COMPUTER LABORATORY SCHEDULING AND ATTENDANCE MONITORING SYSTEM (CLSAMS)

Joshua A. Capalaran
Project Leader, Lead Programmer
212 Paso St. Bagumbayan, Taguig City
09685917417
joshuacapalaran11@gmail.com

Crisologo P. Lapitan IV
Quality Assurance
05 Franco Street, Purok 2a New Lower Bicutan, Taguig City
Phone Number
choilapitan47@gmail.com

Lessa Anne P. Pascubillo
Document Analyst
Blk 5 Lot 21 Damascus St., SJDM, Bulacan
09555801099
lezzaanne@gmail.com

Alyssa Joanna O. Villanueva
Lead Designer
60 Adia St. Bagumabayan, Taguig City
09505306098
alyvillanueva14@gmail.com

ABSTRACT

The Computer Laboratories Scheduling and Attendance Monitoring System (CLSAMS) will be introduced to the administrative employee in-charge of the Computer Laboratories to manage, schedule, monitor, and update records to reduce the time, and complexity of maintaining. The system aims to monitor the schedule and attendance more accurately, provide an effective and helpful system, and to simplify the process, lessen the amount of work in the Computer Laboratories in scheduling of classes or events and monitoring the attendance.

With the administrator, transaction and records will be fast and reliable for the students and professors. The survey used was based on the ISO 25010, answering the questions in the Statement of the Problem and rating based on the Likert Scale, and the User Acceptance Testing questionnaires as testing tools, some aspects of the system got a low rating based on the data gathered. Having said that, the system will still need to be improved, most especially in terms of functional suitability and reliability.

The final rating for the ISO is 4. 67, which lies in “Strongly Agree” in the Likert Scale of the ISO, hence, it is still substantial. As a result, the system remains efficient and effective. The researchers recommend that the management use this project, particularly for computer laboratories, where attendance is required. For future enhancements, the researchers foresee the disadvantages of barcode scanning when it comes to security and reliability. Some other innovative technology is highly suggested to explore more of Biometrics Technology.

The researchers recommend future proponents to explore different ways of taking attendance and to add a functionality in which the admin knows the seat number used by the user. Additionally, the researchers recommend making an application that was installed in every computer in the lab so that before using it, students and visitors could log-in beforehand.

Keywords: Computer Laboratories, Laboratory scheduling, Attendance, Barcode.

INTRODUCTION

Nowadays, it is common in schools and universities to have technology that will make a certain task faster but some are still using manual processes such as monitoring of attendance. Having a record of attendance has remained to be one the most important operations for evaluating the working time of students. It is used to mark the number of days present or absent in the academic year of the students. A manual monitoring through the use of attendance sheets or book records has a big chance to be accidentally lost or misplaced. This can be a hindrance in monitoring the student's well-being and class standing that may create negative consequences affecting the students and professors.

The Computer Laboratories Scheduling and Attendance Monitoring System was designed to not just monitor the student's attendance but also to simplify the process of keeping track of the attendance of students; thus, the system can help to reduce the time and complexity of maintaining and monitoring the records in a more systematic way.

The general objective of the capstone project is to develop and implement the Computer Laboratory Scheduling and Attendance Monitoring System (CLSAMS) to monitor the schedule and attendance more accurately and provide an effective and helpful system that will save time, reduce the amount of work and replace the manual process in the Computer Laboratories

The main functionality of the system is to reduce time and make the task easier and faster.

This study is significant to all the students who uses the laboratories. Having a paperless attendance that is automated and hassle free with minimizing time spent in students time in and time out.

For students and visitor is aware that they are being monitored inside the lab.

For the professors and administrator, this study is significant to have an easy access to the system to lessen effort and time in taking, checking the attendance and fast preparation of reports.

For Future researchers and developers, this will be a great basis on upgrading tools that adapt new technologies and can flexible to manage in changing environment for attendance system.

RESULTS AND DISCUSSION

User Acceptance Testing Results

Respondents from PUP-Taguig have tested the web application to give feedback and recommendations. The following figures are the results of the findings of the study after testing the system. The survey used was based on the ISO 25010, answering the questions in the Statement of the Problem and rating based on the Likert Scale mentioned below in table 1.

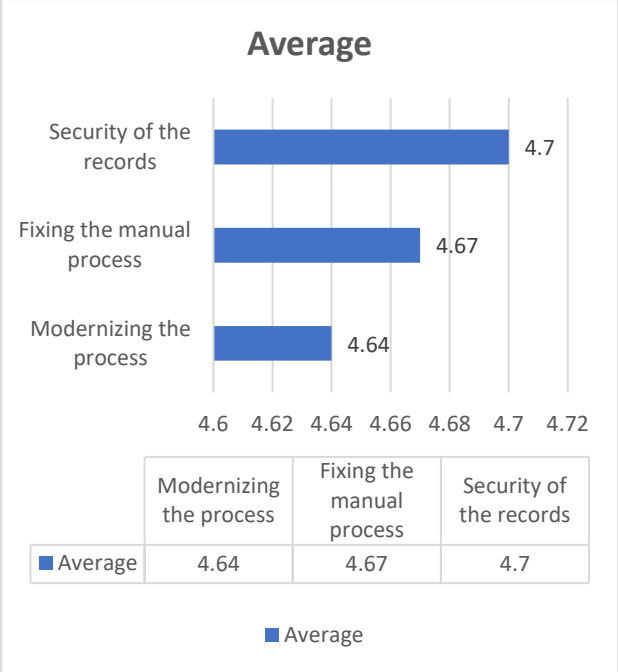
Table 1.
Likert Scale (ISO 25010)

NUMERICAL RATING	INTERPRETATION
4.3 - 5	Strongly Agree
3.5 – 4.2	Agree
2.7 – 3.4	Neither
1.9 – 2.6	Disagree

1- 1.8	Strongly Disagree

The survey used was based on the ISO 25010, answering the questions in the Statement of the Problem and rating based on the Likert Scale mentioned in table 1.

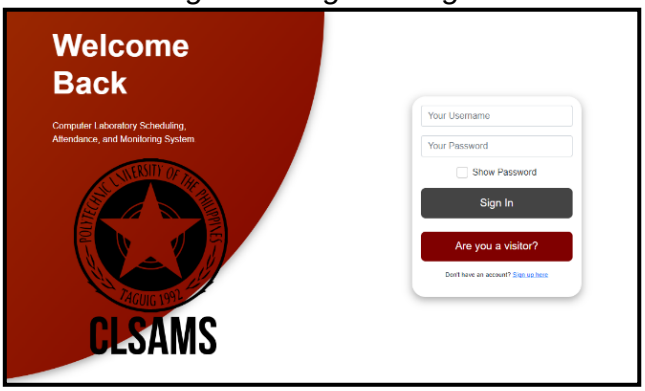
Figure 1. Summary of Findings



After calculating the averages for each category, the system's overall rating is calculated. The results show that the system is 4.67% which lies in “Strongly Agree” in the Likert Scale of the ISO. Some aspects of the system get a low rating based on the data gathered. That is a low rating among all categories. Having said that, the system will still need to be improved. In terms of Functional suitability and reliability, the system needs to be improved.

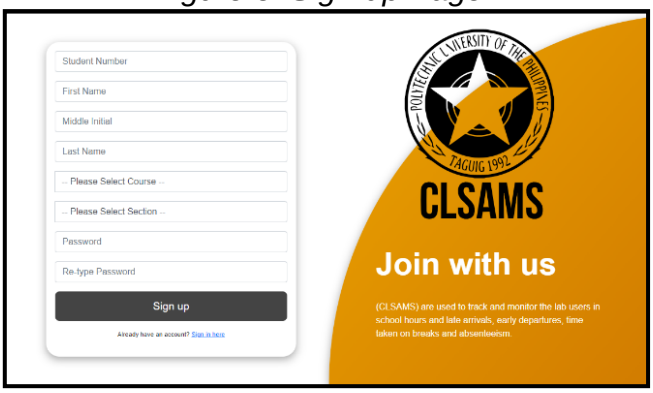
The screenshots of the system are as follows:

Figure 2. Sign-in Page



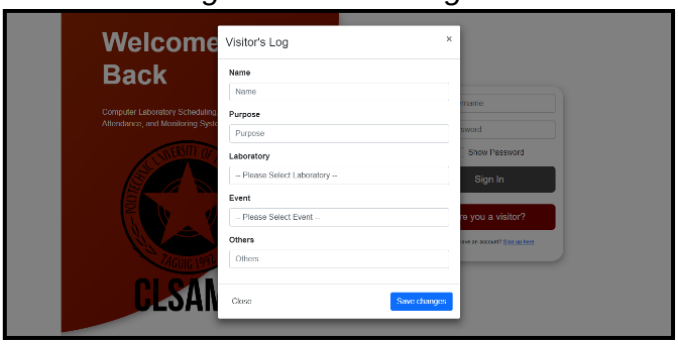
Sign-in page. This is where members can input their login credentials to access the CLSAMS Accounts.

Figure 3. Sign-up Page



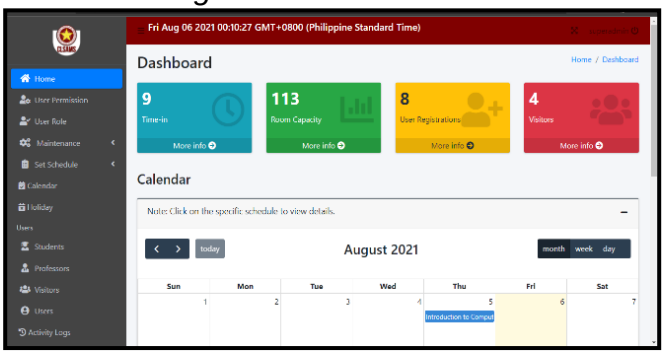
Sign-up page. This is where members can input their login credentials to access the CLSAMS Accounts.

Figure 4. Visitor Log



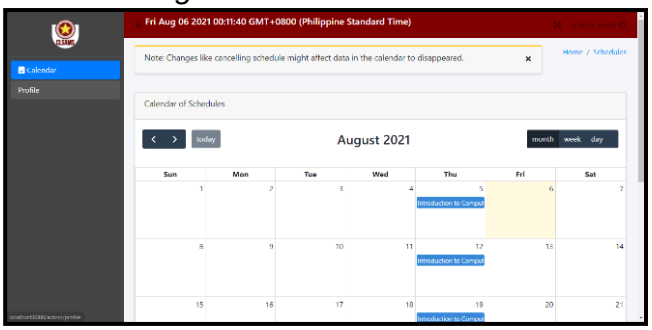
Visitor Log. This will allow the visitor to take an attendance to a specific event / lab.

Figure 5. Admin View



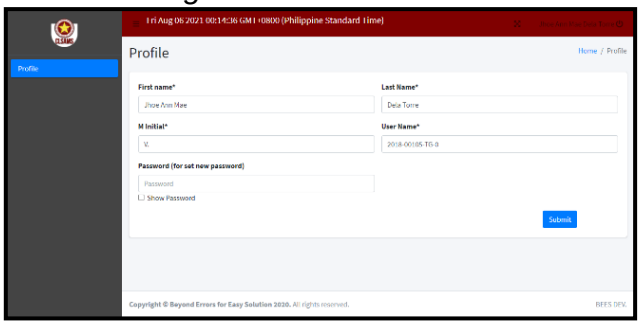
Admin View. This user controls all the transaction happening in the system.

Figure 6 Professor View



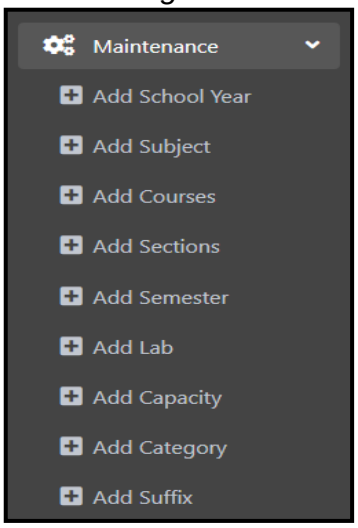
Professor View. The professor can access his/her profile, scheduled class, and student attendance.

Figure 7. Student View



Student View. The student can access his/her profile unless given a permission to do other function or transaction by the admin.

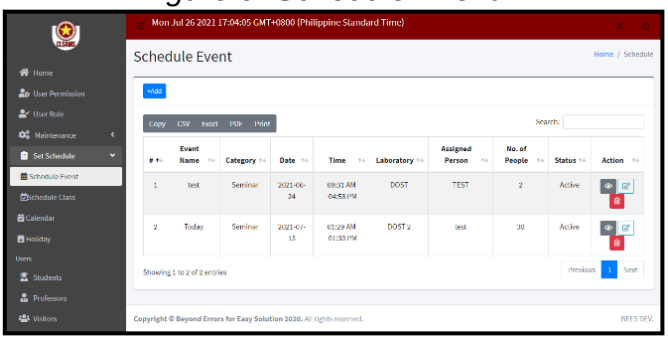
Figure 8. Maintenances



Description:

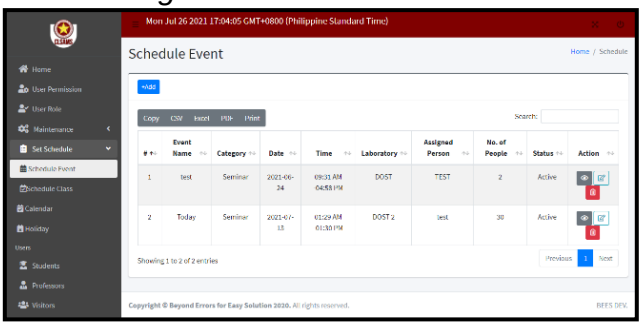
This function is basically at the admin side where in the admin can add data for its maintainable purposes.

Figure 9. Schedule Event



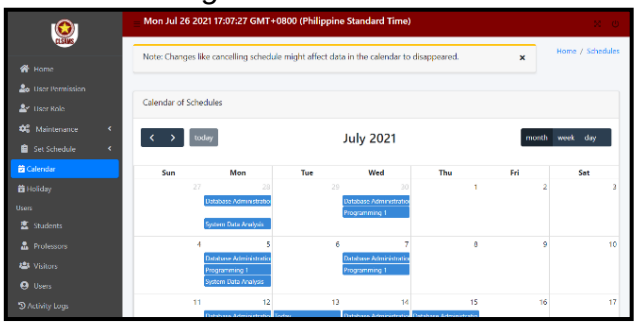
Schedule Event. This is where the events are scheduled to a specific date and time.

Figure 10. Schedule Class



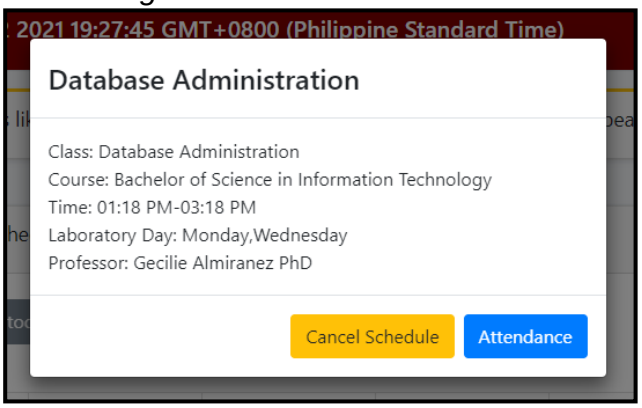
Schedule Class. This where the class per semester schedule in a particular subject in a week.

Figure 11. Calendar



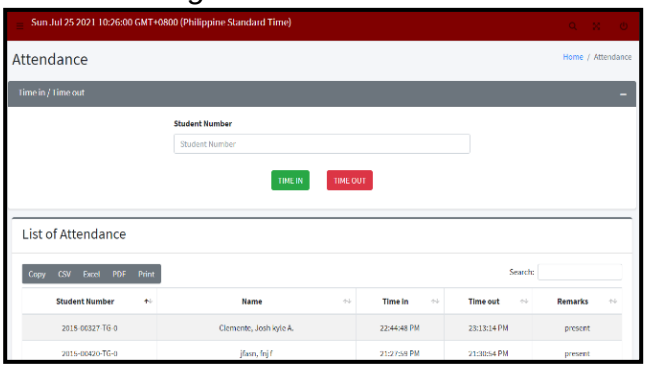
Calendar. This contains all the schedule class and event for specific month, week, and day.

Figure 11.1 Cancel Schedule



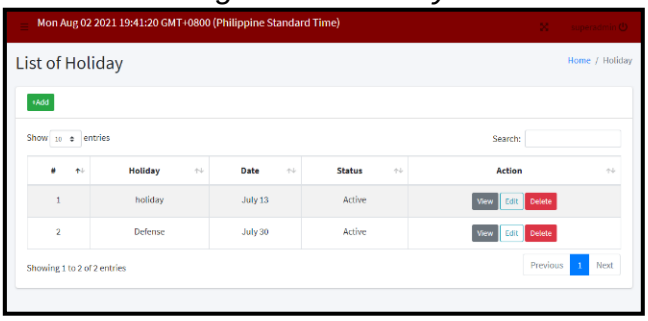
Cancel Schedule. This function helps the admin to cancel a specific schedule.

Figure 12. Attendance



Attendance. This section contains the time-in and time-out function that could access in calendar of events/ class.

Figure 13. Holiday



Holiday. This section adds a holiday date so that no event and class can sched in that particular day.

CONCLUSIONS

Notwithstanding the system's low ratings for functional suitability and reliability together with summary of findings, modernizing process needs to be focused on. But the overall rating is still substantial. As a result, the system remains efficient and effective, and it is now completely ready for implementation.

Adopting a modern way to solve the problems that arise will give the Computer Laboratories an advantage that will make the work easier and faster.

Thus, the Computer Laboratories Scheduling and Attendance Monitoring System (CLSAMS) is still necessary to provide faster transactions, easier ways to record attendance, generate accurate reports, and monitor the attendance and schedules of the laboratories that can significantly affect the manual process

RECOMMENDATIONS

As stated in the findings, the system needs to be refined and enhanced in order to improve its functional suitability and reliability. The researchers recommend that

the management use this project, particularly for computer laboratories, where attendance is required.

This system was created to assist the Administrative Employees in meeting their needs by providing practical and reliable transaction records. Since the university does not have an integrated system in place, this capstone project would have a manageable way to log, preserve, and update all relevant information to keep the records up to date. For future enhancements, the researchers foresee the disadvantages of barcode scanning when it comes to security and reliability. Some other innovative technology is highly suggested to explore more of Biometrics Technology.

As mentioned, this capstone project is divided into two main systems: computer laboratories scheduling and attendance monitoring. The researchers recommend future proponents to explore different ways of taking attendance and to add a functionality in which the admin knows the seat number used by the user. Additionally, the researchers recommend making an application that was installed in every computer in the lab so that before using it, students and visitors could log-in beforehand.

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