



ENHANCED WEB-BASED SCHOOL FORMS GENERATOR FOR SENIOR HIGH SCHOOL TEACHERS OF CATARMAN NATIONAL HIGH SCHOOL

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Abstract

This study titled “*Enhanced Web-Based School Forms Generator for Senior High School Teachers of Catarman National High School*” aimed to design and develop a web-based system that automated the preparation, management, and archiving of DepEd-prescribed school forms. The scope of the study focused on Senior High School teachers and school administrators of Catarman National High School. The system

The findings revealed that the study successfully developed an enhanced web-based school forms generator with a fully functional User Management Module that ensured secure registration, login, profile management, and controlled access to system features. The School Forms Management Module enabled teachers to select DepEd-compliant templates, input and validate learner information, perform automatic computations, generate printable and downloadable forms, and archive records for future reference. The system demonstrated cross-platform compatibility,

Based on these findings, the study concluded that the Enhanced Web-Based School Forms Generator significantly improved workflow efficiency, data accuracy, and administrative control in managing Senior High School forms. The system provided a reliable and efficient

was developed using the Rapid Application Development (RAD) methodology, which included requirements planning, user design, construction, and cutover phases. The developed system integrated user management, school forms management, administrator management, compatibility across devices, data security, and backup features, and was evaluated using the ISO/IEC 25010 software quality standards.

allowing seamless access across desktops, laptops, tablets, and smartphones. Additionally, the School Administrator Management Module strengthened oversight through user account management, form verification, and comprehensive report generation. Data security and backup features effectively safeguarded sensitive records, while system evaluation based on ISO/IEC 25010 yielded an overall rating of 4, indicating a very satisfactory level of quality in terms of functionality, performance, usability, reliability, security, maintainability, and portability.

platform for teachers and administrators, reduced clerical workload, enhanced accessibility across devices, strengthened data security, and met international software quality standards, making it suitable for school-wide implementation.

The study recommended the continuous use and periodic enhancement of the User Management and School Forms Management Modules, expansion of DepEd-compliant form coverage, regular optimization of system compatibility, and sustained improvement of administrator

management features. It further recommended regular reviews of data security and backup protocols, periodic ISO/IEC 25010-based evaluations, and continuous training for teachers and administrators to maximize the effective utilization of the system.

Keywords: Academic Documentation, Digital Form Generation, Educational Technology, Senior High School Teachers, School Forms Automation, Web-Based Application.

Across international educational systems, the adoption of web-based technologies has significantly transformed school administration and instructional support services. Educational institutions worldwide increasingly rely on digital tools to automate administrative processes such as student record management, attendance monitoring, assessment documentation, and report generation. Studies show that web-based form generation systems reduce

paperwork redundancy, minimize human errors, and enhance data accuracy and accessibility (Lim et al., 2024). These systems allow teachers to input data once and automatically generate standardized outputs, thereby improving efficiency and consistency in documentation practices. As schools respond to the growing demand for accountability and data-driven decision-making, the role of digital administrative tools has become indispensable.

Moreover, international research emphasizes that excessive administrative workload negatively affects teachers' instructional effectiveness and job satisfaction. According to OECD (2023), teachers globally spend a substantial portion of their working hours completing administrative requirements, often at the expense of lesson preparation and student engagement. Web-based school management systems, including automated

form generators, have been identified as effective solutions to address this issue by streamlining data collection and reporting processes (UNESCO, 2023). These systems promote institutional efficiency while allowing educators to focus more on pedagogical responsibilities, reinforcing the importance of technology-enhanced administrative support in modern education systems.

In the Philippine context, the integration of information and communication technology (ICT) in education has been strongly promoted through national policies and reform initiatives. The Department of Education (DepEd) encourages schools to adopt digital solutions to improve both instructional delivery and administrative operations. However, despite these

initiatives, teachers remain burdened by numerous school forms and reports required for compliance, monitoring, and evaluation. Research indicates that Filipino teachers experience high administrative workload, particularly in the preparation and submission of mandated school forms, which contributes to work-related stress and reduced teaching efficiency (Bernardo & Mendoza, 2023).

Recent local innovations demonstrate the potential of digital systems in addressing these challenges. Monsalve (2024) found that automated school form generation systems significantly improved teachers' productivity and reduced time spent on manual encoding and computation. While some schools utilize generic tools such as spreadsheets and online forms,

At the local level, Catarman National High School, particularly its Senior High School department, requires teachers to prepare various school forms related to attendance, learner progress, academic performance, and class records. These forms are essential for instructional monitoring, school reporting, and compliance with DepEd regulations.

Based on observations and related studies conducted in similar public secondary schools, teachers often struggled to balance instructional duties with administrative responsibilities. The manual preparation of school forms increased teachers' workload and limited the time available for lesson planning, student consultation, and professional development. A study conducted in a public

Given the increasing demand for efficient administrative systems in education, the development of an enhanced web-based school forms generator was both timely and necessary. While international and national efforts highlighted the benefits of digital solutions, a gap remained in

This study aimed to address these challenges by designing and implementing an enhanced web-based school forms generator for Senior High School teachers of Catarman National High School. The proposed system sought to automate form

these tools are often not fully aligned with DepEd-prescribed formats and reporting standards. Consequently, teachers still face challenges related to data duplication, formatting inconsistencies, and limited system integration. This highlights the need for a customized, web-based school forms generator tailored to the Philippine educational setting.

However, many of these forms are still generated through manual or semi-digital processes that require repetitive data entry, manual calculations, and frequent revisions. Such practices are time-consuming and prone to errors, especially when managing large student populations across different strands.

secondary school in the Philippines revealed that teachers perceived administrative tasks as one of the primary obstacles to effective teaching performance (Santos & Dela Cruz, 2023). These challenges underscored the need for a localized, efficient, and user-friendly system that could support teachers in generating accurate and standardized school forms with minimal effort.

localized systems specifically designed to address the actual workflow and reporting requirements of public senior high schools. Existing generic tools did not fully accommodate school-specific needs, resulting in continued inefficiencies and administrative burdens for teachers.

generation, reduce repetitive data entry, improve accuracy, and ensure compliance with DepEd standards. By providing a centralized and user-friendly platform, the system served as a practical solution to the identified problems and contributed to

improvements in teacher productivity, administrative efficiency, and overall school performance. Furthermore, the results of this study were expected to serve

as a model for other public secondary schools seeking to modernize their administrative processes through technology-driven solutions.

Specific Objectives

Specifically, this study aimed to:

1. Design and develop an Enhanced Web-Based School Forms Generator for Senior High School teachers of Catarman National High School with a User Management Module that allows users to:
 - 1.1 Register and sign in to the system
 - 1.2 Log in and log out securely
 - 1.3 Update and manage user profiles
 - 1.4 Manage user accounts and access privileges
 - 1.5 Create, generate, edit, and save standardized school forms
 - 1.6 Automatically populate forms using stored student and teacher data
2. Develop a School Forms Management Module that enables teachers to:
 - 2.1 Select DepEd-prescribed school form templates
 - 2.2 Input, update, and validate learner information
 - 2.3 Perform automatic computations and data summaries
 - 2.4 Generate printable and downloadable school forms
 - 2.5 Archive generated school forms for future reference
3. Implement a compatibility feature to ensure that the system can be accessed seamlessly across various devices, including desktops, laptops, tablets, and smartphones.
4. Integrate a School Administrator Management Module that allows designated administrators to:
 - 4.1 View and manage teacher accounts and profiles
 - 4.2 Add, update, and deactivate user accounts
 - 4.3 Manage school form templates and system configurations
 - 4.4 Monitor and verify submitted school forms
 - 4.5 Generate reports related to school form usage
5. Incorporate a data security and backup feature to ensure the confidentiality, integrity, and availability of school form data.
6. Evaluate the developed system based on the ISO/IEC 25010 software quality standards in terms of:
 - 6.1 Functional suitability
 - 6.2 Performance efficiency
 - 6.3 Compatibility
 - 6.4 Usability
 - 6.5 Reliability
 - 6.6 Security
 - 6.7 Maintainability
 - 6.8 Portability

Scope and Delimitations

This study focused on the design, development, and evaluation of an Enhanced Web-Based School Forms Generator for Senior High School teachers of Catarman National High School. The system included a User Management Module that enabled users to register and sign in, log in and log out securely, update and manage user profiles, manage user accounts and access privileges, and create, generate, edit, and save standardized school forms with automatic data population using stored student and teacher information. The scope of the study also covered the development of a School Forms Management Module that allowed teachers to select DepEd-prescribed school form templates, input, update, and validate learner information, perform automatic

The study was delimited to the Senior High School department of Catarman National High School and involved only Senior High School teachers and designated school administrators as system users. It focused exclusively on the generation and management of DepEd-prescribed school forms and did not include other school information system components such as payroll or financial

Gap Bridged by the Study

The reviewed systems in the Philippines from 2023 to 2025, including those by *Flores* and *Ramirez, Ronquillo Jr., Cruz, and Santos*, and other local platforms such as *CampusLink PH* and *SMS Express*, demonstrated the effectiveness of web-based school information systems in automating academic and administrative tasks. These systems improved record accuracy, reduced manual computation, facilitated online enrollment, and provided centralized access to student and teacher

computations and data summaries, generate printable and downloadable school forms, and archive completed forms for future reference. In addition, the system was designed to be compatible with various devices such as desktops, laptops, tablets, and smartphones. A School Administrator Management Module was integrated to enable administrators to manage teacher accounts and profiles, configure school form templates, monitor and verify submitted forms, and generate reports. The study further incorporated data security and backup features to ensure the confidentiality, integrity, and availability of school form data, and the developed system was evaluated based on the ISO/IEC 25010 software quality standards.

transactions. Integration with external DepEd systems, long-term system deployment, large-scale implementation, and extensive cybersecurity stress testing were beyond the scope of this study. Consequently, the findings and results were limited to the context of Catarman National High School and may not be generalized to other educational institutions without further system enhancement and validation.

data. They also incorporated features like automatic grade and attendance computation, printable and downloadable forms, and basic administrative modules, which collectively enhanced workflow efficiency, minimized errors, and supported compliance with DepEd standards. Additionally, ISO/IEC 25010 standards were occasionally applied to evaluate system performance, usability, reliability, and security, ensuring quality in locally developed educational applications.

Despite these advancements, the reviewed systems primarily focused on specific functionalities such as enrollment management, grade computation, or basic record keeping, without fully integrating all administrative and academic reporting tasks into a single, comprehensive platform. The present study bridged this gap by developing an Enhanced Web-Based School Forms Generator for Senior High School teachers of Catarman National High School that combined automated form generation, data population, computation, and validation with a complete

Conceptual Framework

The study collected inputs from Senior High School teachers and administrators of Catarman National High School to design the system effectively. Inputs included user information such as login credentials, teacher and learner profiles, enrollment data, attendance records, academic performance, and other school-related documentation. Additionally, DepEd-prescribed school

The system was developed using the Rapid Application Development (RAD) methodology, which included four main stages: Requirements Planning, User Design, Construction, and Cutover. During Requirements Planning, the system's specifications and objectives were identified, focusing on automating school form generation, data management, and administrative reporting. In the User Design stage, interfaces and modules were created

The final output of the study was an Enhanced Web-Based School Forms Generator designed specifically for Senior High School teachers of Catarman National High School. The system generated, edited, and stored standardized school forms

administrator management module and full DepEd-compliant reporting. This system not only automated previously manual tasks but also centralized school form management, allowed secure access across multiple devices, archived generated forms for future reference, and was evaluated using ISO/IEC 25010 standards. In this way, the study addressed the limitations of prior systems by offering a holistic, efficient, and user-friendly platform tailored specifically to the needs of Senior High School teachers and school administrators in a Philippine context.

form templates, grading formats, and administrative requirements were gathered as essential inputs to ensure compliance with national standards. These inputs provided the necessary data for the User Management Module, School Forms Management Module, Administrator Management Module, and system compatibility and security features.

based on user needs, enabling teachers and administrators to interact with the system efficiently. The Construction phase involved coding, integrating automated computations, data summaries, archiving, and implementing compatibility and security features. Finally, in the Cutover stage, the system was deployed, tested, and refined to ensure proper functionality, security, and user accessibility across various devices.

automatically, performed automatic computations and data summaries, produced printable and downloadable reports, and allowed administrators to manage accounts, monitor form submissions, and generate usage reports. It

also ensured data security, compatibility across devices, and adherence to ISO/IEC 25010 software quality standards, providing

Feedback was collected from teachers and administrators through testing and evaluation sessions. Users reported improvements in efficiency, accuracy, and ease of managing school forms compared to manual processes. The feedback also highlighted areas for potential

Findings

Based on the system evaluation and user feedback, the following findings were established:

1. The study successfully designed and developed an Enhanced Web-Based School Forms Generator for Senior High School teachers of Catarman National High School that incorporated a fully functional User Management Module. The system allowed users to register and sign in securely, providing unique credentials to ensure controlled access. Teachers and administrators were able to log in and log out securely, protecting sensitive
2. The study successfully developed a School Forms Management Module that provided Senior High School teachers with an efficient platform to manage school forms. Teachers were able to select DepEd-prescribed school form templates, ensuring that all generated documents complied with official guidelines. The system allowed them to input, update, and validate learner information, improving accuracy and reducing errors in student data. It also performed

a comprehensive solution for both instructional and administrative tasks.

enhancement, such as interface usability, system responsiveness, and additional reporting features. This feedback guided iterative refinements to ensure that the system met user needs, complied with DepEd standards, and maintained high-quality software performance.

student and school data. The system enabled users to update and manage their profiles effectively, while the administrator could manage user accounts and access privileges to maintain proper oversight. Additionally, the module allowed users to create, generate, edit, and save standardized school forms, ensuring compliance with DepEd requirements. The system also automatically populated forms using stored student and teacher data, reducing manual data entry, minimizing errors, and significantly improving workflow efficiency for teachers and administrators.

automatic computations and generated data summaries, saving time and enhancing efficiency in academic record management. Furthermore, the module enabled teachers to generate printable and downloadable school forms, allowing for both digital and physical documentation. Finally, the system archived generated school forms for future reference, providing a reliable repository for easy retrieval, reporting, and compliance purposes.

3. The study successfully implemented a compatibility feature in the Enhanced Web-Based School Forms Generator, ensuring that the system could be accessed seamlessly across various devices. Teachers and administrators were able to use desktops, laptops, tablets, and smartphones without encountering issues in functionality or display. This cross-platform
4. The study found that the Enhanced Web-Based School Forms Generator successfully integrated a School Administrator Management Module that enabled designated administrators to efficiently view and manage teacher accounts and profiles, add, update, or deactivate user accounts, and manage school form templates and system
5. The study revealed that the system successfully incorporated data security and backup features to ensure the confidentiality, integrity, and availability of school form data. User access was protected through secure login credentials and role-based permissions, while regular
6. The evaluation of the developed system based on ISO/IEC 25010 software quality standards demonstrated that it met the required benchmarks across all key attributes. The system exhibited high functional suitability, accurately performing tasks such as form generation, automatic computations, and learner data management. It maintained performance efficiency, responding promptly to user inputs and

accessibility enabled users to perform tasks anytime and anywhere, enhancing flexibility and convenience in managing school forms and learner information. The responsive design ensured that system interfaces adapted to different screen sizes, maintaining usability and readability across devices.

configurations. Administrators were able to monitor and verify generated school forms. This functionality enhanced administrative oversight, accountability, and the efficient management of school records and workflows, ensuring that the system supported accurate and standardized school form operations.

automatic backups safeguarded stored information against data loss. These measures provided reliable protection of sensitive student and teacher records and ensured that critical data remained accessible and recoverable in case of system failures or unauthorized access.

managing concurrent tasks without delays. The platform proved compatible across desktops, laptops, tablets, and smartphones, ensuring seamless access. Users reported excellent usability, highlighting its intuitive interface and straightforward navigation. The system showed strong reliability, consistently processing and storing data without errors or crashes. Its security features protected sensitive information from unauthorized

access, while maintainability was supported by modular code design, facilitating future updates and enhancements. Finally, portability was ensured as the system could operate on various devices and

operating systems without functional degradation. Overall, the system received an average rating of 4, indicating a very satisfactory level of performance and quality across all evaluated criteria.

Conclusions

Based on the findings, the following conclusions were drawn.

1. The Enhanced Web-Based School Forms Generator with a fully functional User Management Module effectively improved workflow efficiency and data accuracy for Senior High School teachers and administrators.
2. The School Forms Management Module successfully provided teachers with a reliable, accurate, and efficient platform for managing, generating, and archiving DepEd-compliant school forms.
3. The implemented compatibility feature allowed seamless access to the system across various devices, enhancing flexibility

and convenience in school form management.

4. The School Administrator Management Module effectively strengthened administrative oversight, accountability, and efficient management of teacher accounts and school form operations.
5. The data security and backup features successfully protected sensitive student and teacher information while ensuring data integrity and recoverability.
6. The develop system met ISO/IEC 25010 software quality standards with an overall rating of 4, demonstrating high performance, usability, reliability, security, and maintainability across all evaluated attributes.

Recommendations

Based on the conclusions, the following recommendations were drawn.

1. The User Management Module continue to be utilized and periodically updated to further enhance workflow efficiency

and data accuracy for teachers and administrators.

2. The School Forms Management Module be maintained and expanded to include additional DepEd-compliant forms to

- support more comprehensive academic record management.
3. The compatibility feature be regularly tested and optimized to ensure seamless access across all current and future devices used by teachers and administrators.
 4. The School Administrator Management Module be continuously monitored and improved to sustain strong administrative oversight and accountability.
 5. The data security and backup protocols be regularly reviewed and updated to maintain the confidentiality, integrity, and availability of school form data.
 6. The system undergoes periodic ISO/IEC 25010-based evaluations to ensure sustained high performance, usability, reliability, security, and maintainability.
 7. The teachers and administrators receive continuous training and support to maximize the effective use of the Enhanced Web-Based School Forms Generator and its various modules.

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