

VISITORS' INFORMATION SYSTEM OF SAINT MARY'S UNIVERSITY (VISSMU)



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Visitors' Information System of Saint Mary's University (VISSMU)

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Abstract

In an evolving world, where pen and paper are still used in logging in, the researchers come up with this study to make logging in faster and more efficient. Visitors' Information System is a system where it uses a computerized system method of logging in. It encodes the necessary credentials of the visitor and to enter the campus hassle free. This will speed up the process ensuring that visitors can enter the campus more quickly and smoothly. This study aims to determine the level of Satisfaction of visitors of Saint Mary's University Main Campus on the Visitors Information System of Saint Mary's University. It employed a comparative-descriptive research design. And, by purposive sampling, 30 visitors were considered as the respondents of the study. After data analysis, the findings revealed that most of the respondents are satisfied with our system. Moreover, it was found that most of the respondents suggest that the system must be versatile to other devices e.g. Phones and tablets for the visitors to have easier access. The findings of this study can be used as a basis for future researchers for improving the Visitors' Information System.

Keywords: *visitors' information system, computerized system, logging in, quantitative, system*

Introduction

In today's era, the growth advancement of technology is rapidly proliferating. People could easily develop systems and web applications that improve their ability to perform to task. One of the ways we could maximize the usage of technology is to develop a system that helps every school and university keep track of the people entering and exiting their premises. According to Balbarino and Cortezano (2021), it is the school's responsibility to make all students, admin, faculty, and staff feel secure and safe at the premises. However, Balbarino and Cortezano (2021) quoted that there are still schools and universities that use the old fashion paper and pen visitor logbooks, which compromises the safety and security of the school, students, admin, and staff.

Visitor Management System refers to a structure to keep track of visitors' activities in organizations or public buildings. It can provide necessary output and information to the users and record the incoming and outgoing visitors within the shortest time. Nevertheless, VMS is also capable of streamlining the registration process and providing authentic and integrated data for the visitors (Oktaviandri and Kah Keat, 2019). Visitor's Management System (VMS) refers to the gathering of information from visitors and then tracking their whereabouts. With the principle to record the data electronically, the system makes it easier to track records in an easy way, generating reports for various modes of tracking, e.g., tracking particular visitors, daily/monthly/yearly records of visitors, and also with other modes of tracking, which enhances the security and accountability of the building, making a strong management for people who just visit but do not reside permanently. There are different methods for recording this information, including manual logs and computerized systems. For many organizations, this is done manually and consists of a clipboard and handwritten visitor stickers, but this system helps to replace the manual logging and tracking. (Agarwal et. al., 2020).

Currently, Saint Mary's University employs a manual system for managing visitors entering its campus premises. Under this system, visitors are required to surrender their personal identification documents, such as driver's licenses or ID cards, to the university's security personnel upon arrival. In exchange, they receive a temporary ID issued by the university, allowing them access to campus facilities. However, the process of logging visitor information into a logbook remains a crucial aspect of this manual system. The manual system of logging information involves security personnel manually transcribing visitor details, including their names, contact information, purpose of visit, and the time of arrival and departure, into physical logbooks.

These logbooks serve as the primary means of recording visitor activity and are kept on-site for reference and security purposes. However, this method presents several challenges and limitations that impact the efficiency and effectiveness of visitor management at Saint Mary's University. Firstly, the reliance on handwritten records increases the risk of errors and inaccuracies in recording visitor information. Illegible handwriting or data entry mistakes can lead to discrepancies in the records, potentially causing confusion or difficulty in retrieving accurate information when needed. Additionally, the manual nature of the logging process makes it time-consuming and labor-intensive for security personnel, particularly during peak visitor periods or events.

Furthermore, the physical logbooks used in the manual system pose security risks due to their vulnerability to loss, theft, or damage. In the event of a security breach or emergency, the ability to access and retrieve visitor information quickly and efficiently is essential for effective response and resolution. However, the reliance on paper-based records presents challenges in maintaining the integrity and accessibility of visitor data, potentially compromising campus security measures.

According to the study conducted by Pascual, R. et al. (July 2022), titled QR Code Visitor Monitoring System of Saint Mary's

University of Bayombong, Nueva Vizcaya, QR codes were found to be highly secure during the pandemic, as they ensure that all critical information is recorded. Moreover, they provide a simple and cost-effective solution. In this system, guards scan the QR codes using their Android phones, which generate a string containing the user's personal information, such as name, address, phone number, and email address. If the Android phone has network access, the generated string is automatically inserted into a login form. This system was designed to help prevent the spread of the virus within the school grounds and to generate daily reports on visitor numbers.

Building upon this study, the researchers propose a computerized Visitor Management System to address the limitations of manual logging. According to Calvin Kyle Cuenco, SOC Shift Lead, by utilizing electronic data entry and real-time tracking, the proposed system will enhance the accuracy and efficiency of visitor management (C. K. Cuenco, personal communication, December 28, 2024). Key features will include an intuitive interface for visitor registration, secure data storage, and the ability to generate detailed reports. Ultimately, this system aims to improve the security and operational effectiveness of the organization.

Computerized System

One of the useful modern technologies that have been created is an "Automated or Computerized System". It is now used by various fields such as institutions, business, communication, companies, science, and even the learning process of the old-fashioned way was shifted to technology ways (Placid Ity, 2020). Observing various prevailing systems, The Researchers understood how to automate and ease the tracking system for the visitors, making it useful for different types of organizations and enhancing the task of the administrators (Agarwal et. al., 2020).

Safety and Accuracy of Data

To provide accurate and reliable reports and promote awareness to individuals about the safety rules of the school (Placid Ity, 2020). With the principle to record the data electronically, the system makes it easier to track records in an easy way, generating reports for various modes of tracking (e.g., tracking particular visitors daily/monthly/yearly records of visitors) also with other modes of tracking, which enhances the security and accountability of the building, making a strong management for people who just visit but do not reside permanently (Agarwal et. al., 2020).

Furthermore, the integration of electronic data recording, as advocated by Agarwal et. al. (2020), offers significant advantages in enhancing safety and security within educational institutions. By transitioning from manual to electronic record-keeping, the system becomes more efficient in tracking visitor activity.

Functionality

Bringing ease to the manual report-based accountability system for tracking people who are visitors, this automated electronic-based system becomes more powerful and versatile, with much more functionality dominating the prevailing primitive tracking system (Agarwal et. al., 2020).

Efficiency

Manual visitor management processes can be time-consuming and prone to errors. A visitor management system automates many of these tasks, freeing up staff to focus on more critical duties (Tiffany Edwards, 2024).

Usability

For companies with enhanced security concerns, the top usability priority may be making sure visitors don't make any mistakes or skip any steps as they rush through. For companies with a high volume of visitors, the top usability priority might be that check-in is as quick and simple as possible (TheReceptionist, n.d.).

Portability

The system should assist the receptionist by automating tasks like badge printing and visitor notifications, creating a streamlined process. Finally, a successful system helps maintain compliance with safety protocols, supports emergency response, and integrates smoothly with existing security infrastructure for a comprehensive access management solution (YAROOMS, 2024).

Visitors' Information System (VISSMU)

The Visitors' Information System of Saint Mary's University (VISSMU) enhances campus security by allowing quick and accurate visitor logins and monitoring. It improves functionality by providing real-time tracking, ensuring efficient visitor management. The system's usability ensures ease of use for both visitors and security personnel, while its portability allows deployment across various devices, making it accessible and adaptable for different areas within the university.

VISSMU represents a modernized approach to storing and managing visitor credentials for campus access. VISSMU introduces a proprietary identification system, known as the VISSMU ID, which serves as the primary authentication mechanism for visitors entering the university premises. Upon their initial visit, visitors are required to provide personal information to the university's security personnel in exchange for a visitors' ID.

However, before issuing the VISSMU ID, security personnel must verify the accuracy of the visitor-provided information by requesting the presentation of a valid government-issued identification document (e.g., PhilHealth ID, PRC ID, SSS). ID). Once verified, visitors are issued a VISSMU ID, which facilitates expedited access to the campus during subsequent visits. After the proper check-in, upon entering the campus, the security personnel will give the Visitors Pass.

The primary objective of the study is to address the inefficiencies inherent in Saint Mary's University's current manual visitor management system, characterized using logbooks and manual recording of visitor information. Under the existing system, visitors are required to exchange a valid ID for a temporary visitor pass, which must be returned upon departure.

VISSMU aims to streamline this process by implementing a digital identification system, thereby minimizing delays associated with manual registration procedures. By utilizing the VISSMU ID, visitors can efficiently check in and out of the university premises, enhancing the overall visitor experience and campus security measures. It will also benefit the university by helping visitors minimize their time before entering the university.

According to the study conducted by Pascual, R. et al. (July 2022), titled QR Code Visitor Monitoring System of Saint Mary's University of Bayombong, Nueva Vizcaya, Problems with the Existing Practices and Process. With the use of the Logbook and Checklist form, the group discovers the following problem:

Violation of the Data Privacy Act: The personal information is provided by the visitors who will enter the campus. Name, Contact Number, Date, Purpose of Visit, and Signature is seen by every visitor who will also login into the logbook. That's why personal information is not secured. When it comes to data security, logbooks can't secure visitors' personal information-exposing their contact information, which is an invasion of privacy. Personal information must be secured to avoid identity theft-Republic Act 10173 Section 20 - Data Privacy Act of 2012.

Overcrowding: Since the process is manual, the researchers found out that the area for entrance is congested during the peak hours when faculty, staff, students, and visitors pile up to answer the health checklist. And some faculty and staff do their biometrics in the same area. One of the protocols for preventing COVID is physical distancing. Still, the impossible violation of physical distancing is being experienced in that area. In our current situation, many protocols are being implemented and must be followed by everyone. Congestion is one of the main problems that need attention, especially now that we are encountering a covid19. A crowded environment is a faster way of transmitting viruses to one another. Since safety is paramount, a proper discipline of people is required so that everyone must observe the social distance to prevent congestion. Congestion usually occurs at the gate, registrar, and accounting office for transactions that lead to a risky environment. SMU must be aware of overcrowded people inside and outside the campus. Congestion must be prevented to avoid the spreading of viruses.

Time Consuming: Reaching out to the guard house and filling up the visitor's log /health checklist form is too long. It wastes a lot of visitors' time, especially when they come first and struggle to read and answer the questions.

Littering: The logbook, pens, and table must be sanitized time by time to prevent contact with other people. So, every visitor must have a personal pen to use when writing on the form. It must be practiced by everybody and make cleanliness a habit also to follow the virus's protocol. The cleanliness of the campus will provide a healthy and safe environment for the students, visitors, and employees of Saint Mary's University. Saint Mary's University promotes the Clean, Healthy, Safe, and Friendly (CHSF) Campus program. The school is concerned with the community's safety and helping protect the environment. Littering trash at the University is not allowed. It should be appropriately disposed of in the trash bins/boxes. It must be practiced by everybody and make cleanliness a habit also to follow the virus's protocol.

This study aims to assess the Saint Mary's University (SMU) Visitor's Management System by proposing a system to transition to a computerized platform, aiming to improve the tracking of individuals entering and leaving Saint Mary's University. Through surveys, the study will evaluate visitor satisfaction with the proposed system's functionality, efficiency, usability, and portability and gather recommendations for its improvement, focusing on process, visit application, and reporting. Additionally, demographic data will be analyzed to determine if satisfaction levels vary based on factors such as age and sex. By identifying areas for enhancement and proposing recommendations, the study seeks to implement a more efficient and user-friendly Visitor's Management System at SMU, enhancing the overall experience for visitors to the campus.

Research Questions

This study aimed to determine the level of Satisfaction of visitors of Saint Mary's University on the Visitors Information System of Saint Mary's University. Specifically, it seeks to answer the following questions:

1. What is the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University in terms of the following:
 - 1.1. functionality;
 - 1.2. efficiency;
 - 1.3. usability; and
 - 1.4. portability?

2. Is there a significant difference in the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University when they are grouped according to:
 - 2.1. age; and
 - 2.2. sex?
3. What are the respondents' recommendations for the Visitor's information System of Saint Mary's University in terms of the following:
 - 3.1. process;
 - 3.2. visit application; and
 - 3.3. report?
4. What are your suggestions for improving the Visitors Management System?

Methodology

Research Design

The researchers employed a descriptive comparative to collect data on Visitors' Information System of Saint Mary's University. Descriptive is utilized to determine the level of satisfaction. Comparatively determined if there is a significant difference on the respondents' level of satisfaction when grouped accordingly. Overall, the approach was chosen because it facilitates understanding and interpretation, making it suitable for assessing visitor satisfaction and improving the system. Additionally, the researchers utilized survey questionnaires, making this method particularly fitting for the study.

Descriptive-Comparative research designs were used by the researchers to thoroughly investigate the Visitors' Information System of Saint Mary's University. This method allows for a deeper understanding of the system's turns, providing valuable insights into visitor satisfaction levels and potential areas for enhancement. By administering survey questionnaires, the researchers were able to gather comprehensive data from multiple perspectives.

Respondents

The researchers utilized a purposive quota sampling technique to identify the respondents. The sample consisted of 30 individuals. Specifically focusing on visitors to the campus and the security personnel responsible for managing visitor interactions and access control. The visitor participants consisted of individuals who frequently visit Saint Mary's University for various purposes, including prospective students, parents, alumni, and guests attending events or meetings on campus. Visitors were selected based on their familiarity with the campus and their likelihood of utilizing the Visitor's Information System during their visits.

The security personnel participants were chosen to be responsible for managing access points, providing information to visitors, and ensuring the safety and security of the campus premises. Inclusion criteria for visitor participants included a minimum of two visits to Saint Mary's University, within the past six months. Security personnel were selected based on their active involvement in managing visitor interactions and their familiarity with the existing visitor management procedures on campus.

Participants were recruited through direct contact with the visitors and security department. Participants were assured of the confidentiality of their responses and were encouraged to provide honest feedback on the functionality, efficiency, usability, and portability of the Visitors' Information System.

Instrument

The research instrument employed in this study was a 30-item satisfaction questionnaire and a google form, aimed at assessing visitors' satisfaction with the Visitors' Information System of Saint Mary's University. The questionnaire was designed using Likert-scale questions to evaluate various aspects such as functionality, efficiency, usability, and portability.

To ensure the reliability of the instrument, the researchers utilized Cronbach's Alpha, which is one of the most widely accepted measures of internal consistency (i.e., reliability). Since the questionnaire consists of multiple Likert-type questions, Cronbach's Alpha is the most appropriate statistic to assess the internal consistency of the survey items.

A total of 30 visitors participated in the survey. The Cronbach's Alpha value for the entire questionnaire was calculated to be 0.955, indicating excellent reliability. According to Hair et al. (2013), a construct is considered reliable if the Alpha (α) value exceeds 0.70. The high value obtained from this test confirms that the items in the questionnaire are consistent and reliable.

With a Cronbach's Alpha of 0.955, The Researchers can confidently conclude that the responses collected are dependable, and the data reflects a stable and accurate assessment of the constructs being measured. This high level of internal consistency reduces the risk of measurement errors and ensures the validity of the data collected.

Table 1. Reliability Statistics (Cronbach's Alpha)

Statistic	Value
Cronbach's Alpha	0.955
Number of Items	30

Procedure

The process begins with the modification of an adapted questionnaire, where an existing questionnaire is revised to better suit the specific needs of the system. This ensures that the questions are tailored to gather relevant data about the system's performance and user satisfaction.

Following this, the actual system is developed in the system development phase. Here, the technical aspects of the Visitors' Information System are created, ensuring the system's core functionalities are in place. After the system is built, attention returns to the questionnaire for validation. This step ensures that the questionnaire is reliable, accurate, and capable of capturing useful data from users. Any issues with the clarity or relevance of the questions are addressed during this phase.

Once the questionnaire is validated, the next step involves the printing and distribution of the survey, google forms are also utilized thoroughly. The questionnaires are handed out to users, who will provide feedback on their experience with the system. Following this, a system pilot test is conducted, where the system is tested in a real-world setting to identify any issues or areas of improvement that may not have been apparent during development.

The final step involves data analysis, where the feedback from the questionnaires and the results from the pilot test are evaluated. This analysis helps to determine the system's overall performance and highlights areas that may need further refinement, leading to a more robust and user-friendly system. The flowchart emphasizes the importance of a cyclical and user-centered approach to system development and evaluation.

Data Analysis

Data for this research will be collected through open-ended surveys and quantitative structured surveys, focusing on visitors' perceptions and recommendations regarding Visitors' Information System of Saint Mary's University, as well as their satisfaction levels with the system's functionality, efficiency, usability, and portability, alongside demographic details like age and sex. Qualitative data analysis will involve content analysis to identify recurring themes, while quantitative data will be analyzed using descriptive statistics like frequencies, percentages, means, and standard deviations to understand visitor satisfaction levels and demographic characteristics. The integrated findings will be interpreted to identify strengths, weaknesses, and areas for improvement of the Visitors' Information System of Saint Mary's University, with implications discussed for enhancing visitors' satisfaction and optimizing the system, culminating in a research report or academic paper aimed at informing strategies for improving the visitor experience at Saint Mary's University's.

Ethical Considerations

Confidentiality – In the methodology, visitor information will be stored securely, with access strictly limited to the admin. To ensure data security, encryption and secure authentication protocols will be utilized, preventing unauthorized access. By restricting access, the researchers guarantee that sensitive information remains protected, ensuring the data is safe and secure in compliance with ethical standards.

Informed Consent - Visitors must be aware of the data being collected and provide explicit consent before it is gathered or used. This ensures transparency and respect for individuals' rights.

Security - Implementing robust security measures to protect visitors' information from breaches, cyber-attacks, or unauthorized access. This is essential to safeguard data integrity and prevent misuse.

Data Minimization - Only collecting the necessary information required for specific purposes, reducing the risk of over-collecting or misusing data.

Access Control - Ensuring that only authorized personnel can access visitor data, limiting exposure and preventing internal misuse or unauthorized access.

Results and Discussion

This section presents the results, discussion, and implications that the researchers have gathered and made through the process of conducting the study on Visitors' Information System of Saint Mary's University.

Section 1. Level of satisfaction of Visitors' Management of Saint Mary's University

Table 2 shows the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University, focusing on functionality. The respondents' level of satisfaction with the functionality of the system is notably high. The mean scores range from 3.43 to 3.60, indicating that most respondents were either satisfied or very satisfied with this aspect. The standard deviation across the items is relatively consistent, ranging from 0.50 to 0.57, suggesting moderate variability in responses. Items such as statement 4 had a slightly higher mean (3.60) and lower standard deviation (0.50), which implies a strong consensus of positive satisfaction in this area. However, statement 5 had a slightly higher standard deviation (0.57), indicating that some respondents may have had a less favorable experience with certain functional features, though overall satisfaction remains high. VMS solutions enhance security and streamline

visitor management in corporate settings, ensuring a professional experience (Doordesk, 2024).

Table 2. *Level of satisfaction in terms of functionality*

Statements	M	SD	QD
1. The proposed system generates information that is appropriate to the intended functions of the software	3.43	.50	Satisfied
2. The proposed system successfully implements identified techniques for better performance	3.53	.51	Very Satisfied
3. The proposed system provides correctness to the function of each module.	3.43	.50	Satisfied
4. The proposed system is easy to understand and user-friendly	3.60	.50	Very Satisfied
5. The proposed system includes printing or procedures or steps depending on the purpose or visit	3.47	.57	Satisfied
6. The proposed system ensures a secure set or user privileges (role-based access control), which determine permission levels (creation and editing data) that users need to control, manage, and editing content.	3.47	.51	Satisfied
Overall	3.49	.42	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 3 highlights respondents' satisfaction with the Visitors' Information System at Saint Mary's University, in terms of efficiency. The highest satisfaction is observed in the statement regarding the system's efficiency in providing accurate data reports having a mean of 3.60. The lowest satisfaction is observed in the statements regarding to if the system is acceptable in terms of response and the system's ability to multitask in a short period of time both with a mean of 3.43. The slightly lower mean scores for response acceptability and task completion capability could suggest that while the system performs efficiently overall, there may be occasional delays or limitations in handling multiple tasks and this might indicate that the system's performance, particularly under high workload or complex scenarios, could be optimized further. These finding implies that enhancing the system's speed and multitasking abilities could improve user satisfaction and operational efficiency. Addressing these areas may also strengthen the system's reliability, particularly for users who rely on quick and seamless process.

Table 3. *Level of satisfaction in terms of efficiency*

Statements	M	SD	QD
1. The proposed system is acceptable in terms of response	3.43	.50	Satisfied
2. The proposed system executes fast and easy data retrieval in meeting the requirements	3.53	.51	Very Satisfied
3. The proposed system is capable of completing several tasks in a certain period of time.	3.43	.50	Satisfied
4. The proposed system is efficient in providing accurate data reports	3.60	.50	Very Satisfied
5. The proposed system supports large capacity of data storage to prevent reaching maximum limits	3.47	.57	Satisfied
6. The proposed system helps users input their personal information and visitor log.	3.47	.51	Satisfied
Overall	3.51	.41	Very Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

According to Taipalus (2023), efficiency has been a pivotal aspect of the software industry since its inception, as a system that serves the end-user fast, and the service provider cost-efficiently benefits all parties. Efficiency, measured in terms of response times, concurrency, and resource utilization, is essential for optimal system performance. Moreover, Taipalus highlights that many software systems face efficiency challenges, particularly as data handling demands increase. As systems grow in complexity, the database often becomes a performance bottleneck, contributing to issues like slower response times and limited multitasking abilities. Therefore, optimizing the system's performance, especially in managing data and handling multiple tasks can potentially improve both user satisfaction and system reliability.

Table 4. *Level of satisfaction in terms of usability*

Statements	M	SD	QD
1. The proposed system carries a simple and user-friendly interface that can be easily adapted by different users	3.53	.57	Very Satisfied
2. The proposed system is capable of producing and exchanging information to improve productivity	3.43	.63	Satisfied
3. The proposed system produces high precision reports thus making it valuable for best usage.	3.53	.51	Very Satisfied
4. The proposed system provides learnability or knowledge discovery such as data analytics to which can be used in achieving specific goals or targets	3.37	.49	Satisfied
5. The proposed system is capable of preventing users against making input errors to achieve accurate information	3.43	.57	Satisfied
Overall	3.46	.44	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 4 shows the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University, in terms of usability. The usability of the system received mean scores ranging from 3.37 to 3.53, with an overall mean of 3.46. The highest satisfaction is observed for statements about the system's simple, user-friendly interface and its high-precision reporting capabilities both receiving a score of 3.53. The lowest score was recorded in statement 4 with a score of 3.37. This might imply that while the system is intuitive for basic tasks, its ability to support deeper engagement or advanced usage (e.g., data analytics) may not be meeting

expectations. The responses suggests the need for improvements in interface design to ensure a consistent user experience. This aligns with Oktaviandri's (2019) assertion that a well-designed graphical user interface (GUI) is crucial for user satisfaction. The GUI, which includes graphical components, buttons, icons, and tables, is designed to provide a user-friendly and intuitive environment to the user where it does not take complicated method to display information and manipulate controls. Furthermore, Oktaviandri stated that it is necessary to design and develop an easy to use interface in VMS so that it could facilitate the procedure and registration process. Therefore, the GUI of the proposed VMS must fulfil the intuitive, informative and interactive between the user and the system.

Table 5. *Level of satisfaction in terms of portability*

Statements	M	SD	QD
1. The proposed system can be accessed using a desktop PC	3.40	.67	Satisfied
2. The proposed system cannot be accessed using smartphones	3.17	.83	Satisfied
Overall	3.28	.55	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 5 shows the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University, in terms of portability. The highest satisfaction is observed on statement 1 that asked about the systems accessibility via desktop PC having a mean score of 3.40. The lowest satisfaction observed on statement 2 which is about the systems inaccessible for smartphones. This suggests that many users might want or prefer mobile accessibility for more convenience and wider device availability, the system's lack of smartphone accessibility could be limiting the user satisfaction. Integrating mobile access could lead to a more inclusive and accessible system, addressing a more diverse user preferences and enhancing the overall visitor experience. Adams (2015) discusses the importance of portability in system design, noting that real-world systems must be adaptable to new environments as part of their lifecycle. According to Adams, real-world systems operate in constantly evolving environments, the systems designers should consider change as a constant factor throughout the system's lifecycle. As a result, designing a system that contains some degree of portability, an ability to be transported or adapted to operate in a new environment, seems to make eminent sense. In the case of the Visitors' Information System, the lack of mobile access limits its adaptability, a critical shortcoming in a world where mobile devices are common. This aligns with the observed user dissatisfaction with the current mobile compatibility of the system, suggesting that enhancing portability would significantly improve the system's utility and user acceptance.

Section 2. Significant difference on the respondents' level of satisfaction on the Visitors' Information System of Saint Mary's University

Table 6. *Significant difference on the respondents' level of satisfaction on the Visitors' Information System of Saint Mary's University in terms of sex*

Factor	Groups	N	Mean	SD	t-value	p-value	QD
Level of Satisfaction	Male	13	3.57	.39	1.36	.186	Satisfied
	Female	17	3.38	.38			

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 6 shows the respondents' level of satisfaction with the Visitors' Information System of Saint Mary's University, comparing male (mean: 3.57, SD: 0.39) and female (mean: 3.38, SD: 0.38) respondents. The t-value of 1.36 and p-value of 0.186 suggest no significant difference between the two groups, as the p-value exceeds the 0.05 threshold. Thus, both male and female respondents have similar satisfaction levels, indicating that gender does not significantly affect their satisfaction with the system. Male and female respondents reported significantly different motives to visit intentions (Anil Kumar, 2019).

Table 7. *Significant difference on the respondents' level of satisfaction on the Visitors' Information System of Saint Mary's University in terms of age*

Level of Satisfaction	Age Group	N	Mean	SD	t-value	p-value	QD
Level of Satisfaction	19-28	4	3.50	.35	.24	.915	Satisfied
	29-38	7	3.51	.34			
	39-48	5	3.53	.50			
	49-58	11	3.37	.42			
	59 and above	3	3.56	.45			

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 7 shows the satisfaction levels across different age groups regarding the Visitors' Information System of Saint Mary's University. The highest satisfaction was observed on the age group 59 and above with a mean of 3.57. The lowest satisfaction was observed on the age group 49-58 with a mean of 3.37. The p-value of .915 meaning there's no significant difference on the respondents' level of satisfaction on the Visitors' Information System of Saint Mary's University in terms of age. Even though the age group of 59 and above received the highest mean, the reason might be because the population size of that group is only 3 which is relatively small. The overall result of the table implies that younger generation have higher satisfaction with the system than those who are older. According to the study of Czaja (2006), age-related changes in cognition may have a negative impact on access and use of technology by older adults. For example, declines in working memory may make it difficult for older people to learn new concepts or skills, recall complex operational procedures, or navigate complex menu structures. Declines in attention may make it difficult for older people to switch



their attention between competing displays of information (e.g., split screens) or process multiple forms of information (e.g., text and speech) simultaneously.

Section 3. Respondents' recommendation of Visitors' Information System of Saint Mary's University

Table 8. Respondents' recommendation in terms of the process

Statements	M	SD	QD
1. The proposed system carries a simple and user-friendly interface that can be easily adapted by different users	3.60	.50	Very Satisfied
2. The proposed system is capable of producing and exchanging information to improve productivity	3.63	.49	Very Satisfied
3. The proposed system produces high precision reports thus making it valuable for best usage.	3.40	.50	Satisfied
Overall	3.54	.42	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 8 presents respondents' recommendations regarding the proposed system's process. The highest mean score (M: 3.63, SD: 0.49) indicates strong agreement that the system improves productivity by producing and exchanging information. Users also agreed that the system is user-friendly (M: 3.60, SD: 0.50) and easy to adapt to, while the precision of the reports generated (M: 3.40, SD: 0.50) was also positively rated, though slightly lower. Overall, the system was rated as "Very Satisfied" with a mean of 3.54, suggesting a favorable perception of its processes. Alternatively, negative attributes such as crowding, commercial overdevelopment or pollution are usually excluded from the list of attributes. Hence, the opportunity for tourists to indicate dissatisfaction is reduced or eliminated all together (Mojji et. al., 2024)

Table 9. Respondents' recommendation in terms of the VISSMU application

Statements	M	SD	QD
1. The system is a communication hub for the 3 roles (visitor, and admin) - Chat or Help Desk is embedded in the system	3.43	.50	Satisfied
2. The research follow standards and policies on data privacy and security	3.33	.61	Satisfied
3. Visitor can do pre-registration of their information in the web application	3.27	.64	Satisfied
Overall	3.34	.49	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 9 shows respondents' recommendations for improving the Visitors' Information System of Saint Mary's University in terms of the VISSMU Application. Respondents agreed that the system is effective as a communication hub for visitors, admins, and security personnel (M: 3.43, SD: 0.50). The inclusion of a chat or help desk feature is seen as a helpful tool for improving communication within the system. However, respondents disagreed when asked if the system follows proper data privacy and security policies (M: 3.33, SD: 0.61). This indicates concerns about how well the system protects personal information, suggesting that improvements are needed in this area. Lastly, there was also disagreement about the pre-registration feature for visitors (M: 3.27, SD: 0.64). Respondents seem to find the pre-registration process lacking in some way, whether due to difficulty using the feature or other issues. Implementing a visitor management system offers many advantages, particularly security, efficiency, and compliance (Navigate360, n.d.).

Table 10. Respondents' recommendation in terms of the Reports

Statements	M	SD	QD
1. All dashboard display can be drilled down and are available for display or print	3.43	.50	Satisfied
2. Free formal reports are available for generation	3.43	.50	Satisfied
3. The university can generate reports at any given time	3.43	.57	Satisfied
4. Reports generated in PDF file format and are given security code	3.47	.57	Satisfied
Overall	3.44	.45	Satisfied

Legend: Awareness: 1.00-1.49 = Very Unsatisfied; 1.50-2.49 = Unsatisfied; 2.50-3.49 = Satisfied; 3.50-4.00 = Very Satisfied N – Population size; M – Mean score; SD – Standard Deviation; QD – Qualitative Description

Table 10 shows respondents' recommendations for improving the Visitors' Information System of Saint Mary's University in terms of the reports. Respondents agreed (M: 3.43, SD: 0.50) that all dashboard displays can be drilled down for detailed viewing and are available for display or printing. This indicates satisfaction with the system's ability to offer flexible, accessible data views. Similarly, respondents agreed (M: 3.43, SD: 0.50) that the system provides free formal reports, reflecting approval of the system's ability to generate official documentation without extra cost. When asked if the system can generate reports at any given time, respondents still agreed (M : 3.43, SD: 0.57). The highest (M: 3.47, SD: 0.57) is observed in statement 4 about the security of reports generated in PDF format, particularly on these reports are given a security code. The reason why statement 4 received the highest satisfaction is because respondents value security and confidentiality of the data they share the most. This implies that the respondents view the encrypted PDF report of the system.

According to Locklizard DRM Document Security (n.d.), the password is a primary line of security against any unauthorized entry into the PDF document. It is used as the key to encrypt and decrypt information. The more powerful a password, the greater the degree of security the PDF document has.

Table 11. *Thematic Analysis of the respondents' recommendation in improving the Visitors' Management System*

Theme	Sample Statements	Frequency, n(%)
Accessible using different devices, e.g. Cellphones, Tablets	"It would be much more convenient if the system was available on phones as some students have no laptops" "Accessibility to more devices" "I suggest that the proposed visitor's information System should be accessible by using smartphone rather than laptops or desktop" "The system might also be access using smartphones/tablet" "I think it would be more convenient if the system could be accessed using phones since some students don't own a laptop"	5 (33.33)
Methods of logging in, e.g. Qr code, fingerprint, face recognition	"Using Qr" "Verified fingerprint detection" "Fingerprint and face recognition system"	3(20)
Accepting feedback and criticisms	"No idea, but we should accept criticism and opinions for a better improvement" "I think feedback and evaluation"	2(13.33)
Multilingual Support	"Multilingual support. Offer the information in multiple languages to accommodate different language preferences. This can improve accessibility and enhance the visitor experience" "Offer multiple language options"	3(20)
Optimization and accessibility	"Easier and more accessible platforms" "More efficient"	2(13.33)
Total		15 (99.99)

Table 11 shows the thematic analysis of the respondents' recommendations in improving the Visitors' Information System of Saint Mary's University (VISSMU). It illustrated that 33.33% said to include other devices, 20% said to include different ways of logging in, 20% said to include multilingual support, 13.13% said to accept feedback and criticism regarding the system, and 13.13% said to optimize the system to make it more accessible.

The findings suggest that the respondents want to make the Visitors' Information System more accessible to other devices since not all can provide their own laptop. They suggest that it can be used by phone because the majority of us have phones. The respondent also suggests that the system may include different ways of logging in, e.g., using QR code and fingerprint, including multilingual support, accepting feedback on the system, and making the system more optimized and accessible to the visitors.

Conclusions

Overall satisfaction with the Visitors' Information System of Saint Mary's University is positive. Respondents were satisfied with its functionality, usability, and portability, while they rated efficiency as very satisfactory. There was no significant difference in satisfaction between sexes, though males rated it very satisfied, and females satisfied. Similarly, no significant differences were found across age groups, though users aged 49-58 rated it as satisfied, while others rated it very satisfied.

In terms of recommendations, the process was rated very satisfactory, while the VISSMU application and reports were seen as satisfactory, suggesting areas for improvement. Overall, the system is well regarded but could be enhanced in usability, portability, and middle-aged user experience.

Based on the findings, the following recommendations were drawn:

The institution may replace the current system with an online platform that can be accessed anytime and anywhere, making it more convenient for everyone. It can also train staff on how to use the updated system, including features like QR codes and mobile apps, to ensure smooth operation.

The visitors of SMU may use mobile apps provided by the institution to make it easier to check information, register, and find their way around the campus. They can also share their experiences and suggestions about the system to help improve it over time.

Developers may add QR codes to the system to make tasks like registration and checking details faster and easier. They can also create a simple and easy-to-use mobile app that works well for both visitors and staff while focusing on making the system secure and reliable to protect everyone's information.

Future researchers may study how moving from local systems to online systems affects users and the institution in the long run. They can also look for other simple and helpful tools that can be added to improve the system even further.

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