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A LOG MANAGEMENT SYSTEM (LMS) FOR ADMINISTRATORS, EMPLOYEES, STUDENTS, AND VISITORS

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Abstract: **This thesis introduces a QR Code-based Log Management System (LMS) for St. Peter's College, replacing manual logging with a web-based platform. The LMS enables users to scan QR Codes, eliminating log books and improving accuracy. It automates administrative tasks, recording timestamps, user information, vaccination status, and enrollment status.**
Utilizing QR Code technology sets this study apart from similar systems that use RFID. QR Codes are cost-effective and convenient for identification. The LMS integrates QR Codes into identification cards for administrators, employees, and students, while visitors can generate QR Codes through the web application. Additional features include uploading vaccination cards and Certificates of Registration (COR) for verification.
Developed using the Django framework, the LMS provides a secure and rapid development platform accessible via standard web browsers. Its implementation improves data collection accuracy, facilitates contact tracing, and enhances safety through SMS notifications. This thesis contributes to the digital transformation of administrative processes in educational institutions, streamlining operations and improving data management.
The researchers employed the Agile Model for development, allowing for continuous feedback and adaptation. This approach ensured the LMS met St. Peter's College's specific requirements. To assess usability, the Technology Acceptance Model (TAM) was used, evaluating factors like ease of use and user satisfaction. The combination of the Agile Model and TAM offers a comprehensive approach to designing and implementing the QR Code-based Log Management System, aligning it with the needs and preferences of St. Peter's College.

Keywords: **QR Code-based Log Management System (LMS), St. Peter's College, Django framework, Agile Model, Technology Acceptance Model (TAM)**

I. INTRODUCTION

The goal of the Log Management System (LMS) is to digitize the logging process at St. Peter's College, making it more enjoyable and convenient. Since log tracking is entirely web-based, data can be entered by simply scanning a QR code, which administrators can then access through the system's database.

At present, St. Peter's College is still taking the records of log in and out manually in the campus using a log book and pen to record the logs. This method is extremely inefficient for modern documentation since it will take a long time to come up with reports out of it. There may also be a possible dishonesty as people might input incoherent information just for the sake of filling out the log books.

In this project, a Log Management System (LMS) using QR Code will be created in order to get the data efficiently since this system will save the record of the user with their basic information. Such system will not only record the timestamps of the person and information of the person coming in and out of the campus but also determine if such a person is vaccinated or not, and at the same time determine if the student is currently enrolled in the semester. By incorporating this in the system, manual overlooking of the logging data is no longer needed. It will do such critical administrative tasks of collecting and storing data.

In this day and age many universities or colleges already use this kind of system in their institutions, one of the universities that uses this kind of system is College of Engineering and Computer Studies Lyceum of the Philippines. The usage of QR codes rather than RFID (Radio Frequency Identification) distinguishes this study from their technology. RFID uses electromagnetic fields to automatically identify and track tags attached to objects, requiring both a receiver and a transmitter since it consists of a small radio transponder. In contrast, a QR code is a type of matrix barcode that can be read with an optical digital device and is more cost-effective than RFID. The QR Code will then be integrated in the administrators, employees, and students identification card and as for the visitors, they can generate a QR Code through the access of log management system web application. Two features will be added in this project; first is that a vaccination card may be uploaded to

determine that the user is fully vaccinated, first shot vaccinated, or unvaccinated; second, student user have the option to upload their Certificate of Registration (COR) to determine if they are enrolled in the semester, wherein both data will be added to the database.

The project will be built using the Django framework on a web-based platform, making it accessible through a browser. Django is a high-level web framework for Python that enables the quick development of secure and maintainable websites.

This study will provide the institution an efficient way of recording the log in and out data. Thorough contact tracing will also be conducted effectively, providing safety precautions to administrators, employees, students and visitors by keeping them posted via sms notification.

This research aims to develop a Log Management System (LMS) for St. Peter's College to monitor the entry and exit records of administrators, staff, students, and visitors on campus.

The implementation of QR codes will streamline the process of logging in and out. This study has two innovative features which is the option of adding vaccination card for all users and adding Certificate of Registration (COR) for students which makes this project unique.

Further, it helps to identify the students enrolled in the semester, the basic information of the person visiting - who goes in and out of the campus and those who are fully vaccinated or not, making it more efficient for contact tracing.

The focus of the study is to develop a Log Management System (LMS), which will be conducted within St. Peter's College, Sabayle St., Iligan City. The target users are the administrators, employees, students and visitors of St. Peter's College.

This study will be developed in a web based platform with the features of having an option to upload vaccination card and certificate of registration. Also, SMS notification will be used to notify all users once there is a person who has symptoms of COVID-19.

The project comes with few limitations and opportunities for future research. Since the project will be a web based app, the study does not include hardware to efficiently scan the QR code that will be attached on the identification card (ID). Mobile apps or phone-based platforms are not part of the study, thus, will allow the future researcher to develop a mobile app for this project.

II. LITERATURE REVIEW

The studies and literature in this chapter provided background and theory relevant to the proposed research.

2.1 Quick Response (QR) Code

In 1994, a Japanese company (Denso Wave Incorporated, 2013) developed QR codes to help track vehicle parts. These codes are created using matrix barcode technology, which enables them to store and retrieve information similarly to other matrix barcodes. A key advantage of QR codes is their ability to store a substantial amount of data, including text, videos, advertisements, personal details, business card information, and various other digital formats. Additionally, modern mobile devices now support software that can scan QR codes from sources such as newspapers, magazines, products, and advertisements.

Although QR codes were originally designed for tracking parts in vehicle manufacturing, they are now utilized in a much wider range of applications (Canadi, Hopken, & Fuchs, 2010).

QR codes can store a substantial amount of both numeric and alphanumeric data, which has contributed to their global popularity. Additionally, they are extensively used in telecommunications due to the widespread use of smartphones, most of which come equipped with software capable of reading QR code images, as pointed out by (Rahmawati et al, 2019).

Google offers a widely-used Application Programming Interface for generating QR codes, and QR code scanning apps are available on nearly all smartphone devices (Louho, Kallioja, & Oittinen, 2006).

As understanding of the advantages of QR codes expands, it is anticipated that their use will become more widespread across various public domains and sectors. (Singh, 2016)

As mobile device usage continues to grow, companies and organizations that effectively utilize QR codes may gain a competitive edge over those that do not, particularly in targeted marketing areas like college students or young adults. Smartphones are the most prevalent method for interacting with QR codes. (Demir et al, 2015)

Quick Response (QR) codes are a key technology supporting mobile marketing. Nowadays, QR codes serve various functions, including facilitating purchases, providing additional online information, distributing discount coupons, and engaging with social media. Their usage and popularity are rapidly expanding globally (Shin, Jung, Chang, 2012).

Additionally, the rise of smartphones has led to the widespread use of QR codes, with scanning and decoding features becoming increasingly popular tools in contemporary education (Santisteban, 2017 ; Lamey, 2018).

Human society is transitioning from an industrial era to an information era. This shift can present challenges as people adapt to these changes. However, technological innovations bring significant benefits and progress to our lives. When applied in the classroom, such innovations, particularly for monitoring class attendance, can greatly assist and enhance the experience for both students and teachers. (Galgo, 2020)

In the realm of education, teachers and administrators have recognized the potential of using this type of technology. Technological advancements have introduced innovative applications to the educational sector (Durak et al., 2016).

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QR codes greatly simplify tasks and paperwork for both students and teachers, making them much more manageable. With a single scan, information is quickly and easily recorded, providing a more convenient solution. (Galgo, 2020)

Numerous studies have explored the use of QR codes for attendance tracking, school ID systems, and even barcodes in the business industry. Most of these studies focus specifically on implementing school ID systems with customized programs, which can be costly and sometimes unaffordable. (Maleriado and Carreon, 2019)

Maleriado and Carreon (2019) studied how QR codes could be used to track school attendance. They found that QR codes are reliable, efficient, accurate, easy to use, secure, and keep information private. This shows that QR codes are a good choice for attendance monitoring. They also suggested that QR codes could be used in a mobile app for education. This could be a helpful way to use technology in the classroom.

2.1 Attendance Management System

An attendance monitoring system allows teachers to record each student's precise arrival time and automatically notify parents if a student is absent. Additionally, teachers can track attendance for their classes, report absences, and inform parents of their child's absence through SMS and email.

The existing attendance system is time-consuming and requires a lot of manual effort. Lecturers have students sign an attendance sheet, which they then enter into the university's portal for each class. This process takes up valuable time for lecturers and can lead to human errors when transferring the attendance data from paper to digital records. (Lun, 2019)

Additionally, attendance sheets can easily be lost or misplaced. A stricter approach to prevent students from cheating on their attendance is also cumbersome, requiring teachers to call out each student's name and verify their presence one by one. These manual attendance methods are known to be challenging and time-consuming. Therefore, there is a need for an automated system to address these issues. In response to these problems, the researchers developed a system to alleviate the school's burden of tracking student attendance. This study presents an automated attendance system. (Rivera and Lagarteja, 2020)

In a study from 2009, Muir found that people increasingly expect colleges and universities to keep track of how often students attend class. This is because they believe that better attendance leads students to stay in school longer, get better grades, and have a more satisfying learning experience. This is reflected in student feedback surveys like the National Student Survey.

Using a QR code system to mark attendance would be helpful for school staff. It would make taking attendance easier and faster and make it easier to get QR code scanners. (Maleriado and Carreon, 2019)

III. METHODOLOGY

The researcher used the following methods and procedures to support the design and construction of the proposed system:

3.1 System Development Life Cycle Model

The Software Development Life Cycle (SDLC) outlines the different phases involved in developing software to ensure a high-quality product. Covering the entire lifespan of a software product, from its initial concept to its eventual retirement, the SDLC stages provide a comprehensive framework. The Agile model, shown in Figure 1, begins with the analysis phase and concludes with maintenance.

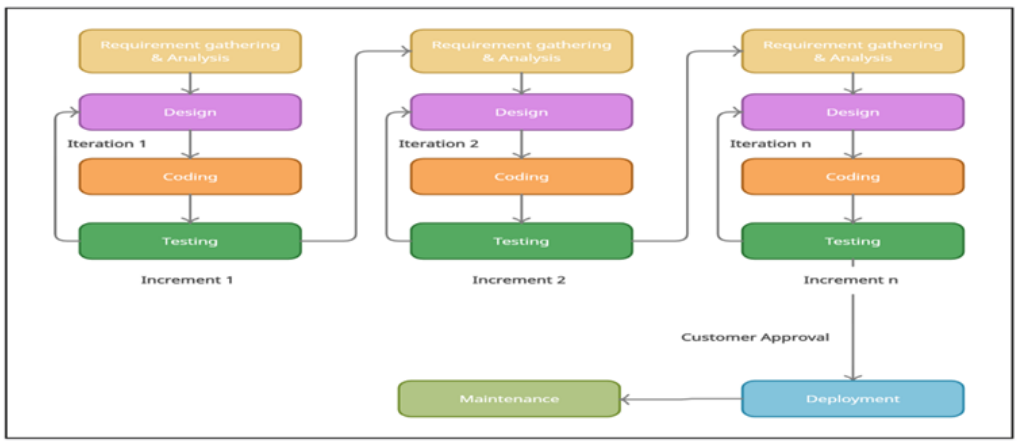

Figure 1. Agile Model

The Agile SDLC model integrates iterative and incremental approaches, focusing on flexibility and customer satisfaction by delivering functional software products quickly. Agile methods break a project into smaller, manageable segments, with each segment undergoing several iterations. Each iteration typically lasts between one to three weeks.
The purpose of this project is to develop a Log Management System (LMS) for St. Peter's College Iligan using the Agile SDLC paradigm, based on those iterative and incremental procedures.

The Agile (SDLC) model consists of the following phases:
Phase 1: Requirements gathering and analysis
To start, gather and analyze requirements. This phase creates a requirement specification document that contains all of the system's possible requirements.

Phase 2: Design
This includes drawing up blueprints, figuring out what hardware we need, and deciding on the software's overall structure.

Phase 3: Coding
This is when the researchers start coding the software. The researchers build it piece by piece, starting with the basics and adding more features.

Phase 4: Testing
During this phase, the researchers evaluate the product's performance and check for bugs. The researchers perform a variety of tests, including unit testing, integration testing, system testing, and acceptability testing.

Phase 5: Deployment
After testing, we make the software available for people to use. We collect feedback from users to see how they like it and if there's anything we can improve.

Phase 6: Maintenance
The maintenance phase is also an essential component of this strategy. This process comprises updating the project, correcting any defects or errors, and creating more components in response to user feedback in order to complete the software.

3.2 Physical Environment and Resources
This section goes over the hardware, software, peopleware, and network requirements for developing the system.

Hardware
The system's hardware requirements are as follows:

- Laptop or Computer - is a device that can execute actions such as system creation and testing, as well as store and process data.
- Camera - Electronic devices for storing and processing data, often in binary form, in accordance with instructions provided in a variable program / / interface between the user and the user's data. This will function as an optical scanner for the QR codes incorporated in the Identification Card (ID).
- Wi-Fi Router - is a device that connects to a modem and delivers Wi-Fi connectivity.

Software
To implement the system, the following software is required:

- Python - Programming Language.
- Django - a Python framework that uses the model-template-views architecture paradigm.
- MySQL - database for storing and manipulating data, defining its relationship.
- Windows 10 - Operating System
- Visual Studio - is used to create native and managed code that is compatible with Microsoft Windows, Windows Mobile, Windows CE,.NET Framework,.NET Compact Framework, and Microsoft Silverlight. Visual Studio (wikipedia).

3.3 Tools and Techniques to be Used in the Study
This study focuses on several software diagrams, including use case, context, data flow, and entity-relationship diagrams.

Use Case Diagram
The use case diagram illustrates the interactions between use cases and actors. Use cases represent the functions performed within the module, while actors can be either the end users of the system or external systems.

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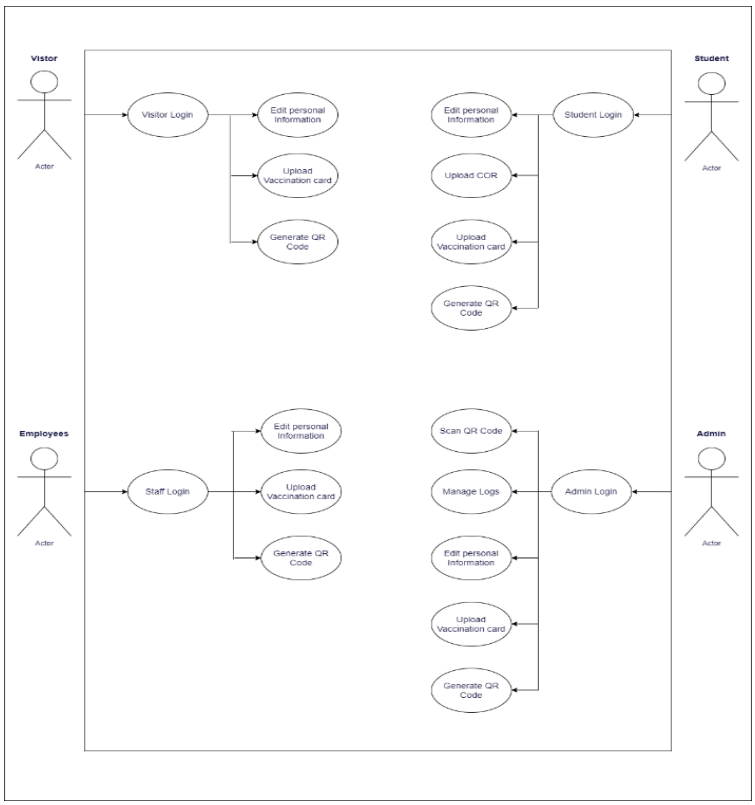

Figure 2. Use Case Diagram

Context Diagram

A context diagram provides the highest-level graphical representation of a system, displaying data along with its sources and destinations within the system. External entities, which are sources and destinations outside the system's boundaries, are also depicted. Occasionally, the diagram may include data flow between these external entities, particularly if there is uncertainty about the system's boundaries.

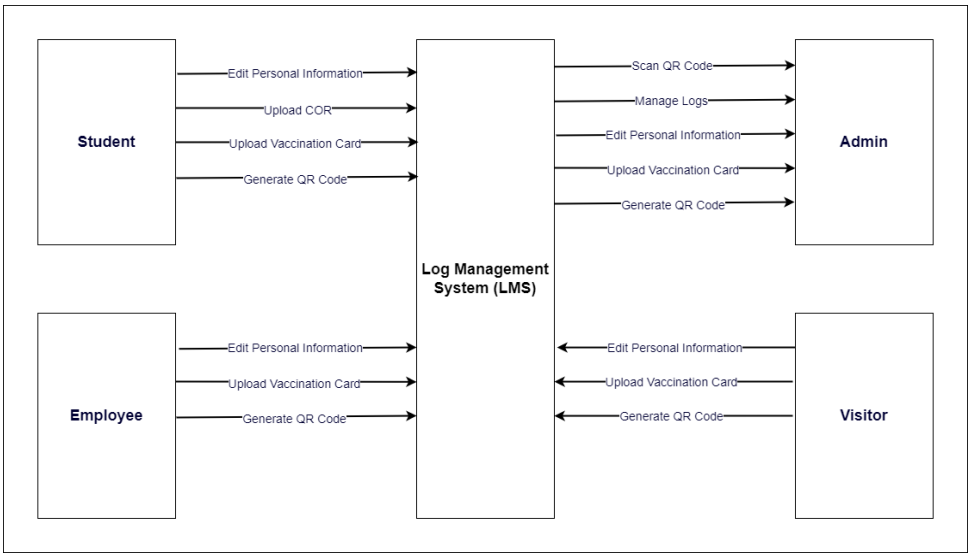

Figure 3. Context Diagram

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Data Flow Diagram

A data flow diagram (DFD) illustrates the movement of data within a system or process. By providing insights into how a process or system operates, DFDs help identify potential issues, enhance efficiency, and develop new procedures.

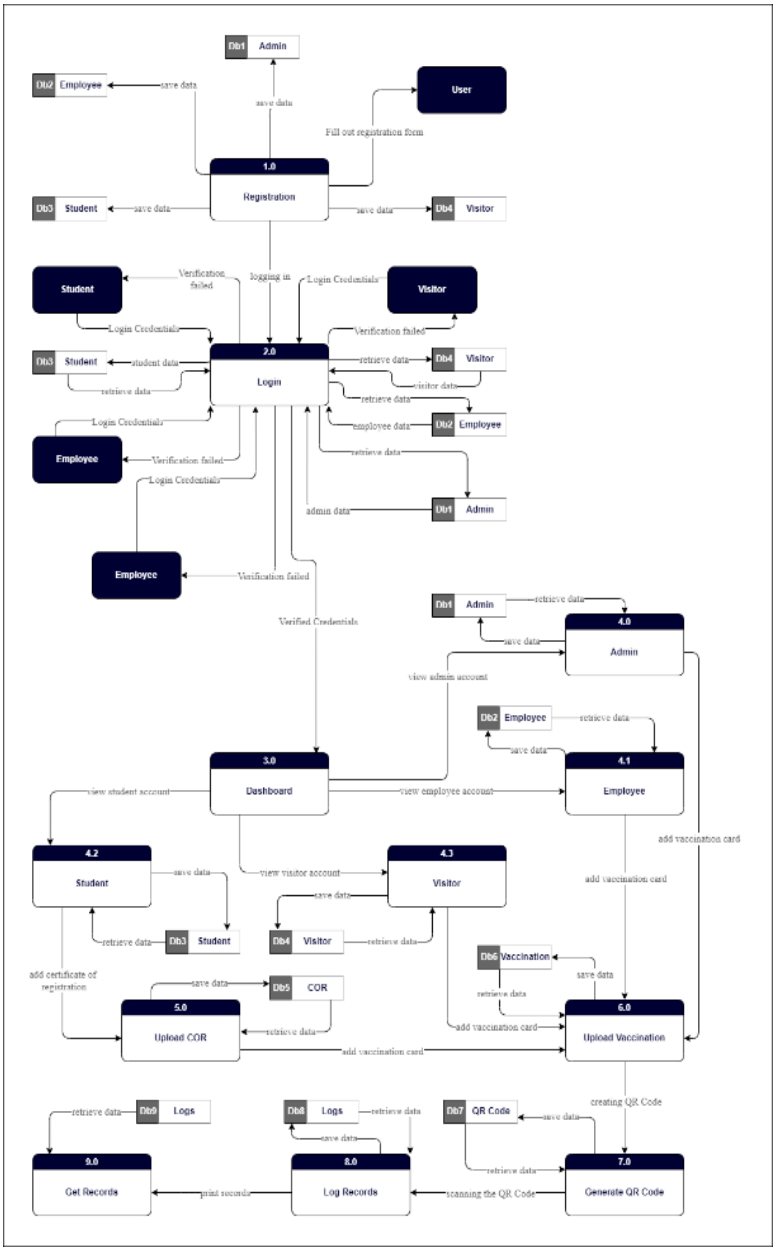

Figure 4. Data Flow Diagram

Entity-Relationship Diagram

An ERD is like a map of how different things are connected in a system. It shows boxes for things (called entities) and lines connecting them to show how they relate to each other. This helps us understand how the system is organized.

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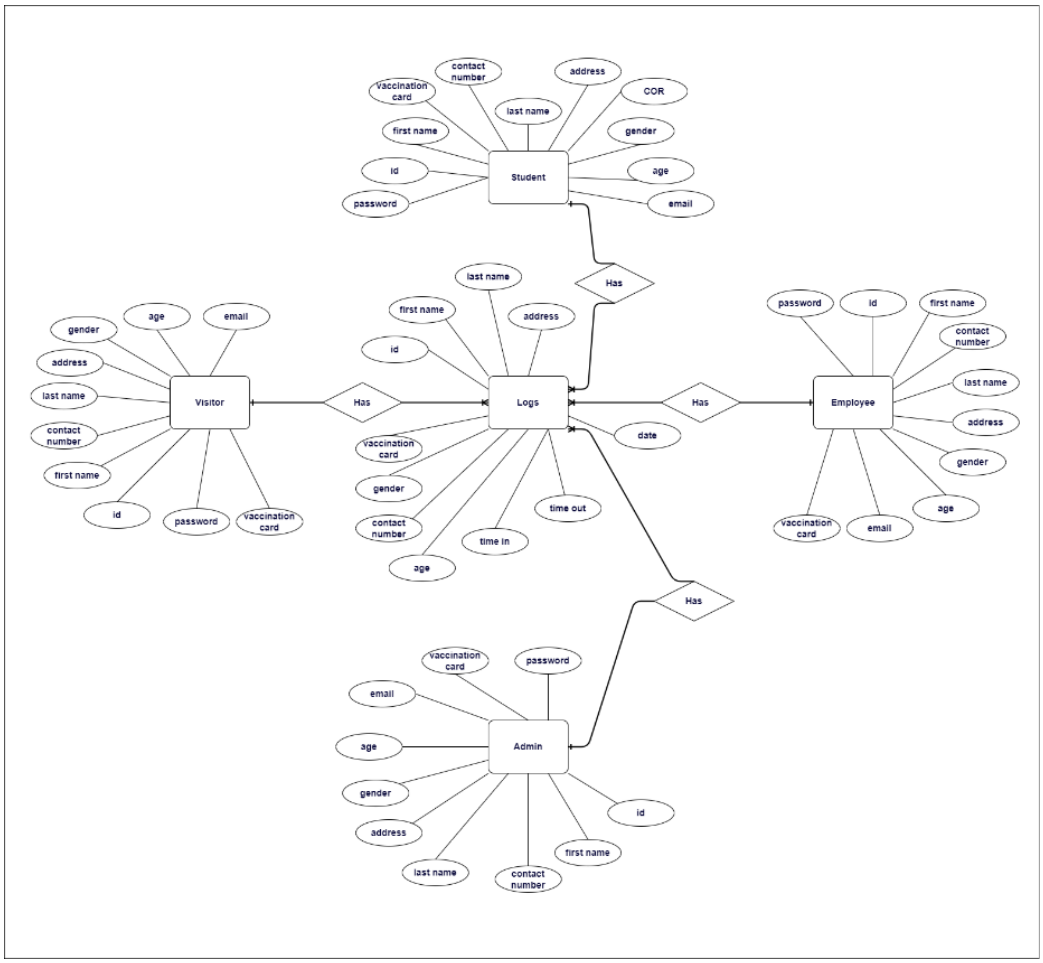

Figure 5. Entity Relationship Diagram

3.4. Participants and Sampling Procedure

The researchers applied the TAM Theory to measure the study's value. Respondents were asked to score the system's perceived usefulness, attitude, and behavioral attention on a five-point Likert scale, with 5 indicating Strongly Agree, 4 indicating Agree, 3 indicating Neutral, 2 indicating Disagree, and 1 indicating Strongly Disagree. The institution's population included fifty (50) students, nine (9) instructors, and one (1) school nurse.

IV. RESULTS AND DISCUSSION

This part provides a complete description of the project's implementation process, detailing each step taken to build and execute the system, as well as the study's outcomes, which offer insights and discoveries based on the data obtained. It also contains a brief discussion to assess the system's performance and efficacy. Furthermore, this chapter highlights the system's visual design and user interface, providing readers with a comprehensive knowledge of its appearance and functionality. It also discusses the information gleaned from the questionnaires provided to respondents, examining their feedback and responses to determine the system's impact and user satisfaction.

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4.1 Final Product

This are the following major processes and functionalities.

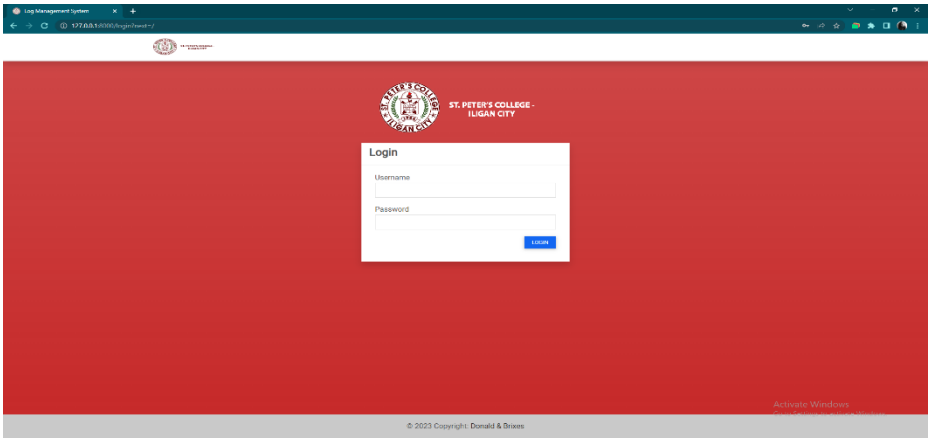

Figure 6. Login Page

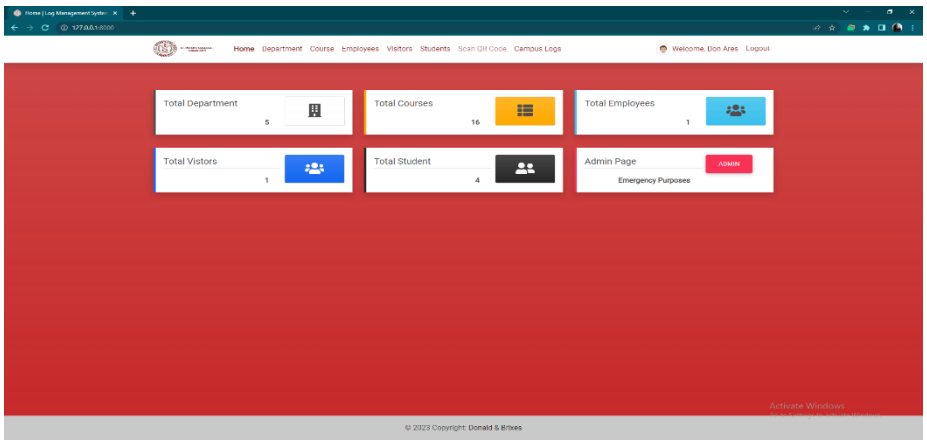

Figure 7. Dashboard

Figure 6 have the login page for administrator to access the system, while Figure 7 is the dashboard that displays the features of the system.

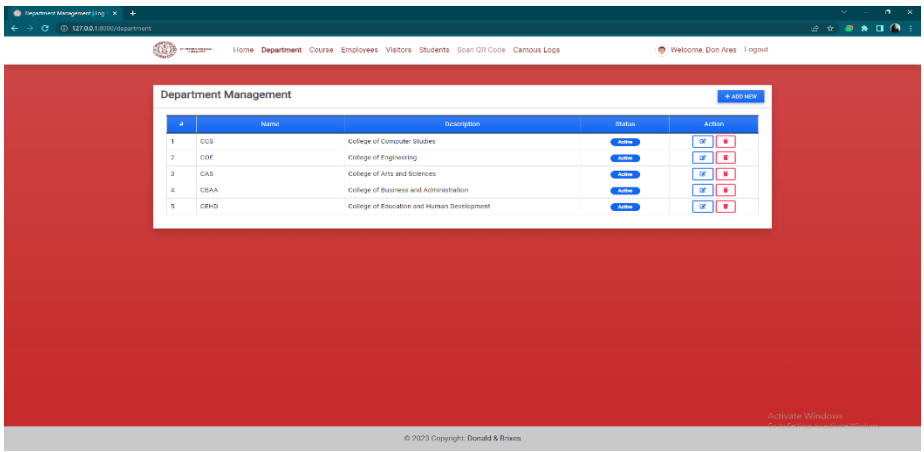

Figure 8. Department Table

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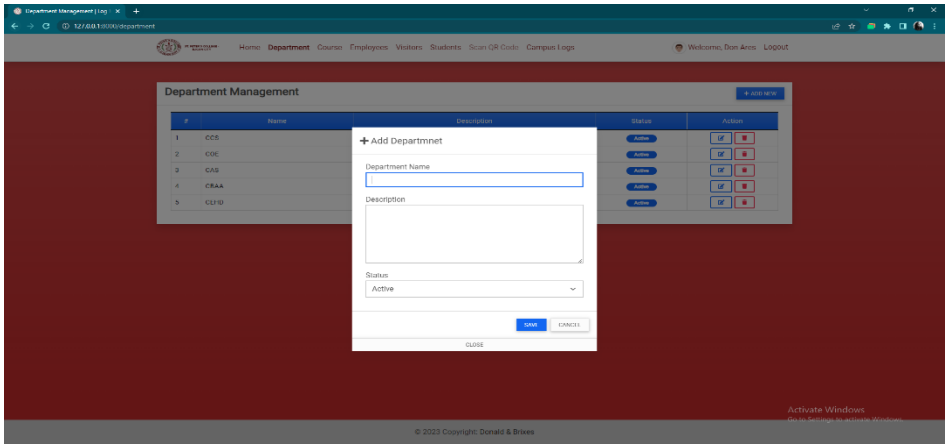

Figure 9. Add Department Form

Figure 9 contains the form or the design of adding departments on the web app. You can also edit, change status and delete the specific department in the action row. At the same time, Figure 8 is the table that displays the added department at the system.

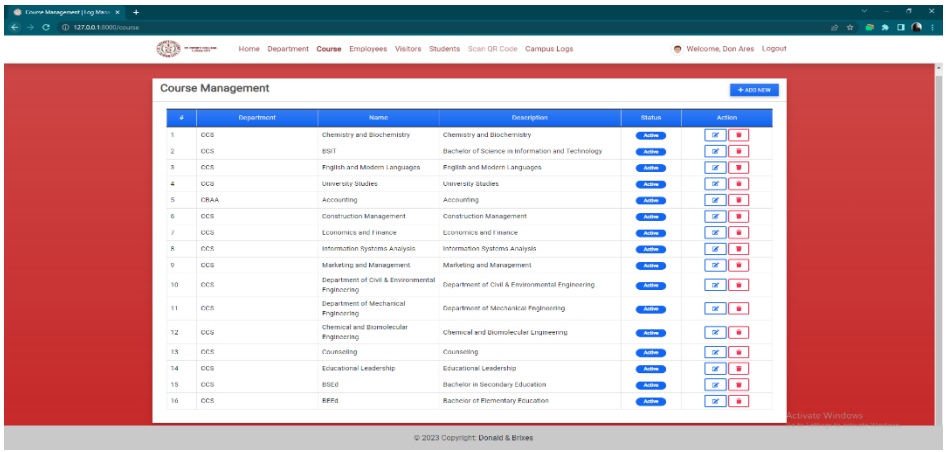

Figure 10. Course Table

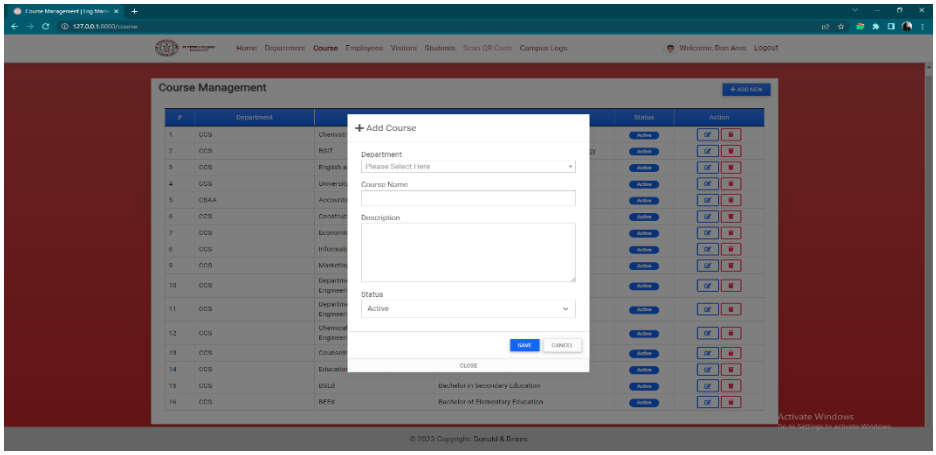

Figure 11. Add Course Form

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Figure 11 contains the same form in the department or the design of adding course on the web app. You can also edit, change status and delete the specific course in the action row. At the same time, Figure 10 is the table that displays the added course at the system.

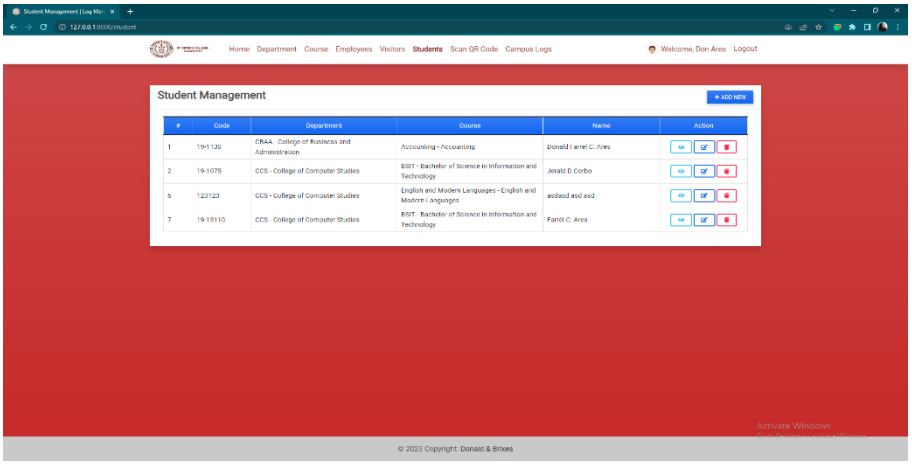

Figure 12. Student Table

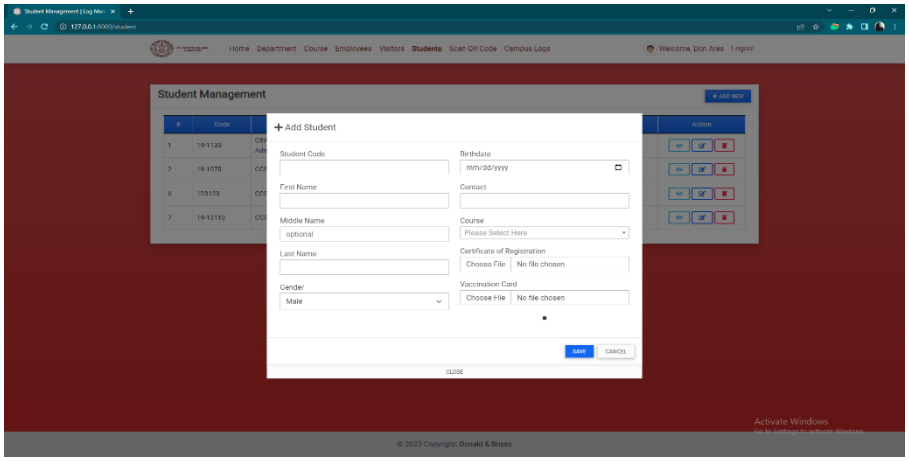

Figure 13. Add Student Form

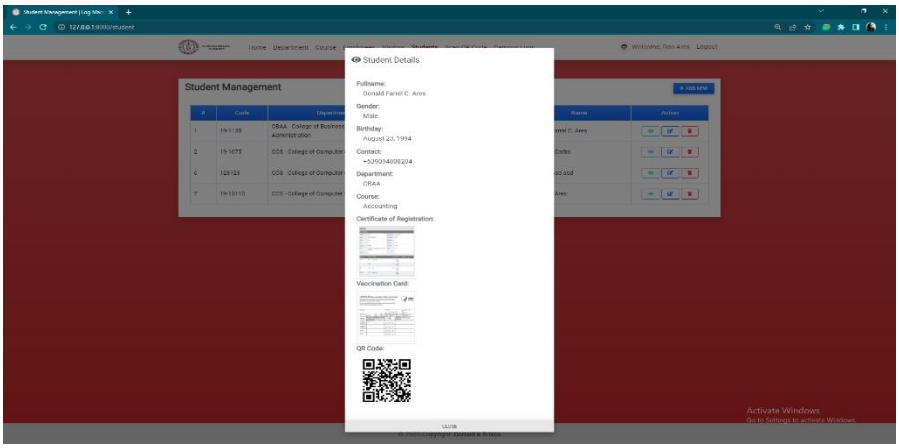

Figure 14. Student Details

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Figure 13 contains the form or the design of adding student on the web app. You can also edit and delete the specific student in the action row. While in Figure 14 you can view the student details that are not showing in student table, like the vaccination card and certificate of registration. In this page you can also view the QR Code that is generated, then this will be used to scanned for logging in the system.. At the same time, Figure 12 is the table that displays the added student at the system.

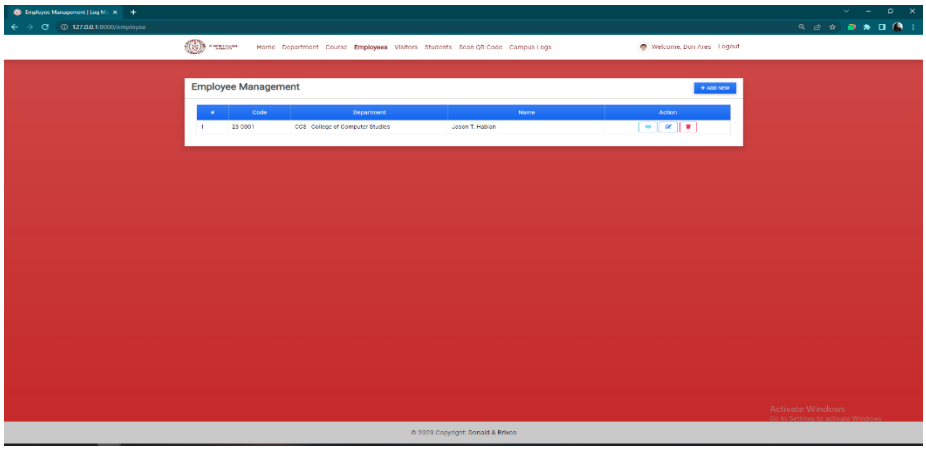

Figure 15. Employee Table

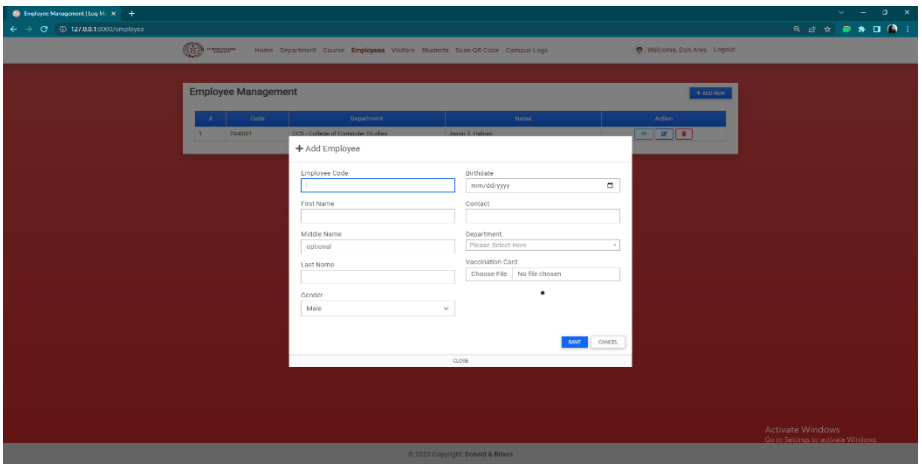

Figure 16. Add Employee Form

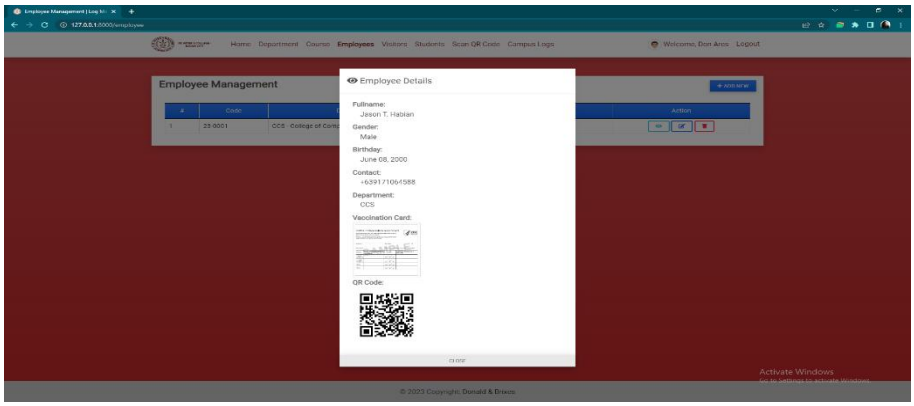

Figure 17. Employee Details

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In Figure 15, Figure 16, and Figure 17, the procedure for incorporating data pertaining to employees and visitors is the same to that of students, except for the inclusion of a certificate of registration.

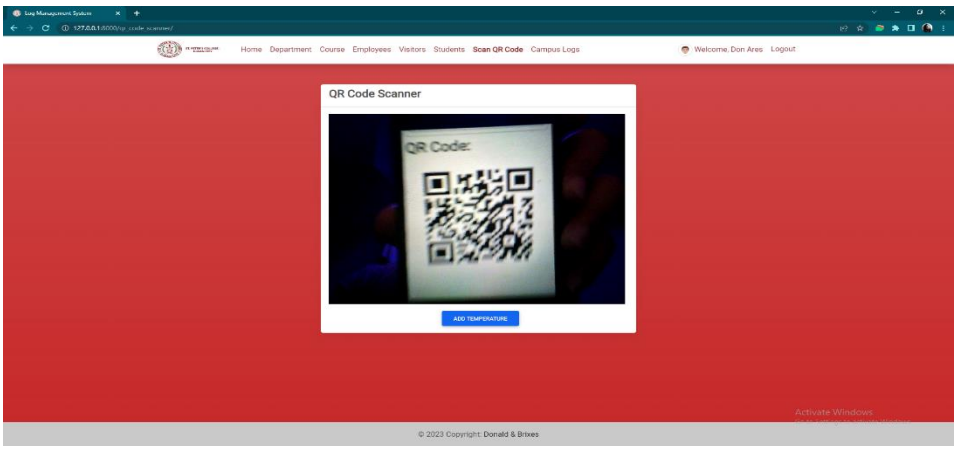

Figure 18. QR Code Scanner

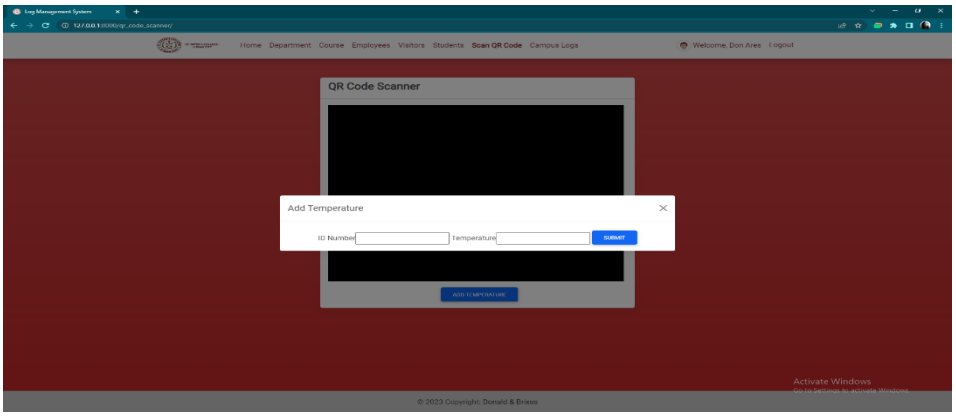

Figure 19. Add Temperature Form

At Figure 18 contains the QR Code scanner that will read the QR Code then save the Student, Employees, and Visitors details like Code, Name, Course, Department, Date, Time In and Time Out. At the same time, Figure 19 is the form where you input your temperature once the QR Code is scanned.

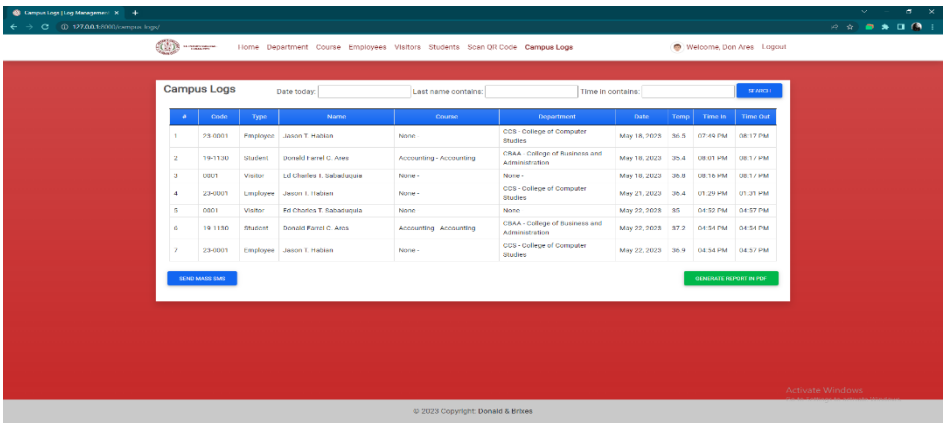

Figure 20. Campus Logs Table

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Figure 20 has the log records of every Students, Employees, and Visitors. It also has a feature that you can filter by Date, Time and Last Name.

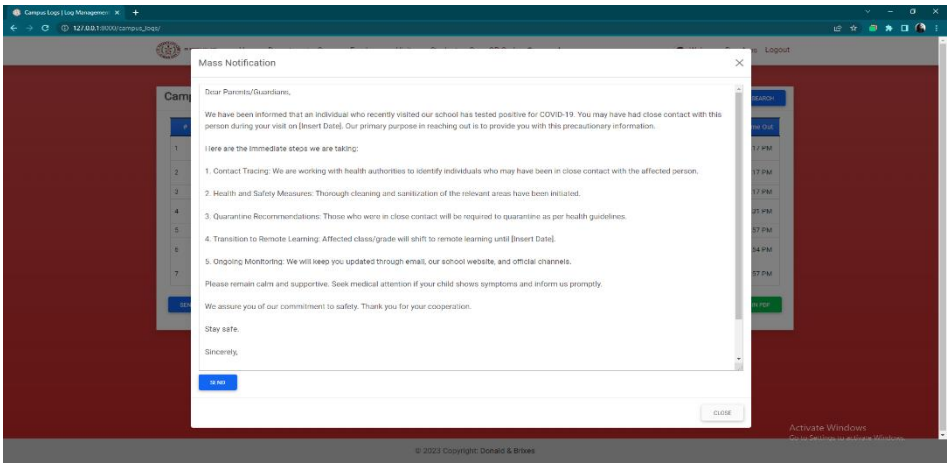

Figure 21. Mass SMS

Figure 21 contains the template for the mass SMS that the student, employees, and visitors will receive, the admin has the option to edit the template before they send it.

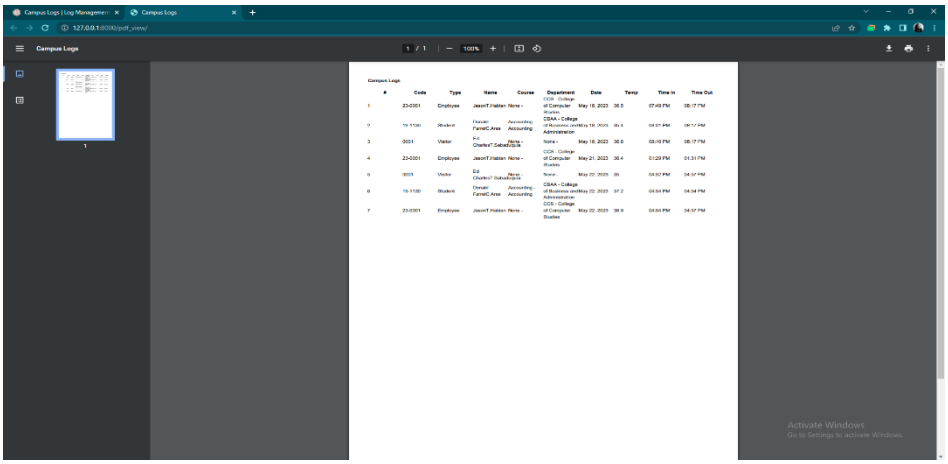

Figure 22. Generated Report of the Logs

Figure 22 showcases the generated report, which is available in a PDF format. This allows you the flexibility to either download the file to your device for later use or to print it immediately for physical documentation.

Objective 2: Evaluate the Grantee's Information System's acceptance level and its efficacy using the Technology Acceptance Model by the grantee's students

To assess the study's success, the researchers used the TAM Theory. Respondents rated the system's perceived usefulness, attitude, and behavioral attention on a five-point Likert scale, with 5 representing Strongly Agree, 4 representing Agree, 3 representing Neutral, 2 representing Disagree, and 1 representing Strongly Disagree. The participants were fifty pupils, nine instructors, and one school nurse from the institution.

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Table 1: Distribution of Statistics of Web-Based Laboratory Information Management System by the Respondents in Terms of Perceived Usefulness

Perceived of Usefulness	Mean	SD	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)
1. Using SPC Log Management System in school would enable me to accomplish tasks more quickly.	4.50	0.74	39	12	9	0	0
2. Using SPC Log Management System would prevent dishonesty.	4.20	0.97	29	19	8	3	1
3. Using SPC Log Management System in school would make me feel safe.	4.58	0.49	35	25	0	0	0
4. Using SPC Log Management System would enhance the efficiency of the school.	4.31	0.79	31	17	12	0	0
5. Using SPC Log Management System would make it easier to do record logs.	4.91	0.27	55	5	0	0	0
6. SPC Log Management System provides related information that I need	4.25	0.77	27	21	12	0	0
7. In general, I find the SPC Log Management System to be helpful for me.	4.80	0.40	48	12	0	0	0

Table 1 presents the results of the interviews conducted by the researchers. It displays the findings on the Perceived Usefulness of the system, and the respondents mostly agreed that the system was useful.

Table 2: Distribution of Statistics of Web-Based Laboratory Information Management System by the Respondents in terms of Perceived Ease of Use

Perceived Ease of Use	Mean	SD	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)
1. I feel that using the SPC Log Management System would be easy for me.	4.85	0.36	51	9	0	0	0

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2. I feel that my interaction with SPC Log Management System would be clear and understandable.	4.56	0.62	38	18	4	0	0
3. I find the SPC Log Management System to be flexible to interact with.	4.43	0.69	33	20	7	0	0
4. Interacting with SPC Log Management System does not require a lot of mental effort.	4.81	0.39	49	11	0	0	0
5. It would be easy for me to get SPC Log Management System do what I want to do.	4.56	0.64	39	16	5	0	0
6. In general, SPC Log Management System is easy to use.	4.88	0.32	53	7	0	0	0

Table 2 presents the results of the interviews conducted by the researchers. It displays the findings on the Perceived Ease of Use of the system, and the respondents mostly agreed that the system was easy to use.

Table 3: Distribution of Statistics of Web-Based Laboratory Information Management System by the Respondents in terms of Attitude

Attitude	**Mean**	**SD**	**Strongly Agree (5)**	**Agree (4)**	**Undecided (3)**	**Disagree (2)**	**Strongly Disagree (1)**
1. I believe it is good idea to use the SPC Log Management System.	4.86	0.34	52	8	0	0	0
2. I like the idea of using the SPC Log Management System.	4.31	0.77	30	19	11	0	0
3. Using the SPC Log Management System is a positive idea.	4.55	0.69	40	13	7	0	0

Table 3 presents the results of the interviews conducted by the researchers. It displays the findings on the Attitude of the respondents towards the system, and they mostly agreed with it.

Table 4: Distribution of Statistics in the Respondents' Satisfaction Level When Group According to Perceived Usefulness

Testee	**Mean**	**SD**	**Quality Description**
College of Computer Studies Students, Instructor and School Nurse	4.51	0.28	Strongly Agree

Table 4 illustrates the findings of a survey conducted on 50 students, 9 instructors, and one school nurse who participated as respondents. The study aimed to assess their perception of the proposed system, and based on the total weighted mean of 4.51, it was concluded that they strongly agreed on the system's perceived usefulness. Therefore, the respondents perceived the proposed system as fully operational and user-friendly, and they could use the Log Management System to enhance their performance.

Table 5: Distribution of Statistics in the Respondents' Satisfaction Level When Group According to Perceived Ease of Use

Testee	**Mean**	**SD**	**Quality Description**
College of Computer Studies Students, Instructor and School Nurse	4.69	0.19	Strongly Agree

Table 5 displays the outcomes of a survey conducted on 50 student, 9 instructors, and one school nurse who participated as respondents. The study aimed to assess their perception of the proposed system, and based on the total weighted mean of 4.69, it was concluded that they strongly agreed on the system's perceived ease of use. Consequently, due to its user-friendly nature, the survey revealed that respondents utilized the Log Management System to save time and effort.

Table 6: Distribution of Statistics in the Respondents' Satisfaction Level When Group According to Attitude

Testee	**Mean**	**SD**	**Quality Description**
College of Computer Studies Students, Instructor and School Nurse	4.58	0.28	Strongly Agree

Table 6 shows the outcomes of a survey conducted on 50 student, 9 instructors, and one school nurse who participated as respondents. The study aimed to assess their perception of the proposed system, and the total weighted mean of 4.58 indicated that they agreed that the system has a positive attitude. Consequently, the respondents regarded the proposed system as an innovative and advantageous approach for tracking the logs, conducting a contact tracing and generate report using the Log Management System.

V. CONCLUSION

In the past two (2) years we experience a pandemic that change a lot in the way we live especially going to school, although it is slowly getting back to normal now we are still fighting Covid-19. That is the reason why the study was created in order to have an ease in getting log records of administrators, employees, students and visitors going in and out of the school.

The Log Monitoring System with QR Code is one of the most effective ways to track the logs of administrators, employees, students, and visitors to campus. Because the system captures the responders' log-in and log-out times, tracking down potential COVID-19 suspects will be simple and reliable.

The system's concept will undoubtedly benefit many people in the future. If it is completely evolved and added another feature to the system, such as adding class attendance, the options are unlimited.

Ethical Approval

In June 2023, researchers got permission from the college's administration to ask some questions for students in the Computer Studies program**.** These students agreed to participate and understood that their answers would be used for research, but their privacy would be protected.

Data Availability

Underlying data

Figshare: A Log Management System (LMS) for Administrators, Employees, Students, and Visitors https://doi.org/10.6084/m9.figshare.26291002.v1

The project contains extended data.
- Instructor-Questionnaire.doc
- Student-Questionnaire.doc

VI. REFERENCES

[1]. Maleriado, M. A., and Carreon, J. (2019). The Features of Quick Response (QR) Code as an Attendance Monitoring System: Its Acceptability and Implication to Classroom. Retrieved from https://rb.gy/oxntp

[2]. Lun, Y. W. (2019). Smart Attendance System Using QR Code. Retrieved from http://eprints.utar.edu.my/3386/1/FYP_report_corrected.pdf

[3]. Rahmawati, D., Putro, F. W., Wicaksono, A. Y., and Nurdin, A. (2019). Student Attendance System using QR Codes (Case Study: Institut Teknologi Telkom Surabaya) Retrieved from https://journal.ittelkom-sby.ac.id/isict2019/article/view/64/49

[4]. Muir, D. J. (2019). Student Attendance: Is It Important, and What Do Students Think?. Retrieved from https://www.researchgate.net/publication/270395619Student_Attendance_Is_It_Important_and_What_Do_Students_Think

[5]. Sengupta, I., Jain, N., Shah, S., Jain, H., and Chandrani, A. (2020). Scandence: QR Code based Attendance Management System. Retrieved from https://www.irjet.net/archives/V7/i4/IRJET-V7I4745.pdf

[6]. Galgo, J. J. (2020). Efficacy of Scan Attendance Manager Application Using Quick Response Code in Dagohoy National High School, Bohol, Philippines. Retrieved from https://doi.org/10.32996/ijes.2020.2.4.1

[7]. Demir, S., Kaynak, R., and Demir, K. A. (2015). Usage Level and Future Intent of use of Quick Response (QR) Codes for Mobile Marketing among College Students in Turkey. Retrieved from https://cyberleninka.org/article/n/1016427

[8]. Shin, D., Jung, J., and Chang, B. (2012). The psychology behind QR codes: User experience perspective. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0747563212000702

[9]. Uzun, V., and Bilgin, S. (2016). Evaluation and implementation of QR Code Identity Tag system for Healthcare in Turkey. Retrieved from https://pubmed.ncbi.nlm.nih.gov/27652030/

[10]. Zhang, L., and Zheng, S. (2015). Enhancing QR Code Security. http://www.diva-portal.se/smash/get/diva2:824625/FULLTEXT01.pdf

[11]. Rivera, R., and Lagarteja, J. (2020). Study On The Impact And Effectiveness Of QR Code And SMS-Based Attendance Monitoring System Among The Students Of Callang National High School. Retrieved from https://www.researchgate.net/publication/349760527_Study_On_The_Impact_And_Effectiveness_Of_QR_Code_And_SMS-Based_Attendance_Monitoring_System_Among_The_Students_Of_Callang_National_High_School

[12]. Wei, X., Manori, A., Devnath, N., Pasi, N., and Kumar, V. (2017). QR Code Based Smart Attendance System. Retrieved from https://www.researchgate.net/publication/318779349_QR_Code_Based_Smart_Attendance_System