that describe the wishes and expectations of tourists to visit tourist villages. The results of the empathy map become the basis for needs analysis and prototype design. The prototype of the tourism village application was tested on 50 people, and the result was that 35 people suggested the application needs to be revised to support more complete features, and 15 people said the application is good enough.

Keywords *Tourism Village, Design Thinking, Empathize, Define, Ideate, Competitive, Comparative*

INTRODUCTION

Cikolelet Tourism Village in Banten Regency is a tourist village consisting of 4 combinations of tourism potential: proximity to Anyer Beach objects, potential natural and artificial resources, art and culture, creative economy village and culinary. The Cikolelet tourism village is fortunate because it is located about 2 km from Anyer Beach, the centre of the main tourist area. Natural tourism includes waterfalls, Rainbow bridges and abundant produce such as durian fruit, chocolate, rambutan and others. There is a creative economy village consisting of small businesses that cultivate goats, oyster mushrooms, and quail livestock. Culinary tourism can be in the form of drinking robusta coffee, eating emping melinjo and processed oyster mushrooms. Art and cultural tourism can be in the form of Calung art attractions, angklung and regional cultural and art parades.

Margaluyu Tourism Village is a tourist village in the Pengalengan sub-district of Bandung Regency, which has cool air because tea plantations surround it. This village has the potential for natural resources, agriculture, fisheries, dairy cattle, and honey bee farming, as well as the potential for MSMEs that can be developed. This village has two natural lakes, namely Lake Cipanunjang and

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Corresponding author's email: sularso2007@gmail.com

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Lake Cielenca. Dana Cipanunjang is located higher than Lake Cielenca, so it becomes a source of water from Cielenca funds. Margaluyu tourism village is far from urban areas, so tourists can enjoy a rural atmosphere surrounded by lakes and tea plantations.

Lebakmuncang Tourism Village, Ciwidey District, Bandung Regency, is a tourist area developed by the local community with the theme of agroeducation tourism and cultural orientation. This village is strategically located close to Kawah Putih and Situ Patenggang tourism so that it attracts tourists to learn to grow crops and livestock, enjoy natural attractions such as tracking, fun games activities and enjoy local culture, both arts and village food.

Tourism villages are a combination of products and services offered to prospective tourists. Each tourist village has different competitive and comparative advantages. The variables of competitive advantage of tourism villages are natural resources, unique culture and tradition, tourism and entertainment activities, local culinary diversity, accommodation and facilities, community service and hospitality, cleanliness and sanitation, and transportation and accessibility. For the comparative advantages of tourism villages, the variables are as follows: uniqueness of educational tourism activities, uniqueness of facilities, uniqueness of culture and tradition, and price of tour packages.

Tourism village applications can integrate information on the competitive and comparative advantages of tourism villages based on questionnaires of tourism village managers and tourists. Common visitors to tourist villages are students and university students. The presence of the smart application of the tourism village will greatly help potential visitors obtain information on the competitive advantage and comparative advantage of the tourist village to be addressed.



Figure 1. Cikolelet, Margaluyu and Lebakmuncang Tourist Villages

Tourism villages can be developed and become a high selling point for tourists from certain circles. This is inseparable from the comparative and competitive advantages that tourists can enjoy. The advantages of this comparison include the interesting experience of staying in a tourist village for a few days by blending into people's homes and enjoying cultural arts and food in the village (Ramadhani et al., 2021). Tourists of tourist villages experience typical local attractions by feeling the authentic satisfaction of staying in the village for the purpose set by their respective schools and campuses (Agustin et al., 2022). Many schools and colleges assign students and students to participate in development in the village. Therefore, the challenge is to integrate a particular destination's competitive and comparative advantages while considering the tourists' diversity and expectations (Bakogiannis et al., 2020). Competitiveness factors can include supporting factors and resources from a business perspective, such as educational services provided, natural tourism resources owned and infrastructure facilities and homestays owned. The study of smart tourism villages that connect the concept models of competitiveness and comparative shows that digital marketing technology and promotion are the keys to improving the competitiveness of destinations (Mohammed et al., 2023).

This research aims to develop a tourism village application that makes it easier for prospective tourists to make decisions. The decision of prospective tourists is made based on competitive and comparative advantage information packaged in the tourism village application. This competitive and comparative advantage is based on surveys of managers and tourists who have visited Cikolelet tourism village in Banten Regency, Margaluyu tourism village and Lebakmuncang in Bandung Regency. Surveys to tourism village managers and tourists with descriptive qualitative methods become outputs to develop applications with a design thinking approach.

LITERATURE REVIEW

Tourism villages are the result of collaboration between the government, local communities, and the private sector to develop sustainable tourist destinations (Liu, 2020). The main objective of tourism village development is to improve the welfare of the local community through the tourism sector developed in the village. This concept involves participatory-based management, environmental conservation, and the development of unique tourism products and services (Nugroho & Numata, 2020). The general purpose of tourism villages in general is to educate tourists, preserve culture and environment that are characteristic of the village (Zhang & Lee, 2022). Community participation can provide insight into the importance of involving local communities in the village tourism development process. By involving them, it will increase the sustainability of the project and the economic benefits obtained. This community participation is manifested in organizing the Tourism Awareness Working Group (Pokdarwis) (Hutárová, 2021).

The development of tourism village applications is needed to connect tourism village products and services so that they are easily accessible to potential tourists. Generally, tourists in tourist villages are students, teachers, and lecturers. Their general purpose for visiting tourist villages is comparative studies, real work lectures, entrepreneurial learning, internships and community service. The tourism village application will be a branding to promote all the potential of the tourist village so that it is easily accessible and booked by potential tourists (Amrullah et al., 2023).

This tourism village application and smart tourism innovation have drastically changed tourist behaviour patterns and communication protocols in tourist destination management (Ciolac et al., 2022). In previous e-tourism studies, travellers' behaviour has changed greatly as they seek detailed information on destinations, products, attractions and services available (Ramadhani et al., 2021). Travel booking apps have made it possible for travellers to make viable decisions regarding their desired destinations (Ariyani et al., 2023). The traveller information environment is more complex if the information required is specific. For example, the information sought in a tourist village includes agricultural education facilities, livestock education, homestay facilities, cultural education, and tourist attractions available in the tourist village (Sgroi, 2022).

Tourism village apps can facilitate and moderate the management of tourist destinations. From the findings of these researchers, the implementation of smart tourism has two viable research problems (Alamoodi et al., 2022). First, there is a lack of documentation related to the information environment among tourists and related service providers in a tourist village (Pérez-Calderón et al., 2020). Second, how tourism village applications can bridge the gap between comparative destinations and competitiveness such as tourist villages (Vaculčíková et al., 2020). Based on the study's shortcomings, this study seeks to answer the following two research questions: Research question 1: What features of smart design tourism apps can offer holistic services to various relevant stakeholders? Research question 2: How can smart design tourism applications moderate comparative and competitive tourism in destination management?

RESEARCH METHOD

The methodology used in this study is descriptive qualitative methods followed by a design thinking approach. The descriptive qualitative method aims to formulate the competitive and comparative advantages of tourism villages by providing questionnaires to tourism village managers and tourists. The results of the descriptive qualitative method are variables that show the competitive and comparative advantages of tourism villages. The output of the descriptive qualitative method then becomes the input of the design thinking approach. Design thinking consists of several stages, namely data collection (empathize), needs analysis (define), solution analysis (ideate), design (prototype) and testing (test).

1. The data collection stage can be done by observing the three tourism villages mentioned above, interviewing users, and developing empathy maps.
2. The user needs analysis stage is carried out to formulate user needs from tourists and tourism village managers. Personas are a map of the problems users face and the needs they want.
3. The stage of solution analysis is to develop solutions to problems in tourist villages, including the design stage. Design can be started from the user flow to describe the stages carried out by the user. The design is continued with a simple interface design according to the user flow (wireframe)
4. The prototype stage is the development of applications based on the output that has been done in the previous stage, namely solution design.
5. The testing phase is the stage to test and evaluate the prototype that has been developed. The testing stage is carried out by prospective students and students who will become prospective visitors to tourist villages.

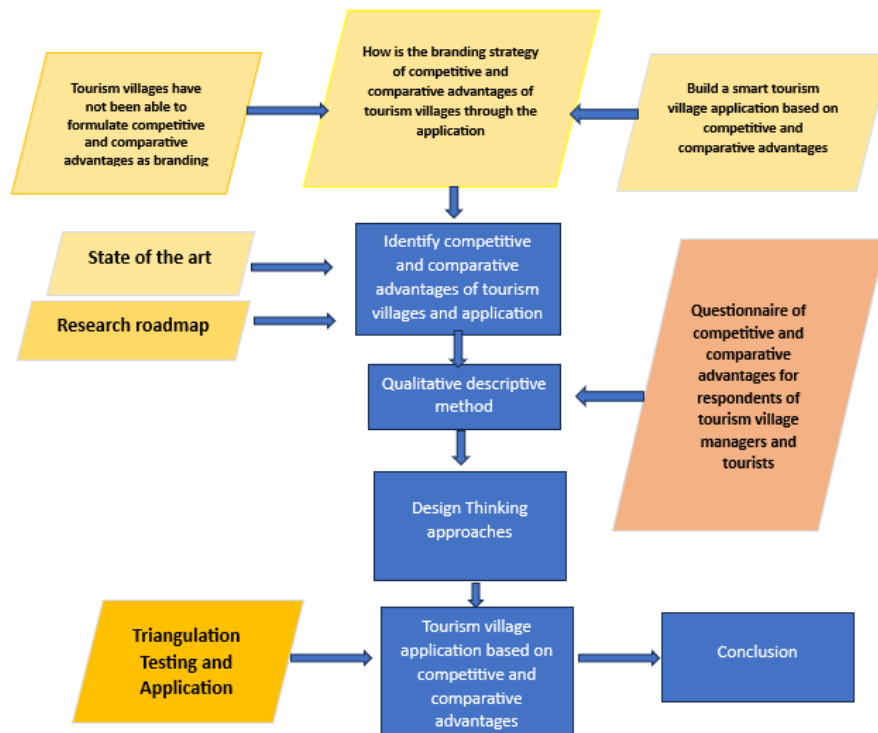


Figure 2. Stages in research methodology.

FINDINGS AND DISCUSSION

The design thinking method is applied as an approach to the development of tourism village applications for competitive and comparative branding purposes. For the data collection stage (empathize), community service and observation activities have been carried out in the tourist villages of Cikolelet, Margaluyu and Lebakmuncang. This activity also involved 50-100 lecturers and stayed one night at a homestay in the village. Homestays owned by villages are generally mixed with residents (lived in), and some homestays are separate. Community service experience in a tourist village provides an opportunity for interviews, observations, and activities with the village government, Pokdarwis, and MSME actors.

Cikolelet Tourism Village is a village in the Anyer-Cinangka Beach tourist area, precisely in Cinangka District, Serang Regency. As a tourist village, Cikolelet Village supports Anyer-Cinangka Beach tourism. Visiting Cikolelet tourist village can be done by car or by renting a bus to get to the location. Cikolelet Tourism Village has a gift in the form of beautiful natural contours, as well as a wealth of cultural arts and creative economy. Creative economy villages, homestays, cultural arts, and angklung and calung games are services offered to tourists.

Margaluyu tourism village is located in the Pengalengan sub-district of Bandung Regency, surrounded by two beautiful sites, namely Cipanunjang and Cileunca. The village is surrounded by extensive tea plantations managed by government companies and vegetable plantations managed by farmers. Easy transportation to reach this tourist village,

Lebakmuncang Tourism Village is a tourist village in Ciwidey District, Bandung Regency, near the Kawah Putih tourist site. This tourist village offers agrotourism and cultural arts that tourists can enjoy. The cultivation of strawberries, vegetables, fisheries, animal husbandry, homestays and traditional culture Mondays are tourist attractions in the village. The availability to be accessed by car and bus is an attraction for tourists to come to this area.

Based on a survey of 6 tourism village managers and 50 tourism village tourists, most of whom are lecturers who participated in the implementation of community service, tabulations of competitive and comparative advantage data were obtained in Cikolelet, Margaluyu and Lebakmuncang tourist villages. The three tourist villages have different characteristics but are favourite destinations for students and students. Tourists generally have relatively similar goals, namely, some are comparative studies, and some are carrying out tasks from school to carry out learning activities outside of school.

Comparative advantage only boils down to two things: differentiation and price. Tourism village differentiation is the uniqueness of village potential and services that can be provided to tourists so that tourists are interested in visiting. This price is relative to the appropriateness and affordability of the price according to the village tourism service. The differentiation of tourism villages will result in the segmentation of prospective tourists, especially with affordable tour package prices.

Based on interviews with 50 tourists from tourism villages, here is the empathy map produced in the design thinking approach to support the output of descriptive qualitative method results.

Table 1. Map of the competitive advantage of Cikolelet, Margaluyu and Lebakmuncang tourist Villages

Tourist villages	Natural resources	Culture and traditions	Tourism and entertainment activities	Local cuisine	Accommodation and facilities	Service and hospitality	Hygiene and sanitation	Transportation and accessibility
Cikolelet	Waterfalls and hilltops	Angklung and calung games	Visit to creative economy village	Standard	Homestays, Conference Halls, Parking Areas, Grounds	Very friendly (village administration and tour manager)	Very clean	Easy to reach by car and bus
Margaluyu	Natural and artificial lakes	Calung, pencak silat and sesingaan games	Tracking and agrotourism	Standard	Homestays, Conference Halls, Parking Areas, Grounds	Very friendly (village administration and tour manager)	clean	Easy to reach by car and bus
Lebakmuncang	Foot of the mountain	Calung games, bangkong reang and gamelan	Tracking and agrotourism	Standard	Homestays, Conference Halls, Parking Areas, Grounds	Very friendly (tour manager)	Very clean	Easy to reach by car and bus

Table 2. Map of comparative advantages of Cikolelet, Margaluyu and Lebakmuncang tourist villages.

Tourist villages	Peculiarities of tourism	Peculiarities of culture and traditions	Uniqueness of facilities	Tour package price
Cikolelet	Creative economy village	Calung, angklung	Homestays are separate, and some are integrated with residents	Affordable
Margaluyu	Natural situ and artificial situ	Calung, pencak silat, sesingaan	Homestay blends with residents	Affordable
Lebakmuncang	Agrotourism	Calung, Reang carcass	Homestay blends with residents	Affordable

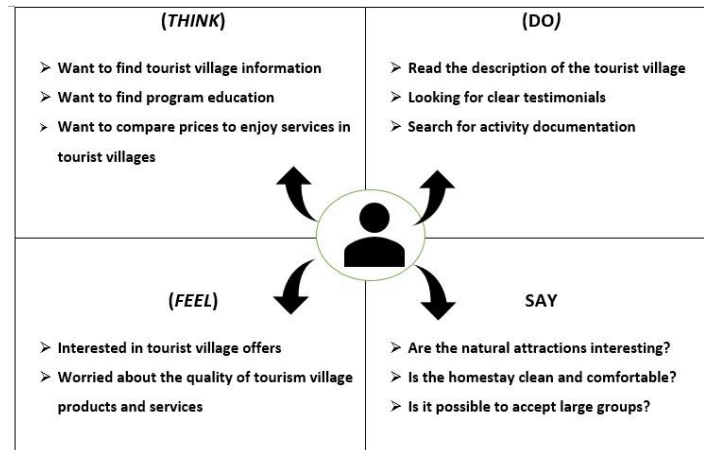


Figure 3. Empathy map of prospective tourism village

Prospective users of the Tourism Village application are prospective tourists who are generally from schools and campuses. Students, teachers, and lecturers visit tourist villages to conduct comparative studies, give lectures outside the classroom, conduct field practice or internships, and provide community service. The stakeholders of this application are tourism village managers, guides, tourism education actors and MSME actors. The functional needs of the smart tourism village application that users want to want:

1. Obtain detailed information on tourism villages, including education on agriculture, animal husbandry, fisheries, plantations, potential natural resources of tourism objects, arts and culture, homestays, MSMEs, village potentials and facilities.
2. Obtain information on the cost of participating in comparative study programs, KKN / internship and community service with services to stay at homestays and meals for several days
3. Obtain information on tourist testimonials (students, students, teachers, lecturers) who have comparative studies, KKN / internships, and community service experience in the village.
4. Obtain information on the prices of MSME products and services managed by Pokdarwis (Tourism Awareness Group), such as fun games, art attractions such as angklung games, calung or archery games, flying fox, river tubing, etc.
5. Obtain contact information of the tourism village management person who can be contacted
6. Make reservations for individuals or groups of students, teachers or lecturers if they will take part in the selected tourism village program.

Tourism village managers, guides, tourism education actors, and MSME actors will be involved as users of the tourism village application. They will respond to the needs of tourists to obtain the information they need. The output of the needs analysis stage (define) is the functional needs of the tourism village application.

The next stage is to design (ideate) the tourism village application by making diagrams of interactions between tourists and tourism village managers. An Object Oriented Analysis and Design (OOAD) approach is used using Use Case diagrams and Sequence diagrams to support this design. The actors involved in the Use Case diagram are tourists, tourism village managers, guides, tourism education actors and MSMEs. Their role is to respond to the functional needs in the application that travellers need.

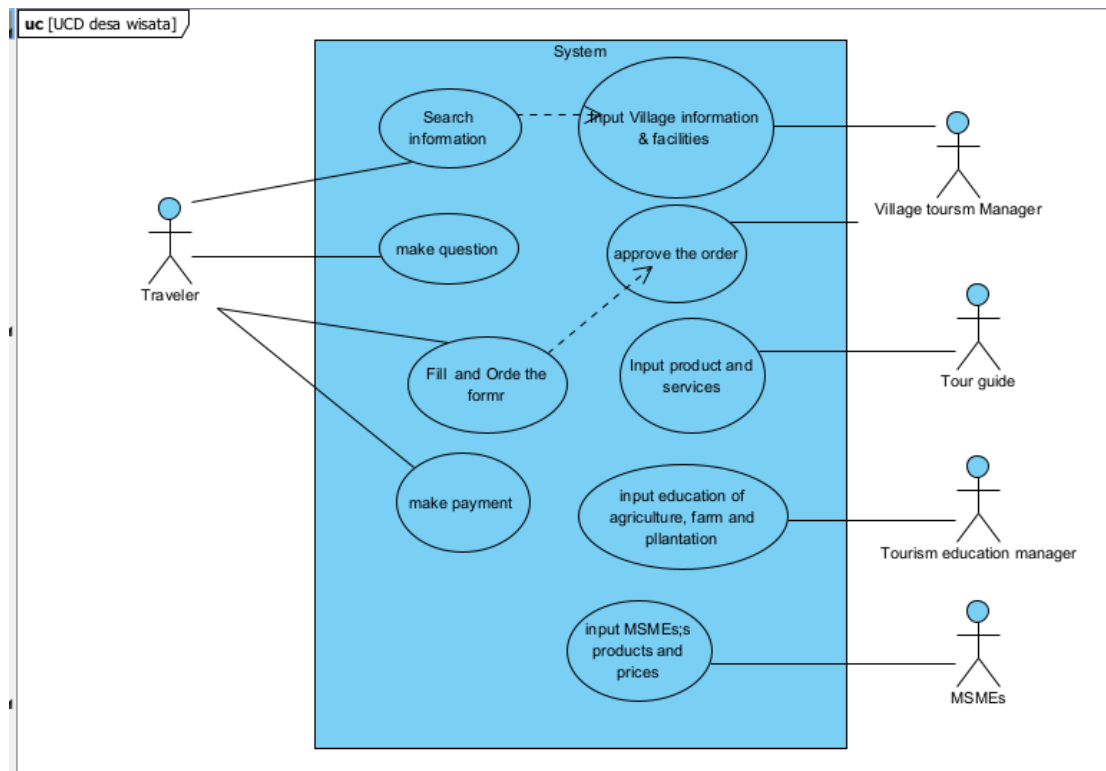


Figure 4. Use Case Diagram of Tourism Village Application

The next design is a sequence diagram drawing that illustrates the interaction between prospective tourists, tourism village managers, guides and tourism education actors. Prospective tourists are looking for detailed information on certain tourist villages. Then, the application will forward this information to the tourist village database. The app then displays the information potential travellers are looking for. Tourists can request certain information and book certain services through the application, and the manager will provide the requested information. Suppose there is a booking for tourism village services by tourists. In that case, the application will forward this booking to tourism village managers, guides, tourism education actors and MSMEs to prepare certain services.

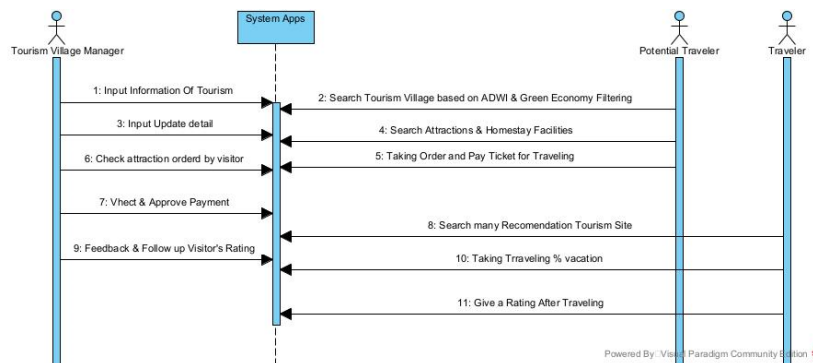


Figure 5. Sequence Diagram of tourism village application.

The development stage of the tourism village application prototype is made to design the

application interface so that all tourism village stakeholders can easily understand it. This user interface represents the functional needs that have been defined above. Here are some frames of the Tourism Village Application User Interface to search for tourism village products and services in Indonesia and book a tourism village program for groups, for example, for internship activities while enjoying educational tours and staying at homestays for a few days.



Figure 6. User Interface of Tourism Village Application

The next tourism village prototype development is based on diagrams that have been made with the OOAD approach. The application can be accessed by admins from the admin side using web-based. Meanwhile, from the side of tourists, tourism village managers, guides, tourism education actors and MSMEs, the application can be accessed using a mobile-based application. This application is expected to be a competitive and comparative branding promotion media for the potential of natural resources and tourist attractions in a village.

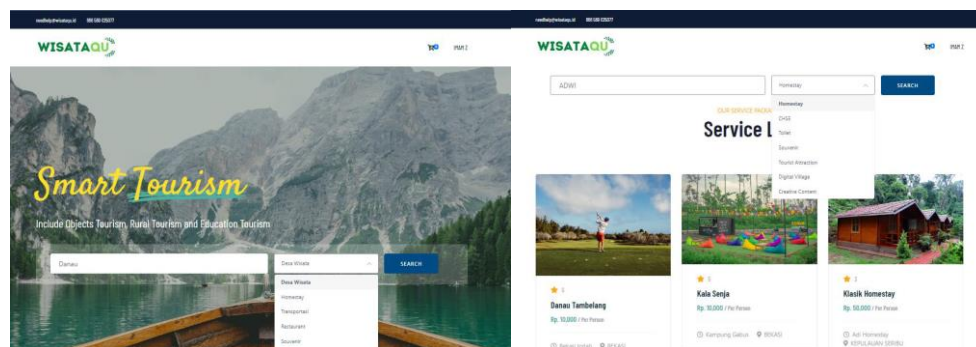


Figure 7. Prototype of Tourism Village Application

The functionality and effectiveness of the design are tested at the testing stage. Users are randomly selected from each identified stakeholder. By demonstrating the demo application, the team ensures that the application qualitatively meets its intended purpose. For example, the app provides detailed information about the available tourist villages. In addition, this application also provides information on tourist testimonials related to the experience of enjoying existing services.

CONCLUSIONS

1. The variables of competitive advantage of tourism villages are natural resources, unique

- culture and tradition, tourism and entertainment activities, local culinary diversity, accommodation and facilities, community service and hospitality, cleanliness and sanitation, and transportation and accessibility. For the comparative advantages of tourism villages, the variables are as follows: uniqueness of educational tourism activities, uniqueness of facilities, uniqueness of culture and tradition, and price of tour packages.
2. These competitive and comparative advantage variables can be applied in the tourist villages of Cikolelet, Margaluyu and Lebakmuncang in tables containing each village's characteristics.
 3. The development of the tourism village application based on competitive and comparative advantages is still a prototype.
 4. The prototype was tested on respondents to 50 people, and the result was that 35 people suggested the application needs to be revised to support more complete features, and 15 people said the application is good enough.

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