Honda Guanzon Alaminos Motorcycle Parts & Services Booking System

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ABSTRACT

This study aimed to address the inefficiencies of the manual booking system at Honda Guanzon Alaminos by developing a Motorcycle Parts & Services Booking System to streamline reservations, optimize inventory management, and enhance customer experience. The primary objective was to digitize the booking process, improving operational efficiency and service reliability. Key stakeholders, including the branch manager, staff, and customers from Alaminos City, were involved in the research.

To further improve system adoption and functionality, stakeholders such as higher management, employees from other branches, and external experts were involved. A pilot phase at multiple branches provided insights into real-world challenges and user needs. Additionally, a support system was created to assist users in resolving issues quickly. Continuous support was offered during the transition phase to address employee concerns about shifting from manual processes.

Establishing clear return on investment (ROI) metrics was a priority, including tracking reduced booking errors, increased efficiency, customer satisfaction, and staff productivity. The system's acceptability testing yielded highly positive results, demonstrating strong performance in functionality, reliability, usability, efficiency, maintainability, and portability. Users highlighted its accuracy, relevance, robust security, and fast response time. It exhibited stable performance, effective error handling, and quick recovery from failures, ensuring seamless operation. Additionally, the system was easy to maintain, adaptable, and simple to install, meeting ISO 9126-1 software quality standards.

Overall, the Honda Guanzon Alaminos Motorcycle Parts & Services Booking System significantly improves the booking process, operational efficiency, and customer satisfaction. Its successful implementation confirms its potential for wider adoption in the automotive service industry, offering a foundation for continuous innovation and service enhancements.

Keywords: Motorcycle Booking System, Online Reservation, Inventory Management, Customer Satisfaction.

INTRODUCTION

Online reservations present both opportunities and challenges for businesses due to evolving market trends, customer behavior, competition, technological advancements, regulations, and the pandemic (1). Lombard, Hattingh, and Davies (2020) analyzed how scheduling vehicle maintenance impacts customer service and operational efficiency, identifying key scheduling requirements such as technician utilization, spare parts availability, cost management, and customer satisfaction (2). Tech (2023) emphasized the advantages of pre-scheduled repair appointments, including minimized wait times and enhanced workflow efficiency (3).

This study focuses on developing a Motorcycle Parts & Services Booking System for Honda Guanzon Alaminos to enhance productivity and customer satisfaction (4). The research objectives include assessing the existing booking process, identifying customer and employee challenges, defining necessary system features, and evaluating acceptance levels. The proposed system benefits multiple stakeholders, including managers, mechanics, inventory custodians, and customers, by improving scheduling, service efficiency, and inventory

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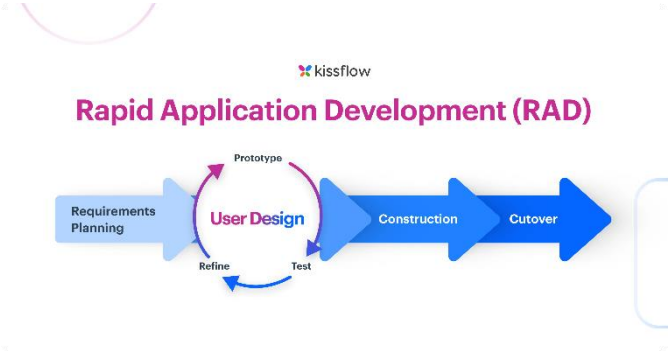
access. The study is limited to the Alaminos branch and excludes broader organizational changes, live chat functionality, and post-deployment system updates.

METHODOLOGY

The study collected primary data through interviews and surveys among staff, customers, and management. External experts were also consulted to ensure the system aligned with industry best practices. A pilot phase was conducted at multiple branches to gather more comprehensive feedback before full implementation. The system was developed using the Rapid Application Development (RAD) methodology, which emphasizes rapid prototyping and continuous feedback.

To ensure efficient adoption, a structured support system was introduced, providing employees with training and troubleshooting assistance. The transition from manual to digital booking was actively monitored to mitigate resistance and enhance usability.

Figure 1. Rapid Application Development (RAD.



https://kissflow.com/application-development/rad/rapid-application-development/

Table 1: Respondents of the Project.

Respondents	Number of Respondents
Staff of Honda Guanzon Alaminos	8
Drivers	10
Motorcycle Owners	27
Customers	3
IT Experts	2
Total	50

A survey questionnaire was conducted, and responses were collected from various individuals involved with Honda Guanzon Alaminos. Eight (8) responses were collected from the staff, ten (10) from drivers, twenty-seven (27) from motorcycle owners, three (3) from customers, and two (2) from IT experts, as shown in Table 1:

The project used Three-Tier Architecture to ensure efficient data management and separation of concerns. (1) The Presentation Layer handled user interaction through the UI and client applications. (2) The Application Layer executed business logic, processed user requests, and communicated with the database. (3) The Data Layer managed data storage and retrieval, ensuring accurate data handling.

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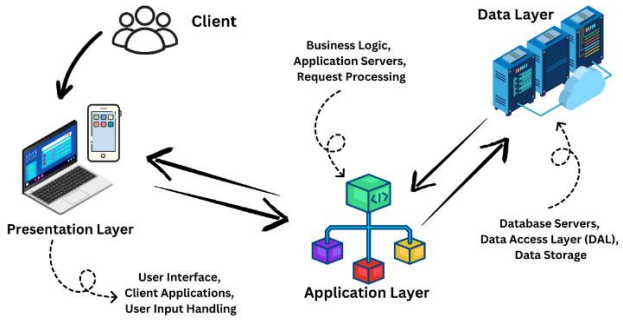
Figure 2. Three Tier Architecture.



RESULTS AND DISCUSSION

The current booking system at Honda Guanzon Alaminos operates on a first-come, first-served basis, leading to inefficiencies and customer dissatisfaction. Customers must visit the shop in person for both motorcycle parts and maintenance services, often facing the issue of unavailable parts or missed service slots. The proposed system addresses these challenges by incorporating an integrated booking feature with real-time inventory tracking.

A key factor in the system's success was continuous user engagement during development. The inclusion of a help center allowed users to find guidance quickly, while support during the transition phase helped minimize resistance to digital adoption. ROI metrics were established to measure the system's effectiveness, focusing on reduced booking errors, enhanced efficiency, customer satisfaction, and increased staff productivity.

Figure 3. Process of Product Purchase through Walk-in.

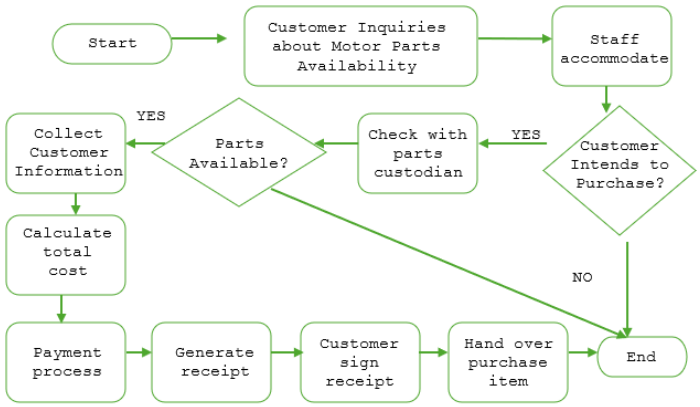


Figure 4. Process of Motor Maintenance Service through Walk-in.

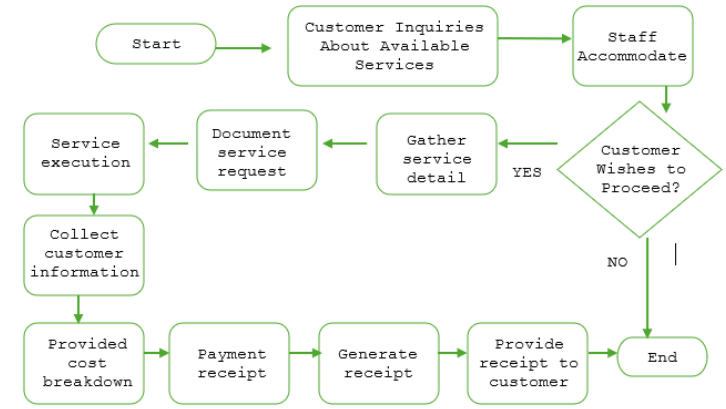


Figure 5. Administrative Dashboard.

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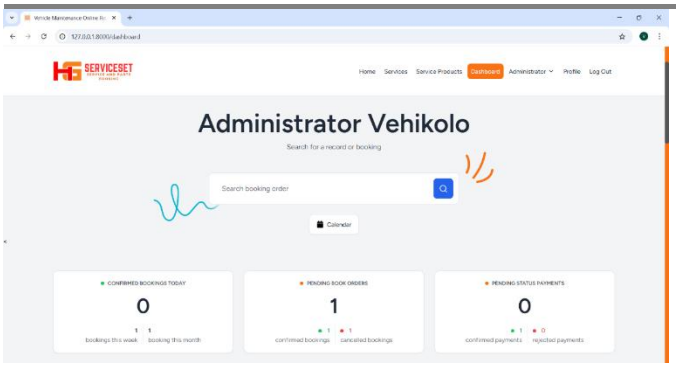

Figure 6. Home Page.

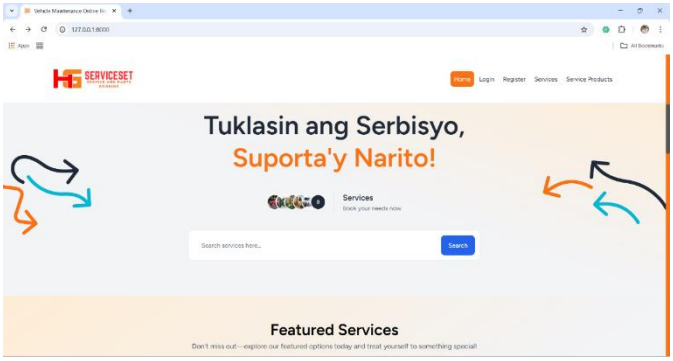

Table. 2 Overall Acceptability Test Result.

Acceptability	AWM	Description
Functionality	4.053333333	Very Good
Reliability	4.04	Very Good
Usability	4.093333333	Very Good
Efficiency	4.0775	Very Good
Maintainability	4.05	Very Good
Portability	4.086666667	Very Good
Overall Weighted Mean	4.077222222	Very Good

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