Faculty attendance management system

EMERSON JOHN D. CHIN, BSIT[1, a,] DINO L. ILUSTRISIMO, MIT[2, b,]

NATHANIEL G. GIDO[3, c], RELINA J. BALILI, MLIS[4, d], KURT BRYAN ALEGRE, BSIT[5, e]

[1]Student, Madridejos Community College, Madridejos Cebu

[2]IT Program Chair, Madridejos Community College, Madridejos, Cebu

[3]EdD, PhDc, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.

[4]Librarian Head, Madridejos Community College, Madridejos Cebu

[5]IT Faculty, Madridejos Community College, Madridejos, Cebu

Email: [a]emersonjohnchin12stem@gmail.com,+639464952142; [b]dinzky0307@gmail.com, +639455990065; [c]maritimeresearchunit@gmail.com, +639271308707; [d]balilirelina@gmail.com, +639070384342; [e]maritimeresearchunit@gmail.com; +639271308707

ABSTRACT

The researchers suggest the Faculty Attendance Management System as a remedy for the aforementioned issues. For each subject on their agenda, the system maintains track of who entered and who departed their session. The researchers have also developed a system that gives teachers the option of face-to-face instruction, blended learning, or online instruction. The system provides prompt, efficient, and exact track the daily attendance of the teachers at home or at school. The online platform makes it simpler to track and log the instructors' attendance through payroll, as said. The manual system of taking attendance had weaknesses and problems, which the technology resolves. Implementing the system results in timely, accurate, and effective attendance recording.

Corresponding Author*: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.*

I. Faculty Attendance Management System

The rapid changes and progress in technology have affected how every organization operates, and educational institutions are not an exception. There are numerous smart means and instructional instruments that emerged as technology also continues to update. The "MCC Flexible Faculty Attendance System" capstone project uses an online platform to record the attendance and generate the payroll of the instructors' daily attendance at school, particularly in their every subject schedule. This web-based platform will give schools access to a consolidated database of instructor attendance records that is secure and simple to access.

Monitoring instructors' attendance is a daily responsibility of the secretary of MCC. Keeping instructors in class and present is a primary priority. Another essential component for monitoring and assessing instructors is their attendance. The procedure of checking each instructor's attendance and computing their salary is now done manually, and the only tools utilized are class records, index cards, and a sheet of paper with a list of the instructor. It appears that repeating this effort will be tedious and time-consuming. With these procedures, errors, redundancies, and discrepancies are inevitable. The old attendance recording approach will provide unreliable reports of attendance monitoring which require the school to establish an effective system that will correctly and effectively retain records of instructors' attendance and consolidate an attendance report with payroll.

To address the aforementioned issues, the researchers provided the Faculty Attendance Management System. Particularly in their every subject schedule, the technology will maintain tabs on who entered and who exit to their session. The system will diligently monitor attendance at school each day in a prompt, effective, and precise manner. The online platform will make it simpler to track and record instructors' attendance. The manual attendance method's shortcomings and problems will be resolved by the system. After the system is put into place, the attendance recording will be accurate, timely, and effective.

2. Objectives of the study

This study aims to develop the Faculty Attendance Management System.

Specifically, it aims to:

1. Display on the dashboard is the following:

 Corresponding Author: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.

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a.
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A Total number of Instructors

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b.
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Percentage of Absent Instructors

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c.
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Percentage of Late Instructors

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d.
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Percentage of on-time Instructors

2. Provide options for the administrators to:

   a. Create, read, update & delete the instructor's profile

   b. Create load sheets of the instructors

   c. Generate Instructors ID for login credentials

3. Allow the administrator to print the following:

   a. Load Sheets

   b. Payroll

4. Generate a payroll of instructors every 15th of the month.

5. Choose a mode of learning for instructors' attendance

6. Upload proofs of classes being attended

7. Notify instructors of the incoming class schedule

8. Mobile app, an app that allows teachers to easily access the system.

9. Becomes available online through web hosting and cloud storage services.

10. Verify email address, in order to verify the system account, instructors must use their verified email address.

11. Forgot Password, using their verified email address, instructors can reset their forgotten password.

12. Approved by the admin, for instructors to log into the application, the administrator must approve their account.

3. Research Methodology

This research study of the Faculty Attendance Management System will use the Developmental Research methodology. It is the systematic study of designing, producing, and evaluating educational procedures, goods, and programs that must abide by internal consistency and effectiveness standards. **(Seels & Richey, 1994). Software Life Cycle Model.**

| **Corresponding Author***: * NATHANIEL G. GIDO. 3EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.*

The Faculty Attendance Management System Web Application was developed in this project using the system development process known as the Rapid Application Development (RAD) model.
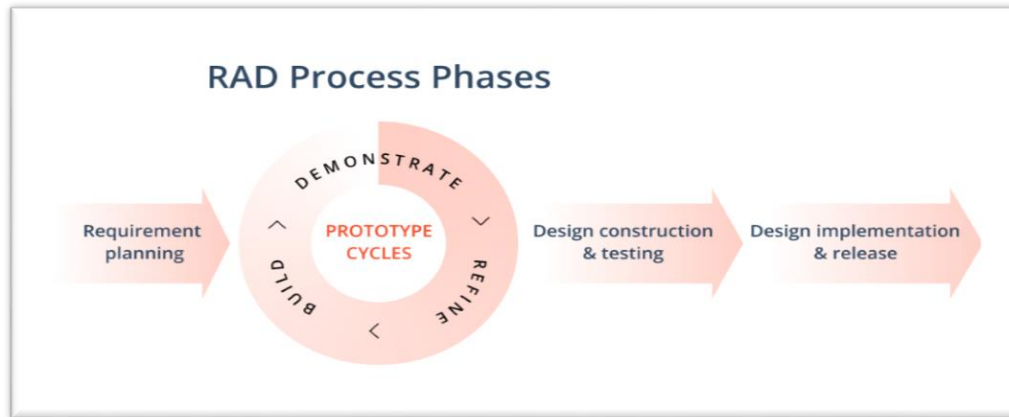

Figure 1. Rapid Application Development Model

The quick application development process, which has been effective in reducing costs, is used in this study.

Software and web application development time and timely completion. When there are several inputs during the development process, rapid application development is also advantageous.

RAD Software Phases

Stage 1. Requirement Planning

In this stage, the Faculty Attendance Management System's necessity and the system's intended scope were discussed with the administration at this point, along with other current issues. The development process's scopes and objectives were established, which emphasizes the significance of the Faculty Attendance Management System. Additionally, the researcher was setting clear goals and carefully discussed the web application's scopes and objectives.

Stage 2. Prototype Cycles (Demonstration, Refine, Build)

After the requirement planning with the administrator, the researchers proceed to the prototype cycle.

Corresponding Author*: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.*

The creation of the system's model is the second stage (prototyping). The researcher starts to find a helpful site for the system to achieve all the functions that are written in the specific objective. The researchers also consult with the expert to gain more ideas on how to build a system like Faculty Attendance Management System. For instance, the developer would improve the web application when issues and deficiencies in the system are noticed. The procedure will be repeated until the system's requirements for functionality and scope are met.

Step 3. Design Construction and Testing

This stage comprises testing the Faculty Attendance Management System's functionality while making sure that practically all of its features and functionalities are already operational. The web application is still developed by the developer to complete all the functionality of the system. If the developers can add the functionality, there is a chance that additional functionality will be added to the system during this phase in response to client requests. The client's feedback will enable this phase's rewriting and restatement of the web applications' code.

The researcher will request permission from one of the instructors at Madridejos Community College to use the Faculty Attendance Management System to conduct the study. The instructor explores the web application's features and offers suggestions to improve the system. And the researchers tested and surveyed the IT professionals who we believed could aid to improve our system.

Step 4. Design Implementation and Release

The web application's final stage of development before launch is this phase. But the system is not finished yet, so the developer still looking for ideas to complete all the functionality of the system. In this case, there is no final result yet.

4. Results and Discussions

Table 1. In terms of managing the Faculty Attendance Management System

Attendance Management System	Mean	Verbal Interpretation
Displaying Total number of instructors	4.91	Very Satisfactory

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Percentage of Absent Instructors Percentage of Late Instructors Percentage of on-time instructors		
Provide options for the administrators to: Create, read, update & delete the instructor's profile Create load sheets of the instructors Generate instructors' ID for login credentials	**4.55**	**Very Satisfactory**
Allow administrator to print Load sheet, Payroll	**4.33**	**Very Satisfactory**
Generate payroll of instructors every 15th of the month	**4.33**	**Very Satisfactory**
Choosing the mode of learning for instructors' attendance	**4.66**	**Very Satisfactory**
Upload proof of classes attended by instructors	**4.66**	**Very Satisfactory**
Notifying/alarming the instructors for approaching time out and time in.	**4.33**	**Very Satisfactory**
Mobile app to easily access the system	**5.00**	**Excellent**
Live hosting feature of the faculty attendance system	**5.00**	**Excellent**
Provide options for the instructors to: Verify email address **5.00**		**Excellent**
Reset password	**4.66**	**Very Satisfactory**
Requirement for administrator approval before instructors can log into the application	**5.00**	**Excellent**
Total	**4.70**	**Very Satisfactory**

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According to the IT expert's input, Table 1 displays the total number of teachers, the percentage of absent instructors, the percentage of late instructors, and the percentage of on-time instructors for the Faculty Attendance Management System. The average rating in the table above is **4.70**, which is considered to be **Very Satisfactory.**

Table 2. In terms of the characteristics set in the ISO 25010

Criteria	Mean	Verbal Interpretation
Functional Suitability	4.33	Very Satisfactory
Performance Efficiency	4.66	Excellent
Compatibility	4.41	Very Satisfactory
Reliability	4.50	Very Satisfactory
Security	4.33	Very Satisfactory
Total	4.32	Very Satisfactory

Table 2 displays the outcome of the IT specialist's evaluation of the Faculty Attendance Management System using the standards set out in the ISO 25010 Software Quality Model. It had a mean score of **4.33** for Functional Suitability, which is considered to be **Very Satisfactory**. The average rating for performance efficiency is **4.66**, which is considered **Excellent**. The average rating for compatibility is **4.41**, which is considered to be **Very Satisfactory**. The average grade for reliability is 3.91, which is considered to be **Very Satisfactory**. The average grade for security is **4.33**, which is considered to be **Very Satisfactory.**

 Corresponding Author*: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.*

Table 3. In terms of usefulness, ease of use, ease of learning, and satisfaction

Criteria	Mean	Verbal Interpretation
Usefulness	4.33	Very Satisfactory
Ease of use	4.27	Very Satisfactory
Ease of Learning	4.25	Very Satisfactory
Satisfaction	4.23	Very Satisfactory
Total	4.27	Very Satisfactory

Table 3 shows the result of the IT expert's feedback in determining the quality of the Faculty Attendance Management System based on usefulness, ease of use, ease of learning, and satisfaction. In terms of Usefulness, it had a mean rating of **4.33**, which is interpreted as **Very Satisfactory**. Also, in terms of Ease of Use, it had a mean score of **4.27**, which is considered **Very Satisfactory**. As to Ease of Learning, it had a mean rating of **4.25**, which is interpreted as **Very Satisfactory**. Satisfaction was rated with a mean value of **4.23**, which is interpreted as **Very Satisfactory**.

5. Summary of Findings

This is a summary based on a thorough presentation, discussions, interpretation, and analysis of the research finding:

1. In terms of displaying the total number of instructors on the dashboard, it received a mean rating of 5.00, which is considered Excellent.
2. In terms of displaying the percentage of absent instructors on the dashboard, it received a mean rating of 5.00, which is considered Excellent.
3. In terms of displaying the percentage of late instructors on the dashboard, it received a mean rating of 4.00 which is considered Very Satisfactory.
4. In terms of displaying the percentage of on-time instructors on the dashboard, it received a mean rating of 5.00 which is considered Excellent

 Corresponding Author: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.

5. In terms of providing options for the administrators to create, read, update & delete the instructor's profile, it received a mean rating of 4.33 which is considered Very Satisfactory.

6. In terms of providing options for the administrators to create a load sheet of the instructors, it received a mean rating of 5.00 which is considered Excellent.

7. In terms of providing options for the administrators to generate an instructor's ID for login credentials, it received a mean rating of 4.33 which is considered Very Satisfactory.

8. In terms of allowing the administrators to print the load sheet and payroll of instructors, it received a mean rating of 4.33 which is considered Very Satisfactory.

9. In terms of generating a payroll of instructors every 15th of the month, it received a mean rating of 4.33 which is considered Very Satisfactory.

10. In terms of choosing a mode of learning for instructors' attendance, it received a mean rating of 4.66 which is considered Very Satisfactory

11. In terms of the option to upload proof of classes attended by an instructor, it received a mean rating of 4.66 which is considered Very Satisfactory

12. In terms of choosing a mode of notifying/alarming the instructors for approaching time out and time in for the next schedule, it received a mean rating of 4.33 which is considered Very Satisfactory.

13. In terms of choosing a mode of using a mobile app that allows the teachers to easily access the system, it received a mean rating of 5.00 which is considered Excellent.

14. In terms of the Live hosting feature of the faculty attendance system, it received a mean rating of 5.00 which is considered Excellent.

15. In terms of verifying email addresses for instructors to confirm their email addresses, it received a mean rating of 5.00 which is considered Excellent.

16. In terms of using the verified email to reset passwords for instructors, it received a mean rating of 4.66 which is considered Very Satisfactory

17. In terms of the requirement for administrator approval before instructors can log into the application, it received a mean rating of 5.00 which is considered Excellent.

6. Conclusion

Corresponding Author: * NATHANIEL G. GIDO. [3]EdD, PhD c, VP for Curriculum Development, Research, and Instructions Madridejos Community College, Madridejos Cebu.

The researchers are able to highlight the distinctive features of the Faculty Attendance Management System using descriptive analysis. From this, we can infer that the system is useful for faculty attendance because instructors can easily take attendance using it. The Faculty Attendance Management System mobile app is available for download for instructors, who may then conveniently use the system.

7. Recommendations

Based on the finding and conclusion, the following recommendation is proposed:

1. The management system should be used, according to the researchers, to verify attendance.

2. The payroll manager finds it very convenient to check instructor attendance.

3. The researchers advised the developer to improve payroll generation functionality.

4. The researchers advised the future developer to enhance the functionality in accordance with client requirements.

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