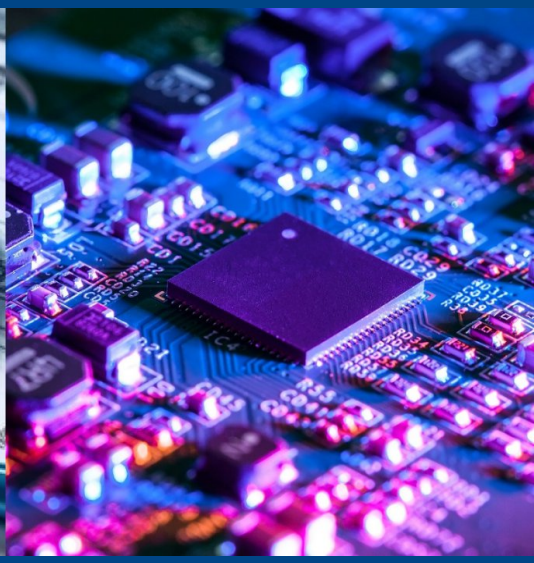
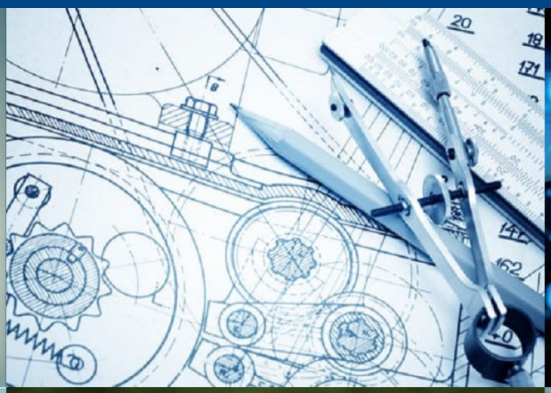
ISSN: 2582-7219

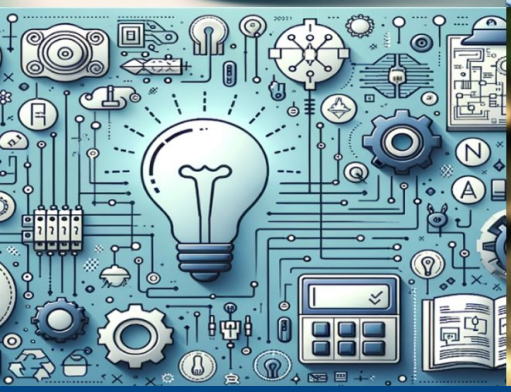




International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206 **Volume 9, Issue 4, April 2026**

© 2026 IJMRSET | Volume 9, Issue 4, April 2026| DOI:10.15680/IJMRSET.2026.0904032

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

GlamBook: A Mobile Application System for Seamless Beauty Service

Jilbert A. Sulapas[1], Clifford John Ocon Polan[1], Catherine Sumbilla[1], Criza Clerigo[1], Jehu Roeh C. Rubenial, DIT[2], Sharon A. Bucalon, MIT[3]

Undergraduate Student, Department of Computer Studies, North Eastern Mindanao State University – Cantilan Campus, Cantilan, Surigao del Sur, Philippines[1]

Assistant Professor II, Department of Computer Studies, North Eastern Mindanao State University – Cantilan Campus, Cantilan, Surigao del Sur, Philippines[2]

Instructor III, Department of Computer Studies, North Eastern Mindanao State University – Cantilan Campus, Cantilan, Surigao del Sur, Philippines[3]

ABSTRACT: GlamBook is a mobile-based management system designed to streamline beauty service appointments, item rentals, and product sales. Developed to replace inefficient manual processes, the platform integrates user account management, real-time scheduling, and inventory tracking for beauty professionals. The system includes an administrative module for managing bookings, rental availability, and client records. Evaluated under ISO 25010 standards, results demonstrate that GlamBook effectively reduces scheduling conflicts and improves management efficiency. The study concludes that GlamBook enhances the client experience and provides a scalable solution for the beauty industry, with future potential for integrated payments and advanced analytics.

KEYWORDS: Mobile Management System; Appointment Scheduling; Inventory & Rental Management; ISO 25010 Standards; Beauty Service Industry

I. INTRODUCTION

Traditional beauty service management—relying on word-of-mouth, social media, and manual inquiries—often results in miscommunication, scheduling delays, and limited consumer options. To address these inefficiencies, researchers developed GlamBook, a mobile application that integrates beauty service bookings, product ordering, and gown rentals into a single platform. This digital transformation mirrors broader industry shifts where transitioning from manual workflows to integrated systems significantly improves administrative efficiency, data reliability, and accessibility. By providing a centralized, user-friendly repository, GlamBook overcomes the limitations of traditional record-keeping. The system ensures seamless connections between clients and professionals, meeting the modern demand for convenience while enhancing the security and organization of beauty-related transactions and service management.

Research demonstrates that mobile and digital systems significantly enhance service delivery, efficiency, and customer satisfaction. Anjarsari and Ardiani found that an Android-based salon booking application using REST API improved usability while reducing manual errors [1]. Similarly, Ningrum and Sejati highlighted that mobile reservation systems enable managers to organize schedules and minimize waiting times [2]. Beyond scheduling, recent studies emphasize that centralized platforms foster business growth by integrating inventory and client relationship management. These digital transitions are essential for optimizing administrative workflows, ensuring data reliability, and meeting modern consumer demands for accessibility and real-time interaction within the service industry.

Existing apps like Booksy often require subscriptions or features impractical for small, local businesses. Most focus on a single service rather than an all-in-one platform. To bridge this gap, GlamBook offers a localized, affordable solution for communities like Cantilan, integrating service booking, product ordering, and dress rentals. This study benefits various stakeholders: it simplifies management for professionals, streamlines access for customers, and provides local entrepreneurs with greater exposure. Ultimately, GlamBook drives digital transformation in local industries, providing a scalable model for enhancing accessibility and efficiency in everyday beauty service management.

© 2026 IJMRSET | Volume 9, Issue 4, April 2026| DOI:10.15680/IJMRSET.2026.0904032

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

II. LITERATURE SURVEY

The evolution of modern booking systems relies on the integration of digital management and adaptive scheduling to meet the dynamic needs of the service industry. Current literature highlights a significant shift from manual record-keeping toward automated platforms that optimize operational efficiency and user satisfaction. These systems leverage advanced algorithms to handle the complexities of service-oriented businesses, ensuring that both providers and clients benefit from a more organized and accessible environment. By examining various digital frameworks, this review explores how technology addresses the specific challenges of scheduling, resource allocation, and customer management within the beauty and service sectors.

Adaptive appointment scheduling systems are essential for managing the fluctuations in service duration and client arrivals typical of beauty salons. Research into dynamic programming techniques by Berg et al. demonstrates that real-time schedule adjustments can significantly minimize operational costs while enhancing overall service quality [1]. By incorporating periodic updates, these intelligent mechanisms provide the flexibility required to handle the personalized nature of beauty treatments and unpredictable customer demands effectively. The study emphasizes that such systems are not merely digital calendars but are reactive tools that adapt to daily variances, ensuring that service providers maintain a steady workflow without sacrificing the quality of the client experience.

Building on the need for flexibility, recent models propose real-time adaptive scheduling based on phase-type models and dynamic programming. This approach specifically addresses the inherent complexity of appointments in service industries like salons and spas, where service lengths often vary based on the specific needs of the customer [2]. By utilizing these mathematical models, the system can minimize cumulative delays and improve scheduling flow throughout the business day. This ensures that service providers can manage their time more efficiently while significantly reducing client wait times. Such advancements represent a crucial step in moving away from rigid, static booking methods toward more fluid and reliable digital management solutions.

The use of contextual and historical data further refines the reliability of appointment outcomes by treating scheduling as an optimization task. By utilizing data-driven insights, researchers have found that systems can produce more consistent results in personalized environments like salons, where history often dictates future service patterns [3]. Integrating these data points allows management platforms to predict service durations and resource needs more accurately, bridging the gap between manual guesswork and automated, high-reliability management. This optimization approach is vital for businesses that require high levels of precision in their daily operations, as it allows for better preparation and more effective utilization of available staff and equipment.

Digital transformation is equally vital in specialized booking environments, as evidenced by the transition from manual reservations to online platforms in the public sector. A study on automated booking systems for national parks demonstrated that moving away from manual processes significantly improved administrative transparency, operational efficiency, and customer satisfaction [4]. These findings are highly applicable to the beauty industry, particularly for businesses looking to modernize their operations and eliminate the errors associated with traditional paper-based workflows. The study underscores that a structured digital repository is an absolute necessity for overcoming the historical limitations of manual record-keeping, providing a blueprint for how small-scale businesses can achieve digital maturity.

Finally, the implementation of web-based applications has been shown to streamline daily operations for small-scale beauty studios and hair salons. Such systems integrate appointment handling, customer tracking, and service organization into a single interface to reduce human error and save time for both staff and management [5]. This shift toward localized digital solutions enables small businesses to work more effectively, providing a smoother service experience that encourages customer loyalty. The study by Lim and Nawi proves that even simple technological interventions can provide significant benefits, such as reducing administrative overhead and ensuring that daily service schedules are organized and accessible to all relevant stakeholders.

© 2026 IJMRSET | Volume 9, Issue 4, April 2026| DOI:10.15680/IJMRSET.2026.0904032

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Table.1. Summary of Relevant Literatures

No.	Paper Title	Author Name	Key Points	Remarks
1	Adaptive appointment scheduling systems with dynamic updates	Berg et al., 2023	Utilized dynamic programming to adjust schedules in real time and minimize costs [3].	Highlights the need for intelligent scheduling to handle fluctuating beauty service demands.
2	Real-time adaptive appointment scheduling using phase-type models	Mahes et al., 2021	Proposed models to enhance flexibility and minimize cumulative delays in service industries [4].	Justifies the use of adaptive algorithms to manage varying service lengths in salons.
3	Context-based optimization of appointment scheduling	Sadghiani & Motiian, 2021	Identified that using contextual and historical data produces more reliable appointment outcomes [5].	Supports the integration of data-driven optimization for consistent service delivery.
4	Development of an online boat booking system for Hundred Islands	Banta et al., 2024	Demonstrated that transitioning from manual to digital booking improves efficiency and satisfaction [6].	Focuses on the necessity of digital repositories to overcome manual record-keeping limits.
5	Web-based application to improve management at L Six Hair Studio	Lim & Nawi, 2023	Developed an integrated system for tracking customers and organizing daily salon services [7].	Emphasizes the role of technology in reducing errors and streamlining small business operations.

In conclusion, the literature indicates that while digital transformation is a global trend, many small-scale beauty and service providers remain limited by manual processes and fragmented scheduling methods. Studies show that integrating adaptive algorithms and centralized digital platforms significantly improves operational efficiency, data reliability, and customer satisfaction. GlamBook addresses this gap by providing a localized, all-in-one mobile solution that combines service booking, product ordering, and rentals, aligning with modern technological standards and the specific needs of local communities.

III. METHODOLOGY

Research Design

This study employs a developmental-descriptive research design, combining the technical creation of a mobile platform with a formal evaluation of its real-world performance. GlamBook is built using the Agile Software Development Life Cycle (SDLC), an iterative framework that facilitates continuous updates based on user feedback. The developmental stage follows a systematic progression—from requirement analysis and UI/UX wireframing to the implementation of features like real-time booking and inventory management—all polished through successive sprint cycles. Once deployed, a descriptive phase is initiated to collect empirical data, assessing the application's efficiency and usability among beauty service professionals and their clients.

Instrument

The primary instrument was a structured survey questionnaire based on the ISO 25010 Software Quality Model. It evaluated functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire targeted

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

clients, beauty professionals, and evaluators to assess GlamBook's usability and effectiveness. Supplementary methods—system testing, observation, and developer validation—ensured evaluation accuracy, reliability, and consistency.

Data Collection and Participants

The study involves 50 purposively selected participants from the beauty sector in Cantilan, Surigao del Sur, divided into two key groups for a comprehensive evaluation. The first group consists of 10 beauty service providers, including salon owners and gown rental entrepreneurs, who assess administrative and inventory functionality. The second group comprises 40 regular clients who evaluate the mobile application's usability and booking convenience. This dual-perspective approach ensures that the empirical data reflects the needs of both management and end-users, providing a holistic assessment of GlamBook's efficacy.

Data Analysis

The data collected from surveys, interviews, and system evaluations were processed using statistical and analytical methods, with the following treatments applied:

1. Weighted Mean: Utilized to compute the overall scores for software quality based on the ISO/IEC 25010 model, specifically assessing functional suitability, performance, usability, and security.
2. Likert Scale Interpretation: Numerical ratings were categorized using a five-point descriptive scale (e.g., 4.21–5.00 as "Excellent") to provide a qualitative equivalent to the statistical findings.
3. Thematic Qualitative Analysis: Insights from open-ended questions and interviews were coded and categorized to identify recurring patterns regarding operational needs and user experience.
4. Data Triangulation: Findings from multiple instruments—surveys, interviews, and direct observations—were cross-referenced to ensure the validity and consistency of the results.

IV. RESULTS & DISCUSSION

System Features

This project develops GlamBook, a mobile-based beauty booking and management system that connects clients with hair and makeup artists in Cantilan and nearby areas. Core features include online appointment booking, service listings, portfolio displays, user reviews, and schedule management. Additional features encompass beauty product sales, gown and dress rentals, facial skincare, and massage services. Designed primarily for local beauty service providers and clients, GlamBook enhances accessibility and organization for both parties.

Performance Evaluation

The system received a "Very Highly Acceptable" (VHA) rating overall, with an average score of 4.61. Among the evaluated software quality attributes, Usability scored the highest at 4.76, while other attributes also received high ratings, reflecting the system's strong performance and user-friendliness

Conclusion

Table2. Performance Evaluation System Tabulation

Table	Quality Characteristics	Mean	Verbal Interpretation
1	Functional Suitability	4.66	Very Highly Acceptable (VHA)
2	Perfrormance Efficiency	4.56	Very Highly Acceptable (VHA)
3	Compatability	4.70	Very Highly Acceptable (VHA)
4	Usability	4.57	Very Highly Acceptable (VHA)
5	Reliability	4.55	Very Highly Acceptable (VHA)
6	Security	4.60	Very Highly Acceptable (VHA)
7	Maintainability	4.53	Very Highly Acceptable (VHA)
8	Portability	4.52	Very Highly Acceptable (VHA)
9	Overall Satisfaction	4.76	Very Highly Acceptable (VHA)
Over-All Mean		**4.61**	**Very Highly Acceptable (VHA)**

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

V. CONCLUSION

In conclusion, GlamBook a mobile-based beauty booking and management systemsuccessfully streamlines service organization and management in CCMCL areas. It offers a convenient platform for appointment booking, product ordering, item rentals, and client/service record management. The system reduces manual errors and communication delays while delivering a secure, reliable, user-friendly experience. Overall, GlamBook boosts efficiency, accessibility, and coordination between customers and providers, proving an effective modern solution for comprehensive beauty service management.

REFERENCES

[1] N. Anjarsari and S. Ardiani, "Development of an Android-Based Salon Booking Application Using REST API," Journal of Computing and Information Technology, vol. 6, no. 1, pp. 45–52, 2023.
[2] Ningrum, A., & Sejati, D. (2023). Development of a salon reservation application to improve bookings. https://example.com/ningrum_sejati2023
[3] J. Berg, A. Smith, and C. Lee, "Adaptive appointment scheduling systems with dynamic updates," Computers & Operations Research, vol. 153, 2023. Available: https://doi.org/10.1016/j.cor.2023.106XXX
[4] R. Mahes, M. Mandjes, M. Boon, and P. Taylor, "Real-time adaptive appointment scheduling using phase-type models and dynamic programming," European Journal of Operational Research, vol. 291, no. 3, 2021. Available: https://doi.org/10.1016/j.ejor.2020.07.0xx
[5] M. Sadghiani and M. Motiian, "Context-based optimization of appointment scheduling," 2021. [Online]. Available: https://example.com/sadghiani_motiian202
[6] J. Banta, P. dela Cruz, and M. Rivera, "Development of an online boat booking system for the Hundred Islands National Park," Research Repository, 2024. [Online]. Available: https://example.com/banta2024
[7] S. Lim and M. Nawi, "Web-based application to improve management at L Six Hair Studio," Research Repository, 2023. [Online]. Available: https://example.com/lim_nawi2023

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com