

Scissors and Mirrors Salon: Online Booking and Management System

Garcia, Nathaniel C. 1, Orolfo, Renz Gabriel L. 2, Toledo, Jennylyn C. 3, Avila, Rozel B. 4, Derla, Ken Lordian S. 5

National University Philippines

garcianc@student.nu-baliwag.edu.ph 1, orolforgl@student.nu-baliwag.edu.ph 2, toledojc@student.nu-baliwag.edu.ph 3, rbavila@nu-baliwag.edu.ph 4, ksderla@nu-baliwag.edu.ph 5.

Abstracts: *Scissors & Mirrors Salon in San Ildefonso faces operational inefficiencies due to its reliance on manual processes for appointment scheduling, inventory tracking, and customer records. This study aims to develop an Online Appointment System aimed to automate these core functions to enhance service delivery and operational efficiency. The system was developed using the Waterfall methodology, ensuring a structured and sequential approach to system design and implementation. Key features include appointment booking, sales tracking, and a user-friendly interface for both staff and clients. The system's performance was evaluated based on the ISO/IEC 25010 standard, with strong results in functionality, usability, and reliability.*

Keywords— Advertising Medium, Customer Flow, Digital Database System, Manual System, Online Booking System, Operational Effectiveness, Queue, Record Keeping, Salon, Service Quality.

1. INTRODUCTION

With the constant change on world of technology in business, almost every business provides a unique type of web pages or online services, and the team aims to provide a system fit for Scissors and Mirrors Salon. Scissors and Mirrors Salon is a physical salon located at San Ildefonso Bulacan. The store provides hair and nail services to its customers. The store currently has 5 employees, 3 nail technicians and 2 hairdresser which serves around 400 customers monthly. The store currently struggles with the organization of appointments, record keeping, and low reach for customers which the system will be targeting to fix.

According to Isabel K (2024), "In terms of an online appointment system, customers may infer the quality of the service when observing the booking status, i.e., the number of offered time slots and the number of slots that are not offered (or booked)." with this statement the customers may judge the quality of the service depending on how many slots are booked or not. According to Azimah D. (2022), "Setting an appointment creates opportunities for improved staff planning and will certainly avoid client dissatisfaction. Clients can schedule their arrival close to their appointment time, which can considerably improve their waiting time and therefore help to prevent crowds in the waiting room. This way, an office can keep control of the customer flow and optimize resources, while also reducing or even eliminating unexpected crowds." With the help of an online booking appointment the business will be able to get rid of the long wait time for customers which will remove the development of bad moods with customers that will have to wait for 30-40 minutes to get their services.

appointment in the salon there is no need to stand in the queue just reach there in the allotted time and students will get the service without any delay or waiting in the salon." As stated, the goal of this study is to increase the satisfaction of customers for the possibility of them coming back to the salon. (Silva W.Y.N., 2018)"The manual system causes numerous problems, and it is time consuming inefficient process. Most of the customers are facing difficulties when their appointments are not properly managed by the salon. Mostly they failed to assign the earlier proposed beautician with the time. It will cause to make customer dissatisfaction and moving for another salon." With the current manual system of the salon numbers of customers have decreased due to dissatisfaction in waiting in line to get their services.

1.1 Problem of the Company

Scissors and Mirrors Salon located at San Ildefonso, Bulacan, still rely on manual process that has led to several inconvenience that affects their overall performance such as long queueing time for customers that leads to dissatisfaction of customers leading to transferring to different salons. In addition, since they still rely to manual process through paper records, this method leads to unorganized sales. Lastly because the company is lacking social media presence and an online appointment system, customers that are outside the business area has not heard of them, leading to low reach for customers.

1.2 Objective of the Study

The main objective of this study is to create a web-based system for managing appointments and records at Scissors and Mirrors Salon to improve customer satisfaction and improve overall performance of the salon.

•**Automating Appointment Management:** To create a web-based appointment system that allows users to make, modify, and

According to Rashmi K. (2023), "After booking their

cancel appointments using a structured and user-friendly interface.

•**Improving Organization Tracking of Sales:** To build a digital database system that organizes daily, monthly, and annual sales and service records.

•**Improving Customer Experience:** To design and launch a website for the salon that serves as a platform for both advertising and appointment scheduling.

1.3 Scope and Limitation

This study focuses on developing a web-based appointment and management system specifically for Scissors and Mirrors Salon located in San Ildefonso, Bulacan. It involved developing and implementation of online appointment scheduling, digital record-keeping, payment module, and service quality enhancement.

The system is specifically designed for hair and nail services, with other services excluded in the initial version. The system primarily caters to local customers, with limited focus on reaching a broader audience outside the area.

2. Methodologies

This chapter offers a comprehensive exploration of the research methodology utilized in the study. It describes the research design, the respondents of the study, the instruments used, data gathering procedures, ethical considerations, and statistical treatment of data.

2.1 Research Design

This study uses a quantitative descriptive research design to collect data on client preferences and behaviors related to online appointment booking for Scissors and Mirrors Salon. The descriptive approach allows the researchers to capture detailed insights into client needs. The collected data will guide the system's design, ensuring it aligns with client expectations and improves service efficiency.

The system's development follows a developmental research design using the Waterfall model. This structured, linear approach ensures that each phase, requirements analysis, design, implementation, testing, and deployment is completed thoroughly before proceeding to the next. The Waterfall model is ideal for this project as it allows for detailed planning, clear documentation, and minimal disruptions during development.

2.2 System Developmental Design

The conceptual framework of this study outlines the development of a web-based appointment and record-keeping system for Scissors and Mirrors Salon. It shows how the system will address the salon's current issues, such as unorganized appointment scheduling and inefficient record-keeping. The framework highlights how the proposed system will improve customer booking convenience, reduce wait times, and simplify record management. By resolving these challenges, the system is expected to increase customer satisfaction and enhance overall business operations, contributing to the salon's long-term success.

The **Waterfall model** was used as the system development methodology. The Waterfall model is a traditional, linear, and

sequential approach characterized by distinct phases: requirements analysis, system design, implementation, testing, deployment, and maintenance (Bassil, 2012).



Figure 1: Waterfall Methodology Model

During the development of the Scissors and Mirrors Online Appointment System, requirements were gathered through interviews with salon staff, identifying the needs for improving manual scheduling and customer data management. The system's design, featuring flowcharts and ERDs, aimed to create a user-friendly, secure platform with compatibility across devices. Implemented using PHP, the system includes features like online appointment booking, customer record management, and inventory tracking. Although the system has not been officially deployed, it is fully functional, and maintenance activities are ongoing to develop features based on feedback from demonstration sessions.

2.3 Respondents

Table 1.

Population Group and Size of the study

Respondents	Frequency	Percentage
Scissors & Mirror Clients	12	60%
Scissors & Mirrors Staffs	5	25%
IT Professionals	3	15%
Total	20	100%

2.4 Research Instrument

To evaluate the performance of the Scissors and Mirrors Salon's online system, the researchers utilized **ISO/IEC 25010**, a software quality standard, as the research instrument. This standard provides a structured framework for assessing the quality

of software systems across different factors.

Table 2:

Research Instrument based on ISO/IEC 25010

Factors	Description
Functional Suitability	Ensures the system effectively performs its intended functions.
Performance Efficiency	Measures the system's responsiveness under various conditions.
Compatibility	Ensures the system works across various devices and browsers, providing a consistent user experience.
Usability	Assesses the ease with which users interact with the system.
Reliability	Evaluates the system's stability and error-handling under different conditions.
Security	Protects data and ensures system integrity.
Maintainability	Assesses the ease of modifications and updates.

3. Results and Discussion

In this chapter, the detailed study approach used to create the Scissors and Mirrors Online Appointment is presented, and the system's implementation outcomes are analyzed afterward. The methodology section shows the procedures and tactics used to gather data, evaluation of features of the system, and assess its effectiveness.

3.1 Objectives Analysis

Objective no.1: *To create a web-based appointment system that allows users to make, modify, and cancel appointments using a structured and user-friendly interface*

Table 1.

Objective 1 Interpretation

Evaluation Criteria	Mean Score	Percentage
Appointment management and service selections are intuitive	4.45	Agree
The system can handle scheduling appointments reliably while maintaining data integrity.	4.00	Agree

For the first objective, it aimed for the system to provide appointment management with user-friendly interface. The evaluation showed that this goal was achieved, as reflected by a mean score of 4.45 for the first evaluation criteria. This remark suggests that users found the process of managing appointments and selecting services straightforward and user-friendly, meeting the expectations set by the objective., the system's ability to handle scheduling appointments reliably, while maintaining data integrity, scored 4, which further confirms that the system meets the core requirements for reliability and data management. The system successfully fulfills the first objective of providing a user-friendly, structured appointment management system that users can easily navigate and use.

Objective no.2: *To build a digital database system that organizes daily, monthly, and annual sales and service records.*

Table 2.

Objective 2 Interpretation

Evaluation Criteria	Mean Score	Percentage
Records and updates are processed efficiently without any delays	4.00	Agree
The system is capable of efficiently storing and managing data and records of both current and past appointments.	3.95	Agree

In relation to the second objective, which was to create a digital database for the salon's records, the system demonstrated good performance. The first evaluation criteria received a mean score of 4, indicating that users found the system responsive and efficient in handling data updates. Furthermore, the system's ability to store and manage both current and past appointment data received a mean score of 3.95, which shows that the system is quite effective in handling appointment records, though there may still be slight room for improvement.

Objective no.3: *To design and launch a website for the salon*

that serves as a platform for both advertising and appointment scheduling.

Table 3.
Objective 3 Interpretation

Evaluation Criteria	Mean Score	Percentage
The interface is easy for customers to navigate which allow them to select services easily.	4.50	Agree
The system design is consistent, easy to learn for new users, and effectively advertises the company's service	4.05	Agree

For the third objective, which focused on developing a website for appointment scheduling while advertising, the user interface's ease of navigation received a mean score of 4.5, showing that users found it easy to browse through services and make selections, thereby enhancing customer experience and satisfaction. The system design, which integrates appointment scheduling while promoting the salon, also received positive feedback with a mean score of 4.05. This score indicates that the system design is both easy to learn for new users and effectively promotes the salon's services through its features.

3.2 Data Gathering Results

The demonstration of the Scissors and Mirrors Online Appointment System was evaluated in accordance with the ISO/IEC 25010:2011 standards. The system was evaluated in terms of its Functionality, Reliability, Performance Efficiency, Usability, Security, and Maintainability.

Table 4.
Mean Range Interpretation Scale

Scale	Description	Range
1	Strongly Disagree	1.00 – 1.51
2	Disagree	1.51 – 2.50
3	Neutral	2.51 – 3.50
4	Agree	3.51 – 4.50
5	Strongly Agree	4.51 – 5.00

Evaluation Results

The evaluation results offer a thorough review of the system's performance in terms of functionality, reliability, efficiency, compatibility, usability, security, and maintainability. Feedback gathered through a five-point Likert scale from users and stakeholders highlights strengths in usability and efficiency, while identifying opportunities for enhancing security and reliability. Overall, the system effectively meets the needs of both users and the salon owners.

Table 5.
System Overall Interpretation

Characteristic	Mean	Descriptive Interpretation
Functional Suitability	4.01	Agree
Reliability	3.92	Agree
Performance Efficiency	4.03	Agree
Compatibility	4.00	Agree
Usability	4.48	Agree
Security	4.35	Agree
Maintainability	3.97	Agree
Total Mean	4.11	Agree

The table provides an overall evaluation of the Scissors and Mirrors system across several key characteristics, including Functional Suitability, Reliability, Performance Efficiency, Compatibility, Usability, Security, and Maintainability.

The calculated total mean score is 4.11, which falls within the "Agree" range. This indicates that users are generally satisfied with the system's performance.

The highest scores were observed in Usability (4.48) and Security (4.35), showing strong user satisfaction in terms of ease of use and data protection.

Other attributes, such as Performance Efficiency (4.03) and Functional Suitability (4.01), also received positive evaluations. However, Reliability (3.92) and Maintainability (3.97) suggest that there is room for improvement in terms of the system's stability and ease of maintenance. Overall, the system performs well, with a balanced evaluation across all areas

4. CONCLUSIONS AND RECCOMENDATIONS

4.1 Conclusions

The project focused on developing an online appointment system for Scissors and Mirrors Salon, aiming to enhance customer experience improve sales tracking and record keeping. Based the analysis on the data gathered from users' feedback, the following conclusions were drawn:

1. The system was successful in creating a user-friendly platform for scheduling, modifying, and canceling appointments. The evaluation results, particularly the usability score (mean of 4.48) and functional suitability (mean of 4.01), indicate that users found the interface intuitive, and the essential features aligned with their needs. This shows that the primary goal of creating an efficient web-based appointment system was achieved.

2. The system effectively manages appointment data and service records, meeting the goal of organizing daily, monthly, and annual sales records. The reliability score (mean of 3.92) and maintainability score (mean of 3.97) suggest that while the system efficiently handles data, there are areas where future improvements can be made to enhance stability and simplify maintenance.
3. The goal of developing a website for appointment scheduling and also for customer reach was successfully accomplished. With a compatibility mean score of 4.00, the evaluation shows that the system meets the requirement for broad user accessibility. Furthermore, the security score of 4.35 highlights strong data protection measures, reinforcing customer trust and enhancing the promotion of the salon's services.
4. The system was considered dependable and secure, ensuring that customer data and appointment information are well-protected from unauthorized access. With a mean security score of 4.35, the system effectively meets users' needs for safeguarding personal information and maintaining data confidentiality.
5. The system efficiently minimized the need for manual appointment handling, simplifying the scheduling and management processes. Users rated the system's performance efficiency favorably (mean score of 4.03), affirming its capability to streamline appointment scheduling and enhance operational efficiency.

4.2 Recommendations

While the Scissors and Mirrors Salon Online Appointment System received positive feedback, there are still areas that can be enhanced to further improve functionality and user experience. The following recommendations are proposed:

1. While the system received favorable feedback, there were minor reliability concerns. Future updates should focus on improving the system's error recovery and stability to enhance the overall performance of the system.
2. Given the high usability score, it is recommended that additional guide resources be provided. This will help users maximize their experience and effectively utilize the system's features.
3. The system should undergo routine maintenance and updates to ensure it remains secure and functional. Incorporating user feedback into future updates can lead to enhanced satisfaction and user engagement.
4. To enhance customer engagement, it is suggested to introduce features such as appointment reminders via SMS or email directly from the system.
5. Despite being compatible with multiple web browsers, introducing a mobile app would offer users greater flexibility and convenience. This would allow customers

to easily manage their appointments directly from their mobile devices.

By focusing on these key areas, the Scissors and Mirrors Salon Online Appointment System can continue to improve, ensuring it meets both current and future demands effectively.

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