VRMMS

VEHICLE REPAIR AND MAINTENANCE MANAGEMENT SYSTEM

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by

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INTRODUCTION

The study aims to develop a web-based system that will help repair shop owners facilitate managing the appointment of vehicle repair and maintenance by the client. The study will also revolve around the record-keeping of the schedule made by the clients, which will serve as a maintenance history. The system will include a repair tracking feature, enabling clients to monitor the status of their vehicle's repairs and maintenance. The project aims to address the dilemma faced by repair shop owners, by developing a contemporary Vehicle Repair and Maintenance Management System. ize the entire vehicle repair and maintenance process. It encompasses features like scheduling and tracking repairs, documenting maintenance histories, and generating billing reports. Test and improve the performance of the VRMMS in related to functionality, security, and reliability. The study will also involve integrating a billing feature to generate invoices estimating service repair and Maintenance costs. It will also include integrating a billing feature to generate invoices estimating service repair and maintenance costs.

METHOD

The study was based on the Vehicle Repair and Maintenance Management (VRMMS) system. The system's flowchart process for vehicle repair and maintenance begins with creating accounts. The project design will be composed of System Architecture, Flowchart Diagram, Project Development Flowchart, and Use-Case Diagram. The database will play a crucial role as the backend storage and management system. It will be responsible for storing and managing all data related to clients, mechanics, and more. The results of the study will be used to improve the system. The study aims to generate a web-based vehicle repair and maintenance management system. The system will be specifically designed and developed for vehicle repair shops. It aims to streamline the customer request, admin approval, and assignment processes, providing clarity and efficiency in the system's operation. The user may engage with the system in an enjoyable and fulfilling way because of its user interface. The study will attempt to improve the competence and success of daily viewpoints in car repair shops through innovative web- based solutions. The system was developed based on ISO 25010 quality models. It will be a web-based application that will enable users to request services. The architecture caters to three types of users: administrators (the shop owner), mechanics, and clients. The system can be easily learned, understood, and worked with. It can also be used to test the system's reliability and security. It was developed to provide a secure, reliable, and easy-to-use system. It has been designed to be available to the TUP-Manila community.

RESULTS

The system has the following capabilities: The system can be used to schedule an appointment for cars. The system will not share data with others, and it will only be accessed by the administrator. The mechanics will notify the admin when the user's vehicle is finished so that the admin may notify the user The system is appropriate to the needs of the users. It can be accessed easily on its intended place. It was evaluated based on the ISO 25010 standards, focusing on security aspects. It contains the service request, the client who has registered, the mechanics, the new service request and the completed services. The evaluation sought to gather insights into the effectiveness and usability of the viewpoints system based on the ISO 25010. The system has a Highly Highly Acceptable and Acceptable interface and features that are aligned with the expectation and expectation of the authorized organization. It can trace the repercussions of a person's actions and prove to be the one who claimed the service. It also includes other information such as the due date, the mechanic's name, service status, and service completion date. It is available for clients who were not able to book their appointments through websites. The goal of this project system is to offer a systematic evaluation of auto repair services. The system provides generic inputfields, buttons, tabs, and other tools so that the client can easily access the system. The report generated from the client's record is influenced by various filters such as service type, completion date, and service status. The evaluation result indicated that the system's viewpointsability is highly acceptable, with particular strengths in effectiveness and efficiency. However, the evaluation result revealed that faultlessness was the least acceptable aspect as perceived by respondents. The system is working as planned in spite of the presence of the hardware of the software. The system is highly stringent in its security criteria for sensitive data. It contains each client's icon, name, vehicle type, service type, and request ID in addition to the request ID. Mechanic users are shown in the image above. The least acceptable aspect was the authenticity of the respondents, suggesting a need for improved verification methods to ensure the reliability of user inputs. The administrators and mechanics will notify users who have made adjustments to their payment arrangements. The

site will only be accessible with internet access or Wi-Fi. The system is only compatible with desktop and laptops. The user will receive an email notifying him/her that his/her request has been fulfilled after the admin has verified. The test results indicated that the system's functionality is highly acceptable to the respondents, demonstrating solid functionality under various operational conditions. The least acceptable aspects identified were operationality and user interface protection, where the respondents highlighted weaknesses that could impact the overall user experience and stability.

DISCUSSION

The vehicle repair and maintenance management system proved to be effective in terms of functionality and usability based on ISO 25010. However, the evaluation revealed that faultlessness was the least acceptable aspect as perceived by respondents. The system?s security was highly acceptable, meeting stringent criteria for protecting sensitive data and ensuring system integrity. The least acceptable aspects identified were operationality and user interface protection, where respondents identified weaknesses that could impact the overall user experience and stability. The following recommendations are offered for related research in vehicle repair.