

# SiargaoStayFinder: Discover Homestays and Accommodations in Siargao Island

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**Abstract:** *The rapid growth of tourism on Siargao Island has heightened the demand for efficient and accessible accommodations. However, local homestay providers predominantly rely on manual booking processes, which are often time-consuming, lack transparency, and limit both visibility and revenue potential. This study introduces SiargaoStayFinder, a digital platform designed to centralize accommodation options and streamline the booking experience for tourists while enhancing operational efficiency for providers. Using a mixed-methods approach, this research gathered quantitative data from tourists and qualitative insights from homestay providers to assess key needs. Findings indicate a strong demand for features like real-time availability, secure payment options, and user reviews. The system was developed through a structured process that included requirements gathering, system design, implementation, testing, and deployment. The final platform integrates a user-friendly frontend (HTML, CSS, JavaScript) with a secure backend (PHP, MySQL), ensuring smooth and efficient data interactions. By bridging the gap between tourists and local businesses, SiargaoStayFinder not only improves the booking experience but also contributes to sustainable economic growth on the island, providing a model for similar tourism-focused destinations*

**Keywords:** Accommodation, Homestays, Siargao Island, Booking Platform, Tourism, Digital Solutions

## I. INTRODUCTION

Siargao Island, located in the Philippines, has rapidly gained popularity as a premier tourist destination, known for its pristine beaches, crystal-clear waters, and world-renowned surfing spots. This surge in tourism has significantly increased the demand for accommodations, especially for budget-friendly and eco-conscious options like homestays and eco-lodges. However, despite this growth, the local accommodation sector continues to rely largely on traditional, manual booking methods, which are both time-consuming and inefficient. Tourists face difficulties in finding available accommodations, especially during peak seasons, and often encounter issues with inconsistent pricing and limited amenities. These challenges are not only inconvenient for visitors but also hinder local providers from optimizing their reach and profitability in a competitive tourism market[1][2].

Addressing these challenges, this study proposes the development of a digital solution, SiargaoStayFinder, aimed at centralizing accommodation information for tourists and providing a more streamlined booking experience. The proposed app seeks to enable tourists to access real-time availability, secure payment options, and guest reviews, enhancing both convenience and transparency in the booking process. For local homestay providers, the platform promises to improve visibility, allowing them to attract a wider range of tourists and manage bookings efficiently. By bridging the gap between tourists and local businesses, the "SiargaoStayFinder" app aims to contribute to Siargao's sustainable tourism development and support the island's economic growth[3][4].

## II. OBJECTIVES OF THE STUDY

The primary objective of this study is to develop a digital platform to improve access to homestays and accommodations on Siargao Island.

Specific objectives include:

- To investigate the current challenges in the accommodation booking process on Siargao Island.

- To identify user preferences concerning accommodation type, amenities, and booking features.
- To propose a design and functionality for the "SiargaoStayFinder" app that addresses identified needs.
- To formulate recommendations for integrating digital solutions into the local accommodation sector.

### **III. RELATED LITERATURE**

#### **3.1 Accommodation Demand in Tourist Destinations**

The accommodation sector in tourism-driven economies plays a crucial role in enhancing the visitor experience. Studies show that accessible and reliable accommodations can significantly influence tourists' perceptions and satisfaction[1]. For island destinations, centralized booking platforms ensure seamless access to diverse accommodation options, benefiting both visitors and local operators[2]. By offering integrated solutions, digital platforms can create a more unified experience, catering to diverse needs from budget-conscious travelers to luxury seekers.

#### **3.2 Digital Platforms in Accommodation Bookings**

Digital platforms like Airbnb and Booking.com have transformed the accommodation industry by enabling users to access real-time availability, transparent pricing, and user reviews[3]. These platforms allow small businesses to expand their reach by offering visibility to a global audience. For local tourism hubs like Siargao, a customized digital platform could be particularly beneficial, addressing regional needs and optimizing local economic impact by tailoring to specific preferences of both tourists and providers[4].

#### **3.3 Economic Impact of Digital Booking Platforms on Local Tourism**

Digital solutions play a vital role in supporting economic sustainability for small accommodation providers, particularly in rural regions. Platforms focused on homestays and eco-lodges allow local businesses to access a wider audience, promoting regional economic growth and sustainable tourism practices[5]. Fredman and Tyrväinen highlight that homestays contribute to community-based tourism, dispersing economic benefits within the local population[6]. This can lead to increased employment opportunities, improved quality of life for local residents, and higher levels of tourism retention and satisfaction.

#### **3.4 Challenges in Accommodation Booking in Siargao**

Studies on tourism in the Philippines reveal that accommodation booking on Siargao Island is often hindered by limited online options and reliance on cash transactions[7]. These challenges affect tourists' convenience and limit market opportunities for homestay owners. The "SiargaoStayFinder" app aims to address these issues by providing a digital, centralized platform for accommodation booking on the island, focusing on both operational efficiency for providers and an enhanced user experience for tourists[8].

#### **3.5 Synthesis**

The reviewed literature collectively emphasizes the importance of accessible and reliable booking platforms in enhancing the tourism experience, especially in island destinations like Siargao. Research shows that the availability of a centralized platform can meet tourists' demands for transparency, convenience, and a streamlined booking process[1][3]. Additionally, digital platforms have proven to be instrumental in supporting local economies by providing small accommodation providers, like homestay owners, access to a broader customer base[5][6].

However, existing studies also highlight the unique challenges faced by rural and island destinations, such as limited access to online booking tools and reliance on cash-based transactions[7]. This creates an opportunity for a customized solution that addresses both the practical needs of tourists and the operational requirements of homestay providers. The proposed SiargaoStayFinder aims to fill this gap by integrating features that enhance both user experience and provider reach, ultimately contributing to a more sustainable and inclusive tourism model on Siargao Island.

#### IV. METHODOLOGY

##### 4.1 Research Approach

This study utilized a mixed-methods approach, combining quantitative data from a survey of tourists with qualitative insights from interviews with homestay providers on Siargao Island. This approach allowed the study to capture a broad range of data, covering both general trends in tourist preferences and in-depth insights into the operational challenges faced by accommodation providers.

##### 4.2 Research Design

The research followed a sequential explanatory design. First, quantitative data were gathered through a structured survey targeting tourists who visited Siargao. This phase aimed to understand tourists' preferences, booking behaviors, and desired platform features. Following the survey, semi-structured interviews were conducted with homestay providers to delve deeper into their specific challenges and expectations for a digital booking platform.

##### 4.3 Research Instrument

The research utilized two primary instruments for data collection: a survey questionnaire for tourists and a semi-structured interview guide for homestay providers. Each instrument was carefully designed to align with the study's objectives, ensuring relevant data collection across quantitative and qualitative domains. The survey questionnaire was structured to capture a broad overview of tourist preferences, booking habits, and feature expectations, while the interview guide aimed to elicit detailed responses regarding operational challenges and needs from the homestay providers' perspective.

##### 4.3.1 Survey Questionnaire

The survey questionnaire was developed to gather quantitative data on the demographics, accommodation preferences, booking behaviors, and platform feature preferences of tourists visiting Siargao. The questionnaire consisted of multiple-choice and Likert scale questions, organized into thematic sections to streamline data collection. Demographic questions covered basic information like age, gender, and nationality, establishing a profile of the respondents. The section on accommodation preferences included questions about preferred types of stays, desired amenities, and budget considerations, providing insights into the features most valued by tourists. The Likert scale was used to assess the level of importance tourists place on various features (such as secure payment and real-time availability), helping the study quantify user needs in a structured manner.

##### 4.3.2 Interview

The interview guide was designed for semi-structured interviews with homestay providers, focusing on uncovering their perspectives on booking challenges, operational needs, and potential benefits of digital solutions. The semi-structured format allowed for flexibility, enabling interviewers to explore specific areas in greater depth based on the providers' responses. Key themes addressed included the limitations of current manual booking systems, issues related to pricing consistency, and their openness to adopting a digital platform. Open-ended questions allowed providers to share detailed insights, ensuring that the data captured reflected their unique experiences and operational contexts. This qualitative approach added depth to the study, providing nuanced understanding that complemented the quantitative survey findings.

##### 4.4 Participants of the Study

The study involved two primary participant groups: tourists who had recently visited Siargao Island and local homestay providers. The tourist group consisted of 150 respondents who provided quantitative data, while the homestay provider group included 20 participants who contributed qualitative insights through interviews. These groups were selected to represent both the consumer perspective and the operational perspective on accommodation booking.

#### 4.5 Sampling Method

Convenience sampling was used for the tourist group, accessing respondents through social media and online travel forums related to Siargao. This method allowed for efficient data collection from a broad and accessible sample. For the homestay provider group, purposive sampling was employed to select participants with relevant experience and an interest in digital solutions. This approach ensured that the sample included those likely to benefit from and adopt digital booking technologies.

#### 4.6 Data Gathering Procedure

Data gathering was conducted in two phases:

- **Survey:** The survey was distributed online via Google Forms, targeting social media groups and forums frequented by tourists interested in Siargao. Responses were collected over a two-week period, allowing for a substantial sample of recent visitors to Siargao.
- **Interviews:** Interviews with homestay providers were conducted virtually or in-person. Providers were recruited through local tourism associations and networks, ensuring that participants had relevant experience in managing accommodation bookings. The interviews were audio-recorded and transcribed for analysis.

#### 4.7 Data Analysis

The quantitative data from the survey were analyzed using descriptive statistics, with frequencies, percentages, and weighted means calculated for key variables. The weighted mean helped determine the level of importance or preference associated with various features. Qualitative data from the interviews were analyzed through thematic analysis, identifying recurring themes and patterns in responses related to booking challenges and platform needs.

TABLE 1.0 INTERPRETATION OF RANGE OF THE WEIGHTED MEAN

Range	Interpretation
4.51 – 5.00	Strongly Agree
3.51 – 4.50	Agree
2.51 – 3.50	Moderately Agree
1.51 – 2.50	Disagree
1.00 – 1.50	Strongly Disagree

Table 1.0 provides a guide for interpreting the weighted mean scores from the survey. Each range corresponds to a specific level of agreement, allowing the study to quantify tourists' preferences and importance ratings for accommodation features.

### V. RESULTS AND DISCUSSIONS

This section presents findings from both the survey and interviews, organized into tables that cover tourists' demographics, preferences, booking behaviors, and insights into homestay providers' challenges.

#### 5.1 Demographic Profile of Respondents

TABLE 2.0 : GENDER DISTRIBUTION OF RESPONDENTS

Gender	Percentage (%)
Male	55%
Female	45%

Table 2 shows the gender distribution of respondents, ensuring a balanced representation across male and female tourists. Understanding gender distribution is crucial as it may impact preferences for accommodation types, amenities, and booking platforms.

TABLE 3.0 : AGE GROUP DISTRIBUTION OF RESPONDENTS

Age Group	Percentage (%)
18-24	30%
25-34	40%
35 and above	30%

Table 3 displays the age distribution of respondents, with a notable representation in the 25-34 age range, aligning with the typical demographic of travelers seeking digital solutions for accommodation. The preferences and behavior of this age group are influential in shaping platform features.

### 5.2 Tourist Accommodation Preferences

TABLE 4.0 : PREFERRED TYPES OF ACCOMMODATION

Accommodation Type	Percentage (%)
Beachfront Homestays	45%
Eco-lodges	35%
Budget Homestays	20%

Table 4 illustrates tourists' accommodation preferences, with a strong inclination toward beachfront homestays and eco-lodges. These insights highlight the importance of promoting environmentally friendly options and aesthetic proximity to nature in the platform.

TABLE 5.0 : PREFERRED AMENITIES IN ACCOMMODATIONS

Amenity	Percentage (%)
Wi-Fi	80%
Air Conditioning	65%
On-Site Dining	50%
Beach Access	45%

Table 5 highlights the top amenities tourists prioritize, such as Wi-Fi, air conditioning, and beach access. This information helps tailor the SiargaoStayFinder platform's search filters and accommodation profiles.

### 5.3 Booking Habits and Platform Preferences

TABLE 6.0 : PREFERRED BOOKING METHODS

Booking Method	Percentage (%)
Online Platforms	70%
Direct with Provider	30%

Table 6 shows a significant preference for online booking platforms, supporting the relevance of SiargaoStayFinder. This finding emphasizes the need for a reliable, streamlined digital platform to cater to modern booking preferences.

TABLE 7.0 : INTEREST IN USER REVIEW SYSTEMS

Interest Level	Percentage (%)
Very Interested	60%
Moderately Interested	30%
Not Interested	10%

Table 7 displays respondents' interest in user review systems, highlighting that most tourists find reviews valuable when booking accommodations. This supports the inclusion of a review system in the SiargaoStayFinder app.

### 5.4 Homestay Provider Needs and Challenges

TABLE 8.0: CHALLENGES FACED IN CURRENT BOOKING SYSTEMS

Challenge	Frequency (%)
Manual Booking Processes	55%
Pricing Inconsistencies	30%
Limited Reach	15%

Table 8 identifies the primary operational challenges homestay providers face, with a notable majority reporting issues with manual booking. This reinforces the need for a centralized digital platform that automates and standardizes booking processes.

TABLE 9.0: PREFERRED FEATURES FOR DIGITAL PLATFORM

Feature	Priority (%)
Real-Time Availability	80%
Secure Payment	70%
User Review System	60%

Table 9 ranks the features providers find most valuable, such as real-time availability and secure payment options, further aligning the development of SiargaoStayFinder with user and provider expectations.

### 5.5 System Usability Feedback

TABLE 10: PRELIMINARY USER FEEDBACK ON PLATFORM USABILITY

Usability Aspect	Satisfaction Level (%)
Ease of Navigation	85%
Booking Process Efficiency	80%
Security and Privacy	75%

Table 10 compiles user feedback on the prototype, highlighting positive responses in usability, ease of navigation, and security features. This preliminary feedback indicates that the app's design effectively meets user needs, although ongoing improvements will ensure continuous alignment with user expectations.

### 5.6 System Development Process of the Proposed SiargaoStayFinder: Discover Homestays and Accommodations in Siargao Island

The researcher developed the system design using the waterfall Approach of the System Life Cycle (SDLC). The six phases under this Approach together with the development of the system are; Requirement Gathering and Analysis, System Design, Implementation, Testing System Deployment, and Maintenance.

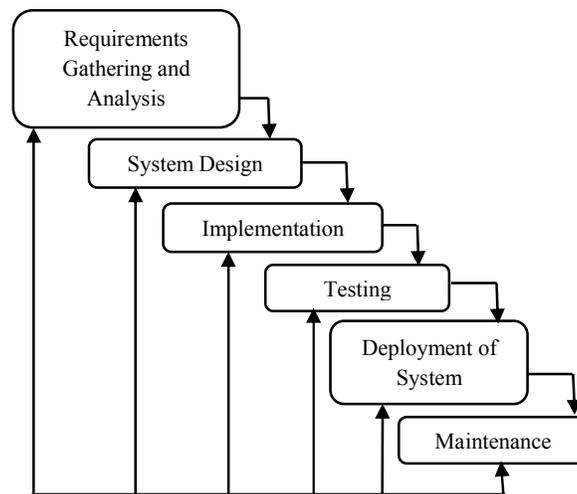


FIGURE 1 THE WATERFALL APPROACH

The system development process for **SiargaoStayFinder** follows a structured approach through five main phases:

- **Requirements Gathering:** This initial phase involves identifying and understanding the needs of users (tourists) and service providers (homestay owners) through surveys and interviews. Critical features such as real-time booking, secure payment processing, and user reviews are prioritized based on these findings.
- **System Design:** Based on the gathered requirements, the design phase includes creating prototypes of the user interface and establishing a robust backend and database structure. Wireframes and architecture designs are developed, ensuring an intuitive user experience and secure data management.
- **Implementation:** During this phase, the frontend (HTML, CSS, JavaScript) and backend (PHP, MySQL) are built. This includes coding the user interface and integrating backend processes to support booking functionalities, secure payments, and data storage.
- **Testing:** Rigorous testing is conducted to ensure functionality, security, and usability.
- This includes:
  - **Usability Testing:** Ensures ease of use for tourists and homestay providers.
  - **Security Testing:** Verifies the safety of payment processing and data handling.

- **Performance Testing:** Assesses system stability and responsiveness under different user loads.
- **Deployment & Maintenance:** After successful testing, the platform is launched. This phase involves continuous support and maintenance, addressing any issues and implementing updates based on user feedback to enhance features and performance.

The system development process ensures that each phase builds upon the previous one, creating a comprehensive, user-focused solution that meets the needs of tourists and homestay providers effectively.

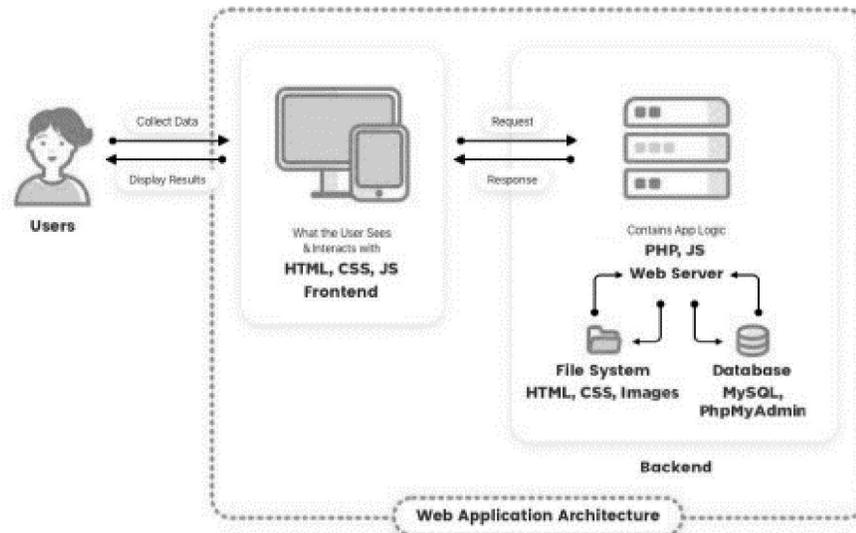


FIG. 2. WEB APPLICATION ARCHITECTURE OF THE PROPOSED SYSTEM

This architecture diagram illustrates the interaction between various components within the SiargaoStayFinder application, including:

- **Users:** Tourists and homestay providers interact with the system by collecting data (such as searching for accommodations) and receiving results (like booking confirmations).
- **Frontend:** The user interface, created using HTML, CSS, and JavaScript, provides a seamless experience where users can search, view, and book accommodations.
- **Backend:** The backend, developed with PHP and jQuery, processes requests from the frontend, executes business logic, and manages data flow between the frontend and database.
- **Web Server:** Acts as the bridge between the frontend and database, handling all application logic and ensuring data security and integrity.
- **Database:** MySQL is used to store accommodation details, booking records, and user information securely. The database supports all retrieval and storage actions, ensuring efficient data management.

The architecture integrates frontend (HTML, CSS, JavaScript), backend (PHP, jQuery), and MySQL for database management, providing secure and efficient data handling and interactions between users and the application.

## VI. CONCLUSION. RESULTS AND DISCUSSION

### 6.1 Conclusion

This study provides a comprehensive analysis of the challenges and needs associated with accommodation booking on Siargao Island, particularly from the perspectives of tourists and homestay providers. The findings reveal a clear demand among tourists for a more streamlined, user-friendly booking platform that centralizes accommodation information and offers real-time availability, secure payment options, and user-generated reviews. These features address the issues tourists currently face, such as difficulty in finding available rooms, inconsistent pricing, and limited access to trustworthy reviews. The study highlights how the proposed "SiargaoStayFinder" platform could improve the booking experience for tourists, offering a solution that aligns with modern digital expectations.

For homestay providers, the research underscores the operational challenges of manual booking systems, including time inefficiencies, pricing inconsistencies, and limited visibility among potential visitors. Providers expressed a strong interest in adopting a digital platform that could simplify and automate bookings, allowing them to reach a broader audience. The proposed platform not only supports these operational improvements but also promotes Siargao as a more accessible and organized destination. The "SiargaoStayFinder" has the potential to positively impact the island's tourism ecosystem by bridging the gap between local businesses and tourists, fostering a more sustainable and inclusive tourism industry.

## 6.2 Recommendations

To maximize the impact of the "SiargaoStayFinder" platform, this study offers several recommendations for both platform development and implementation strategies. First, the app should prioritize essential features identified in the research, such as real-time availability tracking, secure payment options, and a review system. These features will directly address the needs of tourists, fostering a sense of trust and convenience. Additionally, integrating GPS-based navigation and detailed accommodation descriptions can further enhance the user experience, making the platform a one-stop solution for tourists seeking accommodations on the island.

Beyond feature development, the successful adoption of the platform requires targeted engagement with local homestay providers. Workshops and training sessions on digital platform management could empower providers to utilize the app effectively, increasing their comfort with digital tools and encouraging regular use. Marketing efforts should leverage social media influencers, partnerships with local tourism agencies, and travel websites to increase awareness among potential visitors. Furthermore, ongoing user feedback collection will be crucial for maintaining platform relevance, allowing for continuous updates and enhancements that respond to evolving tourist and provider needs.

## VII. ACKNOWLEDGMENT

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