Global Scientific JOURNALS
GSJ: Volume 13, Issue 2, February 2025, Online: ISSN 2320-9186
www.globalscientificjournal.com

E-SCHOOL FORMS MANAGEMENT SYSTEM FOR BARTOLOME G. LEE SR. INTEGRATED SCHOOL

[1]Melba Capoquian Ditche
[2]Richard G. Rabulan, MIT

Aemilianum College Inc. Piot, Sorsogon City, Sorsogon, Philippines

Abstract

The development of the E-School Forms Management System for Bartolome G. Lee Sr. Integrated School aimed to enhance the efficiency and security of managing school records, user accounts, and academic data. Utilizing the Agile Development Methodology, the system was developed through iterative phases of planning, requirements analysis, design, testing, and deployment, ensuring continuous improvements based on user feedback. The system integrated essential modules, including User Management, School Administrator Management, Classroom Teacher Management, Report Generation, Learner's Management, and Grading System, to streamline administrative and academic processes within the institution. The deployment followed strict quality standards to ensure that the system was functional, user-friendly, and reliable for real-world implementation.

The findings revealed that the system effectively met its objectives, providing secure user access, efficient personnel and learner management, and automated report generation. The School Administrator Management Module facilitated the efficient handling of personnel data and report generation, while the Classroom Teacher Management Module improved organization by allowing easy management of learner information, learning areas, and subject teachers. The Report Generation Module ensured streamlined documentation of essential school reports, contributing to improved record-keeping for both academic and administrative functions. Additionally, the Grading System Module automated the computation of student grades, ensuring accuracy and efficiency in academic record management. The system was evaluated using ISO 25010 industry standards, receiving an overall rating of 4.0, which means "far more than what is expected," confirming its efficiency, reliability, and security.

Based on these findings, the study concluded that the E-School Forms Management System significantly enhanced administrative and academic operations at Bartolome G. Lee Sr. Integrated School by improving data management, report generation, and user accessibility. The system's modules provided a seamless and effective way to manage student records, personnel profiles, and academic reports, ensuring a well-organized and efficient school information system. Furthermore, the high evaluation rating validated its ability to meet industry standards, proving its functional suitability, performance efficiency, compatibility, usability, reliability, and security.

To maximize the system's effectiveness, it is recommended that regular updates and enhancements be implemented to adapt to the evolving needs of users. School administrators should undergo continuous training to fully utilize the School Administrator Management Module, and additional features like automated alerts and predictive analytics should be integrated to further improve classroom organization and student monitoring. Customization of the Report Generation Module should be expanded to allow flexibility in data reporting, while the Grading System Module

should be periodically reviewed to align with updated grading policies. Additionally, regular system evaluations and user feedback mechanisms should be established to ensure continuous improvement, maintaining the system's high standard of functionality, security, and user satisfaction.

Keywords. *Aemilianum College Inc., Automated Forms Processing, Bartolome G. Lee Sr. Integrated School, Digital School Records, E-Documentation, Educational Information System, E-School Forms, Forms Management System, Integrated School, School Administrative System, School Data Management*

Introduction

In the 21st Century ever-changing of some groundbreaking Information technologies that have revolutionized people's life. At some point it is significant in different ways of Information Generation in today's world. Computers are useful in every aspect such as in office work, online Jobs, research study and most of all education. Basically, Education is the transmission of knowledge, skills and characters that comes in many forms. It has a big contribution to the economic development and human welfare. Integrating Technologies into education promotes a high-quality framework that produces better outcomes in terms of Information and management systems. Collaborations of schools with the Information Technology (IT) sector can result in a good quality service and can satisfy the needs of the people concerned with the services of the school. (Balcita et al., 2020).

School Forms Management System is a platform that helps educational institutions manage their daily operation. To make the system routine easier and simple. It will save time, effort and resources while making progress in the whole operation of the institution. Internationally there are so many schools that have integrated this kind of management system that proven it is helpful and worth using.

With the help of technology, School Management with Grading System is a highly desirable addition to the education engine. Essentially because this is one of the main issues facing the registrar, teachers, and other staff members at the institution. There won't be any need to put in extra effort to give a high-quality education in terms of paperwork and administrative duties under this type of system.

Bartolome G. Lee Sr. Integrated School faces the same struggles at some point it is also the best solution. Probably BGLIS uses a manual system where learners' information is maintained by hand without using a computer system. Teachers use traditional grading methods. It is one of the difficulties and challenges encountered by the Teacher. This process is incredibly time-consuming, not probably reliable and leaves plenty of human errors. However, As Technology advancement Learners Information with Grading System for Bartolome G. Lee Sr. Integrated School began to explore new ways of systematic tools to perform and support processing the information needs. The E-School Forms Management System for Bartolome G. Lee Sr. Integrated School (E-SFMSBGLSIS) is a suitable tool to handle institutions' needs. All the required reports in manual and online can be processed quickly. No need to be a hassle and exert extra effort, time and resources to do so.

Specific Objectives

Specifically, the study aimed to:

1. Develop an E-School Forms Management System for Bartolome G. Lee Sr. Integrated School with User Management Module that allows the user to:
   1.1. register
   1.2. login
   1.3. update profiles
   1.4. manage user accounts.
2. Integrate a School Administrator Management Module that allows School Administrators to:
   2.1. View and update school personnel profile
   2.2. Add school personnel profile
   2.3. Generate School Administrator the following reports:
      a. Summary Enrollment and Movement of Learners (SF4)
      b. Summary report on Promotion (SF5)
      c. Inventory of School Personnel (SF7)
3. Incorporate a Classroom Teacher Management Module that:
   3.1. allows Classroom Teacher to generate and manage such as:
      a. Learner's Information
      b. Learning Areas
      c. Subject Teachers
4. Include Report Generation:
   4.1. School Register (SF1)
   4.2. Learner's Daily Attendance (SF2)
   4.3. Books Issued and Return (SF3)
   4.4. Learner's Basic Health Profile (SF8)
   4.5. Learner's Progress Report Card (SF9)
   4.6. Learner's Permanent Academic Record (SF10)
5. Incorporate a Learner's Management Module that allows to:
   5.1. Monitor learners
   5.2. Add Learners.
6. Add Grading System Module that allows E-Class Record to generate Learner's Grade for SF9 and SF10.
7. Evaluate the developed system using ISO 25010 industry standards in terms of:
   7.1. Functional Suitability
   7.2. Performance Efficiency
   7.3. Compatibility
   7.4. Usability
   7.5. Reliability
   7.6. Security

Scope and Delimitations

The scope of this study included the design and development of an E-SFMSBGLIS, focusing on various user management and administrative functionalities. It can be two ways portal system to be access, the main portal of the system is considered as for school administrator and class adviser user access while another desktop system is for subject teacher only for them to input, view and update students' grades. All module is in the main portal of the system and it can be generated and ready to print by the school administrator and class adviser. Specifically, the system featured a School Administrator and User Management Module that allowed users to register, log in, update profiles, and manage accounts efficiently. Additionally, a School Administrator Management Module was integrated, enabling school administrators to view, update and add school personnel profile while generating critical reports, such as the Summary of Enrollment and Movement of Learners (SF4), Summary Report on Promotion (SF5), and Inventory of School Personnel (SF7). A Classroom Teacher Management Module was also incorporated to allow classroom teachers to manage learner information, learning areas, and subject teachers, alongside generating

essential reports like the School Register (SF1), Learner's Daily Attendance (SF2), and Learner's Progress Report Card (SF9). Another desktop system also featured a Learner's Management Module for subject teacher to input, view and update learners' grades, it can be access thru offline methods, designed to create a grading module for generating learner grades for SF9 and SF10 as a class year-end report of every class adviser.

To ensure the system's effectiveness and reliability, it was evaluated using ISO 25010 standards, focusing on Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, and Security. The evaluation involved ten (10) faculty members, twenty (20) students, and two (2) school administrators, who provided insights on usability, compatibility, and overall user experience. Additionally, ten (10) IT professionals conducted a technical assessment, ensuring the system's robustness, security, and efficiency. Their collective feedback helped refine the system, making it more user-friendly, functional, and aligned with institutional requirements.

The study's delimitation excluded any functionalities outside the core modules mentioned, such as advanced data analytics, third-party software integration, or mobile application development. It also did not cover the customization of the system for specific schools or the integration of non-academic modules, such as financial management or extracurricular activities tracking. Additionally, the system's deployment on different hardware or network configurations beyond the tested environments was not within the study's scope. The evaluation focused solely on the system's performance within a controlled environment, excluding real-world implementation challenges or long-term maintenance considerations.

Gap Bridged by the Study

The goals of the related systems by Uy, Cabrera, Pinero, and Vizcarra, Grepon, Baran, Gumonan, Martinez and Lacsa, Pahuriray, Nuevas, Obediencia, Barosas, and Remot, Alpasan, Maligang, and Esimos, Santos, Balban, and Rebong, Fauziah, Latifah, Rahardja, Mardiansyah, and Acharya aligned with the objective of enhancing current records information systems, school management, and grading systems. These systems primarily focused on recording management, tracking documents, maintaining student records, enrollment systems, student information systems, and attendance monitoring. The proposed E-School Forms Management System differentiated itself from these systems by integrating an online grading system, offering both online and offline grading functionalities. It enabled advisers and subject teachers to access and generate student grades, while also allowing school administrators and registrars to monitor and update data on learners and school personnel.

The uniqueness of the current study lay in its comprehensive approach to school management, which was not confined to just managing student data. While the reviewed systems primarily dealt with individual aspects such as student records or attendance, the proposed system merged various functionalities, including the ability to view, update, and print all the Department of Education's school forms from 1 to 10. This integration facilitated the accurate and efficient processing of records, information, and reports. Unlike other systems that were limited to specific data management tasks, the proposed system supported a full range of school operations, providing a centralized platform that bridged the gaps left by earlier

systems and enhanced the overall functionality of school administration.

Requirements

The hardware and software requirement were fully identified in this phase. The resources needed were well prepared for the development of the system. In the system development, it is crucial to define the specific hardware and software resources that the project will need. This process ensures that the researcher knows exactly what resources will be required for building, testing, and deploying the system in terms of physical component needed and software tools to be installed. Overall, this phase indicates that the project was well-planned in terms of identifying and securing the necessary hardware and software resources for the system's development. All requirements became smoothed and nothing to worries since it was all available in the local market. The smooth availability of these resources contributed to a successful and efficient preparation phase, ensuring that there would be no significant delays or disruptions as the system development moved forward.

Design

The following diagrams were the data flow and procedural logic of the proposed system. To further understanding about the process of the proposed system here are some diagrams to be shown: The Context Flow Diagram, Data Flow Diagram of the School Administrator, Principal and Teacher, Entity Relationship Diagram, And System Architectural of the developed System.

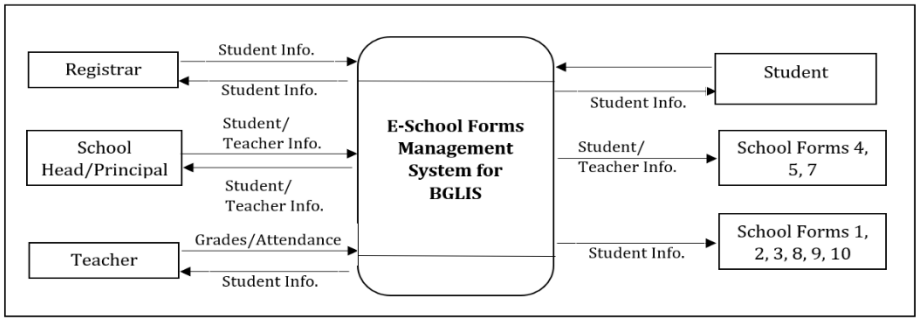

Figure 4.1 – The Contextual Flow Diagram of the Developed System

Figure 4.1 shows the contextual flow diagram of the developed systems. It is a context diagram, sometimes called a level 0 data flow diagram is drawn in order to define and clarify the boundaries of the software system. It is identifying the flow of the information between the system and external entities. The entire software system is shown as a single process. School Administrator or Registrar, School Head or Principal and

Teacher are may access or login to system which is the output all about the student information and all the generated school forms reports of the Teaching and Non-teaching Personnel.

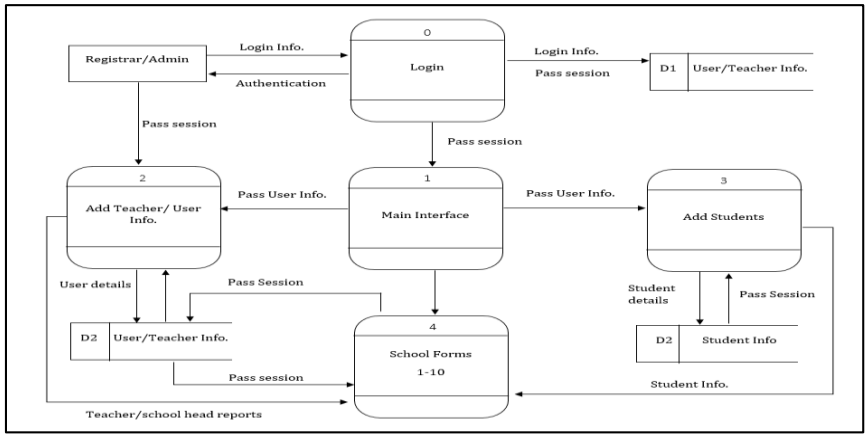

Figure 4.2- The Data Flow Diagram (Registrar/Admin)

Figure 4.2 shows the data-flow diagram (DFD) of the registrar/admin module. It represents the flow of a data process of the system in terms of managements and information system. The DFD shows the information about the outputs and inputs of the developed system. A system can verify the administrators' information before it will be login to main interface of the software. Once inputted all information needed admin may manage and update the students and teachers' information. Admin also responsible to access the generated School forms1-10 reports as the output process of system.

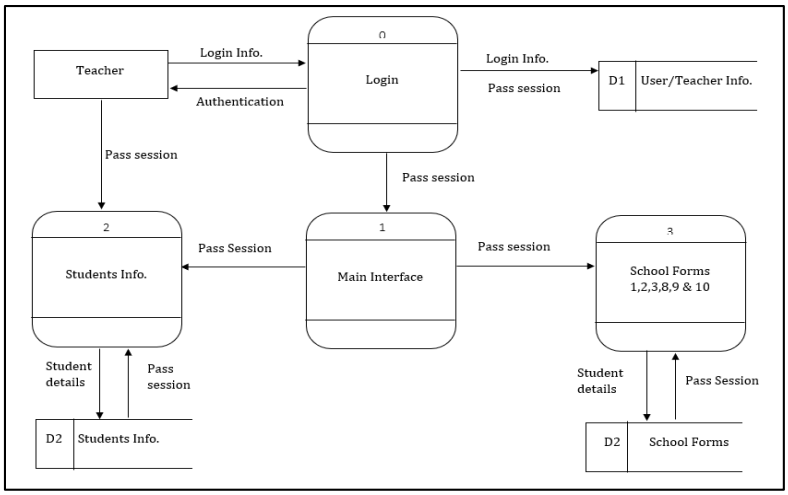

Figure 4.3 – The Data Flow Diagram (Teacher)

Figure 4.2 shows the data-flow diagram (DFD) of the Teacher module. It represents the flow of a data process of the system in terms of managements and information system. The DFD shows the information about the outputs and inputs of the developed system. A system can verify the Teachers' information adding by the administrator before it will be login to main interface of the software. Once inputted all information needed. Teacher may manage and update the students' information and own accounts. Teacher's also responsible to access the generated School forms1,2,3,8,9 & 10 reports as the output process of system.

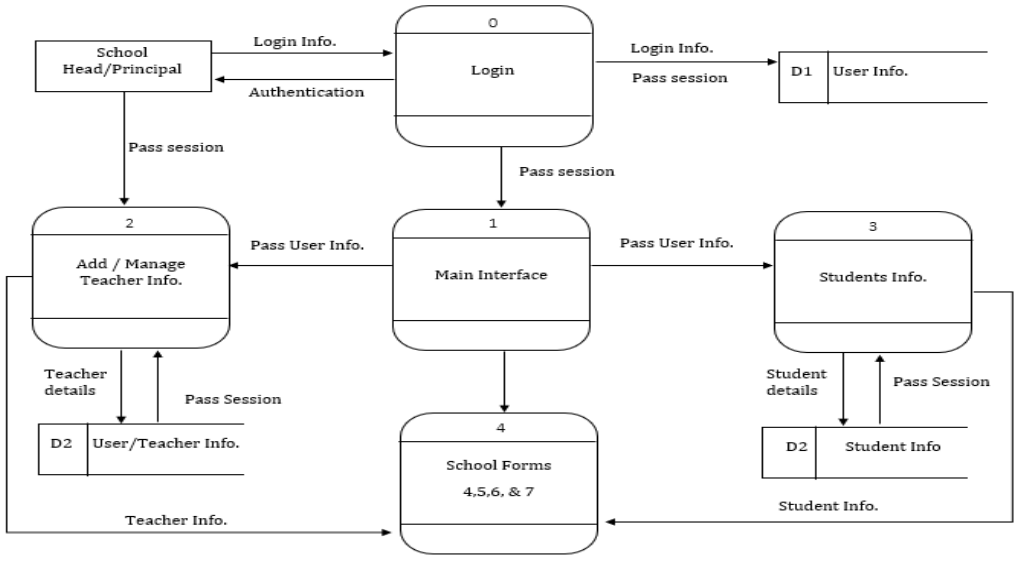

Figure 4.4 – The Data Flow Diagram (School Head/Principal)

Figure 4.4 illustrates the Data Flow Diagram (DFD) for the School Head/Principal, detailing how information moves within the system. This diagram visually represents the inputs, processes, and outputs related to the principal's role in managing school operations through the system. It shows how the School Head accesses and processes data, such as reviewing reports, approving requests, and monitoring overall system activity. The DFD ensures that all interactions are efficiently structured, promoting smooth data management and decision-making. By mapping out these processes, the diagram highlights the system's functionality in supporting administrative tasks, enhancing efficiency, and ensuring streamlined school management.

It represents the flow of a data process of the system in terms of managements and information system of the School Head/Principal accounts. A system can verify the School Heads' information adding by the administrator before it will be login to main

interface of the software. Once inputted all information needed. School Head may monitor and viewing school forms submitted by the teachers into the system.

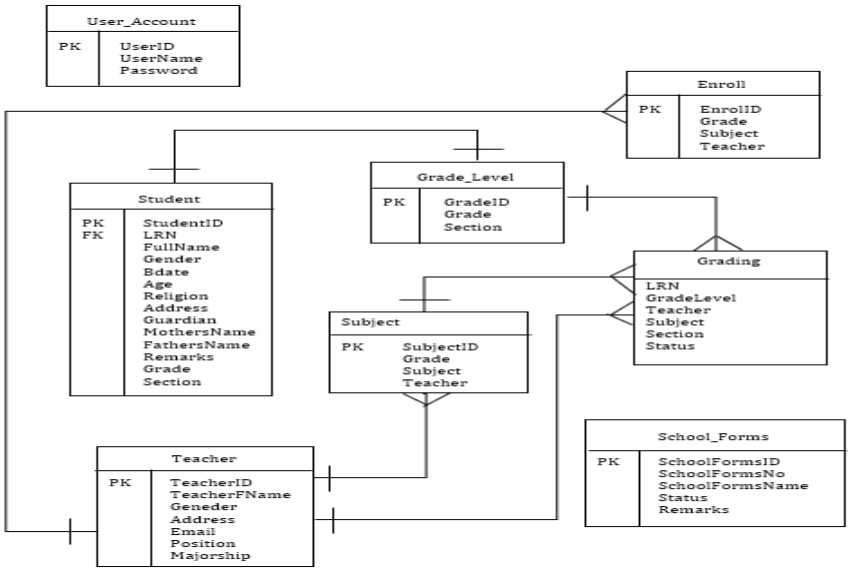

Figure 4.5 – Entity Relationship Diagram of the Developed System

Figure 4.5 presents the Entity Relationship Diagram (ERD) of the developed system, providing a visual representation of how data entities interact within the database. This diagram defines the relationships between different entities, such as users, transactions, and records, ensuring efficient data organization and retrieval. It illustrates the connections among various fields, highlighting key attributes, primary keys, and foreign keys that establish logical associations between tables. By mapping these relationships, the ERD serves as a blueprint for database structure, ensuring data integrity, consistency, and optimized performance. Overall, it plays a crucial role in guiding the system's development, ensuring seamless data management and efficient system operations.

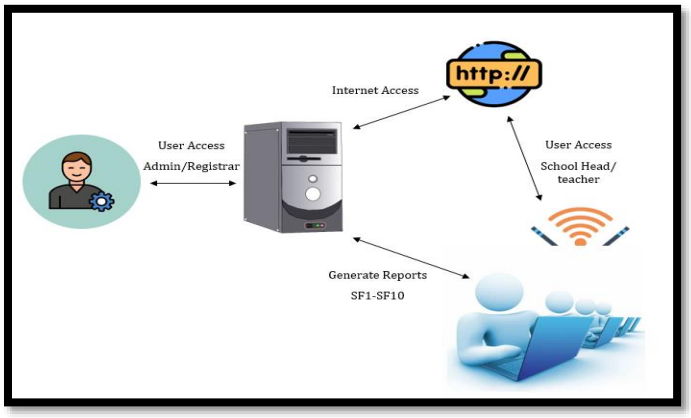

Figure 4.6 – System Architecture of the Developed System

Figure 4.6 illustrates the System Architecture of the developed system, providing a conceptual model that defines its structure, behavior, and various operational views. This architecture outlines the system's components, their interactions, and the technologies used to ensure seamless functionality. It serves as a formal representation that helps in understanding how different modules and layers - such as the user interface, application logic, and database - work together to achieve system objectives. Additionally, the system architecture supports scalability, security, and efficiency by structuring the system in a way that optimizes performance and reliability. Overall, this diagram plays a crucial role in guiding the development, deployment, and maintenance of the system

Testing

Once the system has been developed. It tested the requirements to make sure that the system software actually met the applicable standard. It is the time to deploy and use the software by the institution or client. The final results are evaluated to determine the progress of the design, performance, supportability, etc. To assure the quality of the developed system in terms of Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability and Security were tested and evaluated.

Table 3.14 Overall Evaluation of the Developed System

Section of Evaluation	IT Experts (10)	School Admin (2)	Faculty (10)	Students (20)	Average	Mean	Verbal Interpretation
Functional Suitability	4.0	4.5	3.8	3.95	4.0625	4.0104	Far more than what is expected
Performance Efficiency	3.4	4.5	4.0	3.95	3.9625		
Compatibility	3.5	4.0	4.0	4.5	4.0		
Usability	4.0	4.5	4.0	3.95	4.1125		
Reliability	4.0	4.5	4.0	3.75	4.0625		
Security	3.7	4.0	3.5	3.6	3.8625		

Table 3.4 displays the overall system evaluation, as shown in the table, presents the assessments of IT experts, school administrators, faculty members, and students across six key quality attributes: Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, and Security.

The Functional Suitability of the system received the highest evaluation, with a mean score of 4.0104, verbally interpreted as "Far more than what is expected," indicating that the system effectively meets its intended purpose. Performance Efficiency had a mean score of 3.9625, showing that the system performs well but may require further optimization for improved responsiveness. Compatibility scored 4.0, reflecting good integration with existing platforms and user environments. Usability received a mean score of 4.1125, suggesting that the system is user-friendly and easy to navigate for different stakeholders. Reliability, with a mean score of 4.0625, indicates that the system is stable and dependable, though minor improvements may be needed to enhance its consistency. Lastly, Security obtained the lowest score of 3.8625, highlighting that while the system has essential security measures, further enhancements in data protection and authentication may be beneficial.

Overall, the results demonstrate that the system meets user expectations across all criteria, with Functional Suitability, Usability, and Reliability being its strongest aspects. However, Performance Efficiency and Security may require further refinements to ensure optimal performance and robust data protection.

Findings

During the development and after testing and evaluation of the developed system the following findings have been established:

1. The study successfully developed an E-School Forms Management System for Bartolome G. Lee Sr. Integrated School, integrating a User Management Module that enables users to register, log in, update profiles, and manage user accounts, ensuring efficient and secure access to the system.
2. The study successfully integrated a School Administrator Management Module that allows school administrators to view, update, and add school personnel profiles, as well as generate essential reports, including Summary Enrollment and Movement of Learners (SF4), Summary Report on Promotion (SF5), and Inventory of School Personnel (SF7), enhancing administrative efficiency and data management.
3. The study successfully incorporated a Classroom Teacher Management Module that enables classroom teachers to generate and manage learner information, learning areas, and subject teachers, ensuring streamlined data organization and improved classroom management.
4. The study successfully integrated a Report Generation Module that allows the system to generate essential school reports, including School Register (SF1), Learner's Daily Attendance (SF2), Books Issued and Return (SF3), Learner's Basic Health Profile (SF8), Learner's Progress Report Card (SF9), and Learner's Permanent Academic Record (SF10), ensuring efficient documentation and record-keeping for academic and administrative purposes.

5. The study successfully incorporated a Learner's Management Module that enables the system to monitor learners and add new learners, ensuring effective tracking and management of student records for academic and administrative purposes.
6. The study successfully integrated a Grading System Module that enables the E-Class Record to automatically generate learners' grades for SF9 (Learner's Progress Report Card) and SF10 (Learner's Permanent Academic Record), ensuring accuracy and efficiency in academic record management.
7. The study successfully evaluated the developed system using ISO 25010 industry standards, assessing its Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, and Security. The system received an overall rating of 4.0 from the evaluators, which means "far more than what is expected," ensuring that it meets quality standards, performs efficiently, and provides a reliable and secure user experience.

Conclusions

Based on the findings of this study the following conclusions were formulated:

1. The successful development of the E-School Forms Management System ensured efficient and secure user access, enhancing administrative and academic operations at Bartolome G. Lee Sr. Integrated School.
2. The integration of the School Administrator Management Module improved personnel data management and report generation, streamlining administrative processes.
3. The Classroom Teacher Management Module enhanced classroom organization by enabling efficient management of learner information, learning areas, and subject teachers.
4. The Report Generation Module ensured accurate and efficient documentation of critical school reports, improving record-keeping for both academic and administrative functions.
5. The Learner's Management Module facilitated effective learner monitoring and record management, supporting data-driven decision-making in student administration.
6. The Grading System Module enhanced the accuracy and efficiency of academic record management by automating the generation of SF9 and SF10 learner grades.
7. The system met ISO 25010 industry standards, receiving a 4.0 rating, which confirmed that it exceeded expectations in terms of functionality, performance, compatibility, usability, reliability, and security.

Recommendations

Based on the conclusions drawn from this study, the following recommendations were formulated:

1. To continuously update and enhance the E-School Forms Management System to adapt to changing user needs

and ensure long-term efficiency and security.
2. School administrators may undergo regular training on the School Administrator Management Module to maximize its functionality and improve personnel data management.
3. Additional features, such as automated alerts and reminders, could be integrated into the Classroom Teacher Management Module to further enhance classroom organization and efficiency.
4. The Report Generation Module should be expanded to allow customization of reports based on specific administrative and academic needs, ensuring flexibility in data reporting.
5. Further improve student tracking, the Learner's Management Module should incorporate predictive analytics to help identify students at risk of academic challenges.
6. The Grading System Module should be periodically reviewed and updated to align with evolving grading policies and assessment methods, ensuring continued accuracy and compliance.
7. Regular system evaluations and updates should be conducted to maintain ISO 25010 standards, ensuring that the system remains functional, efficient, compatible, user-friendly, reliable, and secure.
8. It is advisable to implement user feedback mechanisms within the system to continuously gather insights from administrators, teachers, and students, allowing for future improvements and enhanced user experience.

References

1) Beginning PHP5, Apache, and MySQL@ Web by Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy stolz, Micheal K. Glass
2) Practical PHP and MySQL Website Databases – A simplified Approach © 2013 by Adrian W. West
3) Beginning PHP and MySQL – from Novice to Professional - Fifth Edition ©2018 by Frank M. Kromann
4) PHP and MySQL Web Development, Developers Library fourth edition ©2009 by Pearl Education, Inc, Luke Welling, Laura Thomson
5) Pekkolay, S. (2021). Effective school management. Journal of Advances in Education and Philosophy, 5(8), 231-235.
6) Ditsuwan, S., & Sukkamart, A. (2022). School management factors affecting student quality: a case study of the Thai Triam Udom Suksa Pattanakarn school group. Journal of Higher Education Theory and Practice, 22(12).
7) Guskey, T. R., & Bailey, J. M. (2024). Developing grading and reporting systems for student learning. Corwin Press.
8) Amaefule, M. M. C., & Eshiet, B. M. SCHOOL RECORD MANAGEMENT AND ITS IMPACT ON TEACHING AND LEARNING IN SECONDARY SCHOOLS IN AKWA IBOM STATE. African Journal of Educational Management, 22(2), 231-246.
9) Dahiru, A. S., & Almustapha, J. (2024). Levels of Records Keeping and Records Management among Basic Schools in Zamfara State. International Journal of Applied, 2(1), 17-40.
10) Ronquillo Jr, Z. T., Tagaza, R. B., Batino, M. R., & Aquino, M. S. (2022). School Records and Forms of Selected Public School: Headway and Analysis of Online Management System. International Journal in Information Technology in Governance, Education and Business, 4(1), 49-62.
11) Cao, Y., Porter, L., Liao, S. N., & Ord, R. (2019, July). Paper or online? A comparison of exam grading techniques. In Proceedings of the 2019 ACM conference on innovation and technology in computer science education (pp. 99-104).
12) Babalola, Y., Akinwumi, O., & Alegbeleye, G. (2021). Influence of Records Management Practices on Administrative Effectiveness in Public Secondary Schools in Lagos State, Nigeria. International Journal of Development Strategies in Humanities, Management and Social Sciences, 11(1), 13-29.

13) Mulyono, I. U. W., Ningrum, N. K., Umami, Z., & Widyatmoko, K. (2021). E-Report System to Help Monitor Student Academic Progress Using Forward Chaining for Grade Promotion According to Student Development Level. Journal of Applied Intelligent System (e-ISSN: 2502-9401| p-ISSN: 2503-0493), 6(2), 144-150.
14) Odeniyi, O. A., & Adeyanju, A. S. (2020). Assessment of school record management in secondary schools in Federal Capital Territory. Open Journal of Educational Development (ISSN: 2734-2050), 1(1), 54-65.
15) Purcia, E., & Velarde, A. (2022). Student Registration and Records Management Services of the Three Private Universities in the Philippines: Basis for Academic Records Digitization. American Journal of Multidisciplinary Research and Innovation, 1(4), 1-10
16) Victor, V. (2022). Performance Concerns and Challenges of the Selected Students of Doña Salud National High School: Basis for Contextualized Performance Transparency System. Psychology and Education: A Multidisciplinary Journal, 4(7), 711-715.
17) Grepon, B. G. S., Baran, N. T., Gumonan, K. M. V. C., Martinez, A. L. M., & Lacsa, M. L. E. (2021). Designing and implementing e-school systems: An Information systems approach to school management of a community college in Northern Mindanao, Philippines. arXiv preprint arXiv:2109.00198.
18) Riño, J., & Daing, C. (2022). Challenges in Handling Student Records and Characteristics of Student Information Management System in Public Secondary School in Marilao South District IV Bulacan. Psychology and Education: A Multidisciplinary Journal, 4(1), 1-1.
19) Guirit, A. (2023). E-Class Record for Basic Education Department, University of Bohol, Tagbilaran City. ACADEME University of Bohol, Graduate School and Professional Studies, 22(1), 14-24.
20) Monsalve, C. S. (2024). Streamlining DepEd School Forms: Excel Automation for Simplified Teacher Workflows. Int. J. Sci. Res. in Multidisciplinary Studies Vol, 10(3).
21) Santos, A. B. G., Balba, N. P., & Rebong, C. B. (2021). Attendance monitoring system of schools in the Philippines with an inclusion of optimization query algorithm. Int. J. Innovative Technol. Exploring Eng, 10(8), 142-146.
22) Hussain, S., & Khan, M. Q. (2023). Student-performulator: Predicting students' academic performance at secondary and intermediate level using machine learning. Annals of data science, 10(3), 637-655
23) Gaffar, M. F., Komariah, A., Susilana, R., & Kurniady, D. A. (2021). The development and application of a digitalized school management system. Multicultural Education, 7(6).
24) Aisyah, S., Zebua, W. S., Tambunan, R. B., Damanik, L. S., Hutagalung, R. J., & Thompson, M. (2021). WEB DESIGN BASED ONLINE MANAGEMENT SYSTEM AT 3 MEDAN JUNIOR HIGH SCHOOL. INFOKUM, 9(2, June), 253-268.
25) Fauziah, Z., Latifah, H., Rahardja, U., Lutfiani, N., & Mardiansyah, A. (2021). Designing student attendance information systems web-based. Aptisi Transactions on Technopreneurship (ATT), 3(1), 23-31.
26) Gashi, F., Memeti, A., & AJVAZI, G. (2023). IMPLEMENTATION OF A WEB-BASED SYSTEM FOR GRADING AND COURSE MANAGEMENT. Journal of Natural Sciences and Mathematics of UT, 8(15-16), 244-252.
27) Acharya, K. (2024). Teacher record management system project report. Authorea Preprints.
28) Sanchez-Condori, F., & Andrade-Arenas, L. (2022). Design of a web-based system for the registration of grades in a school. Advances in Mobile Learning Educational Research, 2(2), 502-508.
29) Gowtham, T., Vinaykumar, V., Kumar, T. G., Balaji, A., Rakesh, M., Takkar, S., & Sharma, N. (2023). Development of Android-Based Management Application to Enhance School Efficiency. Kilby, 100, 7th.
30) Uy, U. G., Cabrera, M. A., Pinero, M. J., & Vizcarra, C. P. (2023) Design and Implementation of Baggao North Central School Computer-Based Record Management System.
31) Grepon, B. G. S., Baran, N. T., Gumonan, K. M. V. C., Martinez, A. L. M., & Lacsa, M. L. E. (2021). Designing and implementing e-school systems: An Information systems approach to school management of a community college in Northern Mindanao, Philippines. arXiv preprint arXiv:2109.00198.
32) Ronquillo Jr, Z. T., Tagaza, R. B., Batino, M. R., & Aquino, M. S. (2022). School Records and Forms of Selected Public School: Headway and Analysis of Online Management System. International Journal in Information Technology in Governance, Education and Business, 4(1), 49-62.
33) Campanan, A. M., Bermejo, R. M., & Madrigal, D. (2024). Intellischool: A Student Information System for Senior High School.
34) Nuevas, L. K., Obediencia, D. C., Brosas, D. G., & Remot, D. B. (2021, November). ACMS: An Android-Based Class Management System. In 2021 IEEE 13th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM) (pp. 1-6). IEEE
35) Alpasan, B. G. B., Maligang, A. K., & Esimos, M. J. V. (2021). Public High School Web-Based Attendance Monitoring System with SMS Notification. International Journal of Social Science and Human Research, 4, 12.

36) Santos, A. B. G., Balba, N. P., & Rebong, C. B. (2021). Attendance monitoring system of schools in the Philippines with an inclusion of optimization query algorithm. Int. J. Innovative Technol. Exploring Eng, 10(8), 142-146.
37) Pahuriray, A. V. (2021). School Android Based E-Services. Online Submission, 12(2), 40-45.
38) BANAG, C. T. USER-CENTERED DESIGN AND DEVELOPMENT OF A GRADE MANAGEMENT INFORMATION SYSTEM OF A PRIVATE SCHOOL IN CAVITE, PHILIPPINES.
39) Information Management Practices and Challenges in School Governance: Basis for Localized Digital Archive (researchgate.net)
40) (PDF) Qualitative Research Analysis of using Electronic Class Record (E-Class Record) for Teacher's Assessments and Evaluations (researchgate.net
41) Online Grading System (researchgate.net)

ACKNOWLEDGEMENT

The researcher extends sincere gratitude and appreciation to the following individuals, whose guidance and inspiration played an invaluable role in the realization of this study.

At **Aemilianum College Inc.**, the researcher was not only given the opportunity to become an integral member of the Aemilian community but also to pursue the prestigious MIT degree, enriching both her academic and personal growth. She is profoundly grateful for the invaluable opportunities extended to her.

Foremost, deep gratitude is extended to **Aemilianum College Inc.**, led by **Rev. Fr. Rey Genaro M. Malabanan, CRS**, the School Director, for granting her the opportunity to complete her master's degree.

Heartfelt appreciation is extended to **Dr. Josefina Rey Sarmiento**, MIT Program Head, and Dean of the CECTLA department, for her unwavering support and guidance, which have significantly enriched this project;

Special appreciation is given to **Richard G. Rabulan, MIT**, the research adviser, for his invaluable guidance, continuous support, and expert advice throughout this study. His knowledge, patience, and constructive feedback were instrumental in shaping this thesis.

Sincere gratitude is also extended to the members of the thesis committee - **Marilyn D. Berdin, MPA**; **Danjho P. Orbita, MIT**; **Milan E. Bausa, MIT**; **Josefina R. Sarmiento, MIT, PhD**; and **Rev. Fr. Mandee N. Batac, CRS** - whose insightful suggestions and encouragement greatly enhanced the quality of this work. Their willingness to give their time generously is deeply appreciated.

Heartfelt appreciation is also given to the system evaluators - **Jeymar B. Betiz, MIT**; **Jay G. Cantonjos, MIT**; **Jomar Consorte, MIT**; **Julius C. Denina I, MIT**; **Emarve G. Gito, MIT**; **Christian A. Jaquilmo, MIT**; **Rhodora Faye A. Brosas, MIT**; **Salve B. Gotis, MIT**; **Joan F. Pavia, MIT**; and **Ierene Joyce R. Sarmiento, MIT** - whose constructive criticism and thoughtful recommendations significantly improved the quality of this project.

The researcher is also profoundly grateful to her MIT classmates for their constant encouragement and motivation throughout this journey. Their unwavering support, even during challenging moments, played a crucial role in the successful completion of this study.

A special acknowledgment is given to the researcher's parents, **Mr. Nelson L. Ditche** and **Mrs. Venida C. Ditche**, whose unwavering faith in her abilities, along with their love, support, and guidance,

has been her greatest source of strength. Their encouragement made the realization of this master's degree possible.

Finally, the researcher extends her deepest gratitude to **God Almighty** for providing the strength, knowledge, and opportunity to complete this academic endeavor. His divine guidance has been present throughout this journey, and she continues to place her trust in Him for the future.

M. C. D.

***