Viajeros: The Assessment of an Online Minibus Ticket Reservation System

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A R T I C L E I N F O

A B S T R A C T

Transportation issues persist due to the pandemic, limited public transportation, and strict passenger capacity regulations. Traditional systems requiring physical visits to terminals for ticket purchases and fare payments pose difficulties for commuters. To address these challenges, the researchers developed the Viajeros web application, benefiting both the company and customers. Using a developmental research design, they assessed the system's technical aspects and quality with input from IT experts and end-users. Results revealed high satisfaction with the system's technical features and usability. The solution effectively resolved problems related to ticket and seat reservations for minibuses, improving transportation efficiency and convenience. Recommendations include incorporating an alternative payment option to accommodate smartphones without QR scanning capabilities and enhancing the user interface for better user experience. These findings can guide the development of similar reservation and management systems, benefiting future researchers and practitioners. Implementing these recommendations can advance the field, benefiting residents of Rizal, Nueva Ecija, and potentially influencing global systems

INTRODUCTION

The continuous evolution of the world prompts people to constantly seek ways to enhance comfort, convenience, and the overall quality of life. In this pursuit, technology has played a crucial role in driving advancements across various sectors, including transportation. The 21st century has witnessed remarkable contributions of technology to the transportation landscape, transforming the way people move and commute. Amidst this wave of progress, one cannot overlook the significance of Jeepneys, widely recognized as jeeps, which have held their position as the most popular mode of public transportation in the Philippines for a considerable period (Lema, 2007). With their origins dating back to the American colonial period (Otsuka & Kikuchi, 1986), jeepneys have become an integral part of the country's history and have significantly impacted the lives of countless Filipinos.

As the "King of the Road" in the Philippines (San Juan, 2020), Philippine jeepneys have undergone notable evolution and development to adapt to the changing era and meet the demands of modern times. The Philippine Department of Transportation (DOTr) has been actively seeking ways to address transportation-related challenges while harnessing the potential of technological advancements. One such initiative is the Public Utility Vehicle Modernization Program (PUVMP) (DO 2020-021, 2020; Viado, 2023), which advocates for the replacement of old jeepney units with modern counterparts adhering to established regulatory standards and policies. This program not only aims to enhance the efficiency and safety of public transportation but also signifies a transformative step towards embracing the opportunities offered by technological progress.

The municipality of Rizal in the province of Nueva Ecija, Philippines, stands out as one of the few municipalities that implemented this transport modernization measure in 2020. The introduction of this program has sparked diverse reactions among the residents of Rizal. While some individuals expressed discontentment and sadness over the replacement of the traditional jeepney units, others exhibited enthusiasm and optimism, embracing the positive prospects associated with the modernization efforts. Recognizing the potential of this transportation transformation, researchers seized the early stage of implementation in the municipality as an opportunity to integrate new technological solutions. Consequently, they proposed the development of a web application for ticket and seat reservation. This endeavor aimed to address the inconsistencies and challenges arising from in-person ticket sales, providing a seamless and efficient platform for commuters while ensuring accurate and reliable reporting to the authorities. The absence of such a reservation system had further motivated the researchers to embark on this study, driven by the desire to facilitate a more streamlined and user-friendly experience for commuters.

LITERATURE REVIEW
Statement of the Objectives

In general, this study aimed to assess the developed online ticket and seat reservation system for minibus transport vehicles in Rizal, Nueva Ecija. The researchers named this platform Viajeros.

Specifically, this study sought to describe the following:

1. How may the assessment of the IT experts be described in terms of the ISO 25010 standards which include:
a) Functional Suitability;
b) Usability;
c) Reliability;
d) Performance Efficiency;
e) Compatibility;
f) Security;
g) Maintainability; and
h) Portability?
2. How may the end users assess the system based on the following selected ISO 25010 criteria:
a) Functional Suitability;
b) Reliability; and
c) Usability?

METHODOLOGY

This study employed a developmental research design to assess the web application. According to Seels and Richey (1994), developmental research was defined as the "systematic study of designing, developing, and evaluating instructional programs, processes, and products that had to meet criteria of internal consistency and effectiveness." In the context of assessing the web application, this research design was deemed appropriate. Previous studies also utilized this design to assess various information systems and applications. These studies included the research conducted by Olipas (2019), Olipas and Villanueva (2019), Cabigting et al. (2023), Dela Fuente et al. (2023), and Reguyal et al. (2023).

The study was conducted in the municipality of Rizal, Nueva Ecija. It involved two sets of respondents. Twenty IT experts were purposefully involved to assess the technical aspects of the system, while 30 randomly selected residents of Rizal who were part of the riding public participated in assessing the quality of using the system. The use of purposive sampling to identify the IT experts and random sampling to determine the end-users were appropriate in this study.

During the data gathering process, the researchers employed two sets of instruments. They ensured the validity and reliability of these instruments to collect the necessary data for addressing the identified research problems. The purpose of the study was explained to the respondents, and measures were taken to ensure that no personal information was collected. Additionally, the researchers guaranteed the utmost confidentiality and anonymity of the collected data. The data were analyzed using statistical software, and the results were

interpreted by the respondents to draw valuable insights regarding the developed system.

RESULTS AND DISCUSSION
The Assessment of Technical Quality based on the ISO 25010 Software Standards of the Viajeros made by the IT Experts

The following tables present the result of the assessment on the technical features of the web application made by the IT experts. The IT experts evaluated the web application's technical features in terms of functional suitability, usability, reliability, performance efficiency, compatibility, security, maintainability, and portability.

In table 1, the result on the evaluation in terms of functional suitability is presented.

Table 1. Assessment of the IT Experts on the Functional Suitability Feature

Item Statements	Mean	Verbal Description
The system fulfils all defined duties and use goals (Functional completeness)	3.67	Strongly Agree
The technology can deliver accurate results when given the necessary data (Functional correctness)	3.60	Strongly Agree
The system's operations make it easier to complete specific activities and achieve particular goals (Functional appropriateness)	3.80	Strongly Agree
Grand Mean for Functional Suitability		**3.69**
Verbal Description		**Highly Functional**

Table 1 presents the assessment of IT experts on the functional suitability feature. The table includes three statements related to the functional suitability of the system, along with their corresponding mean scores and verbal descriptions. The first item, "*The system fulfils all defined duties and use goals (Functional completeness),*" received a mean score of 3.67. This indicates that the IT experts strongly agree that the system adequately meets all the defined duties and goals. It suggests that the system's functionality covers all the intended features and requirements. The second item, "*The technology can deliver accurate results when given the necessary data (Functional correctness),*" obtained a mean score of 3.60. The experts also strongly agree with this statement, implying that the system has a high level of accuracy in delivering results when it is provided with the required data. It indicates that the system performs its intended functions correctly and reliably. The third item, "*The system's operations make it easier to complete specific activities and achieve particular goals (Functional appropriateness),*" received a mean score of 3.80. The IT experts strongly agree that the system's operations facilitate the completion of specific activities and the achievement of particular goals. It suggests that the system is well-designed and tailored to meet the needs of users, enhancing their efficiency and effectiveness.

The grand mean for the functional suitability feature is calculated to be 3.69, indicating a high level of functionality. This suggests that the IT experts, on average, perceive the system to be highly functional in terms of meeting defined duties, delivering accurate results, and enabling the completion of activities and goals. Based on the assessments of the IT experts, the system demonstrates strong functional suitability. It fulfils defined duties and use goals, delivers accurate results, and provides ease of use for completing activities and achieving goals. These positive results indicate that the system is well-aligned with the functional requirements and expectations.

Table 2 presents the results of the evaluation conducted to assess the usability of the system.

Table 2. Assessment of the IT Experts on the Usability Feature

Item Statements	Mean	Verbal Description
The system can be easily recognized by the end-users as a product to solve their needs. (Appropriateness recognizability)	3.53	Strongly Agree
The system can be easily learned. (Learnability)	3.67	Strongly Agree
The system can be easily operated and controlled (Operability)	3.53	Strongly Agree
The system user interface looks pleasant and satisfactory (User interface aesthetics)	3.60	Strongly Agree
The system protects users from making errors (User error protection)	3.53	Strongly Agree
The system can be accessed by users under specified conditions (Accessibility)	3.47	Strongly Agree
The system provides basic operational instructions and hunts to its users when in operations (Supportability)	3.53	Strongly Agree
The information can be easily searched, found, or located with the use of the system (Searchability)	3.67	Strongly Agree
Overall Grand Mean for Usability		**3.57**
Verbal Description		**Highly Usable**

Table 2 presents the assessment of IT experts on the usability feature of the system. The table includes specific item statements related to usability, their corresponding mean ratings, and verbal descriptions. The mean values indicate the average ratings provided by the IT experts for each item statement.

The first column lists the item statements that assess different aspects of usability, such as appropriateness recognizability, learnability, operability, user interface aesthetics, user error protection, accessibility, supportability, and searchability. The IT experts were asked to rate their agreement level with each statement. The second column displays the mean ratings for each item, representing the average score provided by the experts. The third column

provides a verbal description of the mean rating, indicating the level of agreement or satisfaction expressed by the experts.

The computed mean values for the usability feature range from 3.47 to 3.67. The highest mean ratings are for "*The system can be easily learned*" and "*The information can be easily searched, found, or located with the use of the system,*" both receiving a mean rating of 3.67. The lowest mean rating is for "*The system can be accessed by users under specified conditions*" with a mean rating of 3.47. Overall, the grand mean for usability is 3.57, indicating a highly usable system according to the IT experts' assessment.

The results of the assessment suggest that the IT experts strongly agree with the usability aspects of the system. The majority of item statements received mean ratings above 3.5, indicating a high level of agreement and satisfaction. This implies that the system is easily recognized by end-users as a solution to their needs, can be learned and operated easily, has a pleasant user interface, protects users from making errors, and provides support and searchability. The overall high mean rating of 3.57 further confirms the system's high usability.

These positive results have important implications for the system's user experience and acceptance. The high usability ratings indicate that the system is user-friendly, intuitive, and meets the needs of the users effectively. It suggests that the system has been designed and implemented well, considering the usability principles and incorporating features that facilitate user interaction and satisfaction. These findings provide valuable insights for further system improvements and confirm that the system's usability is a strength that can contribute to its successful adoption and usage by the end-users.

The findings of the evaluation carried out to determine the reliability of the system are presented in Table 3.

Table 3. Assessment of the IT Experts on the Reliability Feature

Item Statements	Mean	Verbal Description
The system meets the needs of its users under normal operations. (Maturity)	3.67	Strongly Agree
The system is accessible and operational at a time needed for use. (Availability)	3.67	Strongly Agree
The system operates as planned despite of the existence of malfunction hardware or software. (Fault Tolerance)	3.53	Strongly Agree
During a disaster, the system recovers and re-establish to its desired state. (Recoverability)	3.60	Strongly Agree
Overall Grand Mean for Reliability		**3.62**
Verbal Description		**Highly Reliable**

Table 3 presents the assessment of the IT experts on the reliability feature of the system. The table consists of four items or statements related to different aspects of reliability, along with their corresponding mean ratings and verbal descriptions.

The first item, "*The system meets the needs of its users under normal operations (Maturity)*," received a mean rating of 3.67. This indicates that the IT experts strongly agree that the system effectively fulfills the needs of its users during normal operations. Similarly, the second item, "*The system is accessible and operational at a time needed for use (Availability)*," also obtained a mean rating of 3.67. This suggests that the experts strongly agree that the system is readily accessible and operational when it is required for use. The third item, "*The system operates as planned despite the existence of malfunction hardware or software (Fault Tolerance)*," received a slightly lower mean rating of 3.53. Nevertheless, the experts still strongly agree that the system maintains its intended functionality even in the presence of malfunctioning hardware or software. Lastly, the fourth item, "*During a disaster, the system recovers and re-establishes to its desired state (Recoverability)*," obtained a mean rating of 3.60. This indicates that the experts strongly agree that the system demonstrates the ability to recover and restore its desired state in the event of a disaster.

Overall, the computed grand mean for the reliability feature is 3.62, suggesting that the IT experts perceive the system to be highly reliable based on their assessments. The verbal description of "Highly Reliable" further confirms this assessment. The results of the assessment indicate that the IT experts have a positive perception of the system's reliability. The high mean ratings and the "Strongly Agree" verbal descriptions across all items reflect a consensus among the experts regarding the system's ability to meet user needs, accessibility, fault tolerance, and recoverability. These findings have important implications for the overall quality and dependability of the system. The high level of perceived reliability implies that the system is expected to perform consistently and predictably, meeting user expectations and requirements. This instills confidence among users and stakeholders, as they can rely on the system's consistent availability and operational performance.

Furthermore, the system's ability to tolerate faults and recover from disasters reinforces its resilience and ensures minimal disruption in critical situations. This enhances the system's overall stability and contributes to a positive user experience. The positive assessment of the system's reliability by IT experts indicates a solid foundation for the system's successful operation, instills user trust, and provides a basis for continued improvements and enhancements.

Table 4 presents the results of the performance efficiency evaluation conducted to assess the system's performance.

Table 4. Assessment of the IT Experts on the Performance Efficacy Feature

Item Statements	Mean	Verbal Description
The system response and process events faster. (Time behavior)	3.60	Strongly Agree
The system utilizes information resources efficiently. (Resource Allocation)	3.60	Strongly Agree
The system parameters meet the system requirements. (Capacity)	3.67	Strongly Agree
Overall Grand Mean for Performance Efficiency		**3.62**
Verbal Description		**Strongly Agree**

Table 4 presents the assessment of IT experts on the performance efficacy feature of the system. The table includes item statements, their corresponding mean scores, and the verbal description of the ratings.

The first item statement evaluates the system's time behavior, specifically how quickly it responds to user actions and processes events. The mean score for this item is 3.60, indicating a strong agreement among the IT experts that the system indeed responds and processes events faster. The second item statement assesses the system's efficiency in utilizing information resources. The IT experts rated this aspect with a mean score of 3.60, indicating a strong agreement that the system effectively utilizes information resources. The third item statement examines whether the system parameters meet the specified system requirements. The mean score for this item is 3.67, indicating a strong agreement among the experts that the system's parameters align with the given requirements. Overall, the grand mean for the performance efficiency of the system is computed as 3.62. This suggests a high level of agreement among the IT experts that the system demonstrates strong performance efficacy.

The results of the assessment indicate that the IT experts hold a positive perception of the system's performance efficiency. They strongly agree that the system responds and processes events quickly, efficiently utilizes information resources, and meets the specified requirements. This implies that the system is effective in terms of its performance and efficiency, which are crucial factors for ensuring a smooth and satisfactory user experience.

The high rating for performance efficiency has positive implications for the overall system quality and user satisfaction. The system's ability to respond quickly and process events efficiently enhances user productivity and minimizes waiting times. Efficient utilization of information resources indicates optimal resource allocation, which can lead to cost savings and improved system performance. Moreover, the alignment of system parameters with requirements ensures that the system meets the intended functionality and performance goals. This enhances the system's reliability and effectiveness in addressing user needs.

The assessment results affirm the system's strong performance efficiency, indicating that it is well-designed and capable of delivering a high-quality user experience. These findings provide valuable insights for system developers and stakeholders, highlighting the successful implementation of performance-related

features and supporting the continued development and improvement of the system.

The findings from the compatibility evaluation, aimed at assessing the system's performance, are presented in Table 5.

Table 5. Assessment of the IT Experts on the Compatibility Feature

Item Statements	Mean	Verbal Description
The system performs its required operations efficiently while sharing its environment and information resources with other products or systems. (Co-existence)	3.60	Strongly Agree
The system interacts with other systems or software products. (Interoperability)	3.67	Strongly Agree
Overall Grand Mean for Compatibility		**3.64**
Verbal Description		**Strongly Agree**

Table 5 presents the assessment of IT experts on the compatibility feature of the system. The table includes the item statements, mean scores, and verbal descriptions of the experts' responses.

The first item statement focuses on the system's efficiency in performing its required operations while sharing its environment and information resources with other products or systems (Co-existence). The mean score for this statement is 3.60, indicating that the IT experts strongly agree with the system's ability to function efficiently in a shared environment. The second item statement relates to the system's interaction with other systems or software products (Interoperability). The IT experts also strongly agree with this aspect, as reflected by a mean score of 3.67. The Overall Grand Mean for Compatibility, which is the average of the mean scores of the two item statements, is computed to be 3.64. This value indicates a high level of agreement among the IT experts regarding the system's compatibility feature.

The IT experts' assessment of the compatibility feature shows strong agreement across both item statements. The system is perceived to perform its required operations efficiently while sharing resources with other products or systems, as well as effectively interacting with other systems or software products. The positive results suggest that the system has demonstrated good compatibility, which is essential for seamless integration and cooperation with other systems in its environment. This compatibility enables smooth information exchange and cooperation, potentially leading to improved efficiency and effectiveness in overall system performance.

The high level of agreement among the IT experts further strengthens the confidence in the system's compatibility. This positive evaluation implies that the system is well-suited to work harmoniously with other existing products or systems, reducing potential conflicts and facilitating collaboration. The findings

also highlight the system's ability to meet the compatibility requirements of the intended users and stakeholders. This aspect is crucial in ensuring a seamless and integrated user experience, promoting user satisfaction and acceptance. The positive assessment of the compatibility feature by the IT experts suggests that the system is well-designed and capable of effectively interacting with its environment, fostering interoperability and co-existence with other systems or software products.

Table 6 presents the results of the evaluation conducted to assess the security feature of the system.

Table 6. Assessment of the IT Experts on the Compatibility Feature

Item Statements	Mean	Verbal Description
The system ensure that information resources are accessible only to those authorized to have access. (Confidentiality)	3.73	Strongly Agree
The system prevents unauthorized access to information resources or modification of data. (Integrity)	3.60	Strongly Agree
The system can prove an action or an event believed to have taken place. (Non-repudiation)	3.67	Strongly Agree
The system can uniquely trace or account for an action or event of an entity. (Accountability)	3.53	Strongly Agree
The system can be used to identify its users and resources. (Authenticity)	3.53	Strongly Agree
The system can preserve and protect its past records for future references. (Achievability)	3.60	Strongly Agree
Overall Grand Mean for Security		**3.61**
Verbal Description		**Strongly Agree**

Table 6 presents the assessment of IT experts on the compatibility feature of the system. The table includes six statements related to different aspects of security, namely confidentiality, integrity, non-repudiation, accountability, authenticity, and achievability. Each statement is rated on a scale from 1 to 5, with 5 being the highest level of agreement. The "Mean" column indicates the computed average rating for each statement, representing the overall agreement level of the IT experts. The "Verbal Description" column provides a qualitative interpretation of the mean ratings.

Based on the table, the IT experts strongly agree with all the statements regarding the compatibility feature of the system. The mean ratings range from 3.53 to 3.73, indicating a high level of agreement among the experts. These scores suggest that the system effectively ensures confidentiality, prevents unauthorized access or data modification, provides non-repudiation, enables accountability, identifies users and resources, and preserves records for future references. The overall grand mean for the security aspect is calculated to be 3.61,

further indicating a strong agreement among the IT experts. This implies that the compatibility feature of the system is highly regarded in terms of security.

The results of this assessment demonstrate that the system has been well-designed to meet the security requirements outlined in the statements. The high mean ratings indicate that the system effectively provides confidentiality, integrity, non-repudiation, accountability, authenticity, and achievability. These positive results validate the robustness of the system's security measures, instilling confidence in its compatibility with established security standards.

The implications of these results are significant as they indicate that the system is reliable and trustworthy in protecting information resources. The high agreement level among IT experts suggests that the system's security features align with industry best practices. This provides assurance to users and stakeholders that their data and resources are adequately protected. Furthermore, the positive assessment of the compatibility feature highlights the system's potential for successful implementation and utilization in various contexts that prioritize security. Overall, these results reinforce the system's credibility and contribute to its overall effectiveness in providing a secure and compatible environment for users.

Table 7 presents the evaluation results focusing on the maintainability aspect.

Table 7. Assessment of the IT Experts on the Maintainability Feature

Item Statements	Mean	Verbal Description
The system is composed of discrete components or modules for easy usage. (Modularity)	3.60	Strongly Agree
The modules of the system can be used to operate other modules in the same system. (Reusability)	3.60	Strongly Agree
The system can diagnose or troubleshoot problems quickly. (Analyzability)	3.53	Strongly Agree
The system can be changed or updated without introducing bugs or degrading the existing standards. (Modifiability)	3.67	Strongly Agree
The system can provide test criteria for testing certain actions or change in the system.	3.53	Strongly Agree
Overall Grand Mean for Maintainability	**3.59**	
Verbal Description	**Strongly Agree**	

Table 7 presents the assessment of the IT experts on the maintainability feature of the system. The table includes various items or statements related to maintainability, along with their corresponding mean ratings and verbal descriptions. The first item, *"The system is composed of discrete components or modules for easy usage (Modularity),"* received a mean rating of 3.60, indicating a strong agreement. This suggests that the IT experts believe that the system is structured into separate and distinct components or modules, making it easy to

understand and use. Similarly, the second item, "*The modules of the system can be used to operate other modules in the same system (Reusability),*" also received a mean rating of 3.60, indicating a strong agreement. This implies that the experts perceive the system's modules to be designed in a way that allows for their reuse within the same system, promoting efficiency and reducing redundancy. The third item, "*The system can diagnose or troubleshoot problems quickly (Analyzability),*" received a mean rating of 3.53, indicating a strong agreement. This suggests that the IT experts believe the system has the capability to efficiently identify and resolve issues or problems, allowing for quick troubleshooting. The fourth item, "*The system can be changed or updated without introducing bugs or degrading the existing standards (Modifiability),*" received a mean rating of 3.67, again indicating a strong agreement. This indicates that the experts perceive the system to be easily adaptable and capable of accommodating changes or updates without compromising its performance or standards. The fifth item, "*The system can provide test criteria for testing certain actions or changes in the system,*" also received a mean rating of 3.53, indicating a strong agreement. This suggests that the system offers test criteria that can be utilized to evaluate specific actions or changes, enhancing the overall quality assurance process. The overall grand mean for the maintainability feature is computed as 3.59, with a verbal description of "Strongly Agree." This indicates that, on average, the IT experts highly agree that the system possesses good maintainability characteristics.

In summary, the assessment conducted by the IT experts reveals positive perceptions regarding the maintainability feature of the system. They believe that the system exhibits qualities such as modularity, reusability, analyzability, modifiability, and the provision of test criteria. These findings imply that the system is designed and developed in a way that facilitates efficient maintenance and future enhancements. Such maintainability characteristics are crucial for ensuring the longevity and adaptability of the system, allowing it to meet changing user needs and evolving technological requirements.

The evaluation results in Table 8 primarily focus on the aspect of portability.

Table 8. Assessment of the IT Experts on the Portability Feature

Item Statements	Mean	Verbal Description
The system can be moved or transferred easily to other environment or platform without any glitches. (Adaptability)	3.47	Strongly Agree
The system can be configured easily and quickly. (Install ability)	3.60	Strongly Agree
Overall Grand Mean for Portability		**3.54**
Verbal Description		**Strongly Agree**

Table 8 presents the assessment of IT experts on the portability feature of the system. The table includes three items related to the portability of the system, along with their corresponding mean values and verbal descriptions. The first item assesses the ease of moving or transferring the system to another

environment or platform without any glitches, referred to as adaptability. The mean value for this item is 3.47, indicating that the IT experts strongly agree that the system can be moved or transferred easily. The second item evaluates the ease and speed of configuring the system, known as installability. It has a mean value of 3.60, indicating a strong agreement among the IT experts regarding the system's easy and quick configuration.

The overall grand mean for the portability feature is computed as 3.54, which falls within the "Strongly Agree" verbal description. This suggests that, on average, the IT experts highly agree that the system demonstrates good portability. The computed mean values and the overall grand mean indicate a positive perception of the system's portability among the IT experts.

The results of the assessment highlight that the IT experts view the system as highly portable. They believe that the system can be easily moved or transferred to different environments or platforms without encountering glitches, demonstrating strong adaptability. Additionally, they perceive the system as easily and quickly configurable, enhancing its installability. These findings indicate that the system possesses favorable characteristics in terms of portability, which is crucial for organizations seeking flexible and adaptable software solutions.

The positive assessment of the portability feature implies several implications. First, the system's ease of movement or transferability without glitches suggests that it can be seamlessly deployed across different environments or platforms, enabling organizations to adapt to changing technological requirements. This flexibility allows for potential cost savings and resource efficiency. Second, the system's easy configuration enhances its installability, facilitating the setup process and reducing deployment time. This contributes to a smoother implementation experience for organizations and reduces disruptions during system installation. Overall, the positive assessment of the system's portability indicates that it is well-suited for organizations seeking agile and adaptable software solutions.

The Assessment of Quality of Using the System based on the Selected ISO 25010 Software Standards of the Viajeros made by the End-Users

Table 9 presents the result of the assessment made by the end-users on the selected ISO 25010 criteria to evaluate the quality of using the web application.

Table 9. Assessment of the End-User on the Selected ISO 25010 Software Standards

Item Statements	Mean	Verbal Description
Functional Suitability	3.56	Strongly Agree
Reliability	3.48	Strongly Agree
Usability	3.64	Strongly Agree
Overall Grand Mean	**3.56**	**High Quality**

Table 9 presents the assessment of the end-users on the selected ISO 25010 software standards. The table includes three items, namely Functional Suitability, Reliability, and Usability, along with their corresponding mean scores and verbal

descriptions. The computed mean scores provide an indication of the end-users' perceptions and levels of agreement with each item. In terms of Functional Suitability, the mean score is 3.56, indicating a high level of agreement among the end-users. This suggests that the software system meets their functional requirements effectively and is suitable for their needs. Similarly, the Reliability item has a mean score of 3.48, also reflecting a strong agreement. This implies that the software system consistently performs its intended functions accurately and reliably, instilling confidence among the end-users.

The Usability item receives the highest mean score of 3.64, indicating a particularly strong agreement among the end-users. This suggests that the software system is user-friendly, easy to navigate, and intuitive, resulting in a positive user experience. Overall, the Grand Mean score is 3.56, indicating a high-quality assessment by the end-users across the selected ISO 25010 software standards. The results of the assessment indicate that the end-users perceive the software system to be highly functional, reliable, and usable. This suggests that the system successfully meets their needs and expectations, enhancing their overall user experience. The positive ratings across all three items imply that the software system is well-designed, adequately meets the functional requirements, and operates reliably. These findings validate the efforts put into ensuring the system's functional suitability, reliability, and usability.

The high-quality assessment from the end-users highlights the effectiveness of the software system in meeting their expectations and providing a satisfactory user experience. It also indicates that the developers and designers have successfully incorporated the ISO 25010 software standards into the system, resulting in a product that aligns well with industry best practices. The positive end-user feedback is encouraging and can serve as a testament to the system's success and potential for wider adoption. The implications of these results include increased user satisfaction, improved productivity, and a higher likelihood of continued usage and recommendation of the software system to others.

CONCLUSION AND RECCOMENDATIONS

In today's world, where everyone was still dealing with a pandemic, limited public transportation, and strict regulations on passenger capacities, issues regarding transportation persisted in Rizal, Nueva Ecija. Many people faced difficulties in traveling due to the company's reliance on traditional systems, which necessitated visiting the terminal to obtain tickets from the counter and paying conductors for fares. To tackle these challenges and provide solutions for the residents of Rizal, Nueva Ecija, the researchers devised a plan to upgrade the existing system to a more modern one that would benefit both the company and its customers or passengers. As a result, they created the Viajeros web application.

The researchers utilized a developmental research design, engaging two sets of respondents: IT experts and end-users. They employed two sets of instruments to evaluate the technical aspects and the quality of using the system from the perspectives of IT experts and end-users, respectively. The results

revealed that the technical features and the usability of the system were highly satisfactory, demonstrating that it was of high quality. The assessment results indicated that the developed solution could effectively address the problems associated with ticket and seat reservations for minibuses in Rizal, Nueva Ecija, Philippines. The findings validate the viability of the developed system as a solution to enhance the efficiency and convenience of public transportation in the area.

FURTHER STUDY

Based on the conclusions drawn from this study, several recommendations can be made to further enhance the developed reservation system and its usability for the residents of Rizal and Nueva Ecija. Firstly, it is suggested that in the future, the system should incorporate a payment option that does not rely solely on scanning QR codes. This is particularly important as not all smartphones may have the capability to scan QR codes, and providing an alternative payment method would ensure accessibility for a wider range of users.

Secondly, the study findings highlight the significance of having a user-friendly system in the context of reservation and management. Therefore, future researchers should focus on assessing and improving the system's user interface and overall user experience. Exploring ways to simplify the process and make it more intuitive will contribute to increased user satisfaction and adoption of the system.

Lastly, the results of this study have broader implications beyond the current research. They can serve as a valuable reference for future researchers and individuals undertaking studies related to similar systems. The findings can guide and inform the development of reservation and management systems in other areas or contexts, providing insights into best practices and areas for improvement.

By considering these recommendations and building upon the conclusions of this study, researchers and practitioners can further advance the field of reservation and management systems, ultimately benefiting the residents of Rizal, Nueva Ecija, and potentially influencing similar systems worldwide.

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