

## Cloud-Based Institutional Archiving System for Program Accreditation

Mary Janice L. Mandia

Central Philippines State University – Victorias

Received: 10.04.2026 | Accepted: 18.05.2026 | Published: 20.05.2026

\*Corresponding Author: Mary Janice L. Mandia

DOI: [10.5281/zenodo.20302272](https://doi.org/10.5281/zenodo.20302272)

### Abstract

### Original Research Article

Accreditation in higher education serves as an essential quality assurance, ensuring that academic institutions and programs comply with the established standard of excellence. However, institutions often encounter challenges in the preparation of documents that serve as evidence due to the disorganization and the delayed submission of documents, difficulty in retrieving files, and inefficient coordination among the task forces.

The above-mentioned affect the accreditation process in the readiness of institutions during accreditation. Considering these challenges, this study aimed to develop a cloud-based institutional archiving system for program accreditation that provides efficient document management, real-time communication, and secure storage of data. Specifically, the system was designed with features such as an index-based archiving system, real-time memoranda and reference resources, prompt checking and recommendations, concurrent document access, and document version control. The study employed a descriptive-developmental research design and utilized the Rapid Application Development (RAD) model in developing the system. The developed system was evaluated in terms of functionality through test cases with the main features of the system, and usability using the Post-Study System Usability Questionnaire (PSSUQ 3) standard questionnaire to evaluate the system's usefulness, information quality, interface quality, and overall usability. The study is expected to provide an alternative archiving solution that enhances accreditation processes, improves workflow efficiency, and ensures organized document management.

**Keywords:** Higher Education Institution accreditation, Cloud-based archiving system, Concurrent document access, Document management, Version control.

Copyright © 2026 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).

## INTRODUCTION

Accreditation, as defined, is a quality indicator to assess the status of an institution or program that meets the specified minimum standards. Moreover, it noted that accreditation is a powerful tool for quality assurance in assessing the national higher education system (Kumar, Shukla & Passey, 2020).

Commission on Higher Education (CHED) Memorandum Order No. 1 Series of 2005 promotes voluntary accreditation to achieve quality and excellence in higher education. CHED acknowledges the National Network of Quality Accrediting Agencies (NNQAA), which has two accrediting agencies: Accrediting Agency of Chartered Colleges and Universities of the



Philippines (AACCUP) and the Association of Local Colleges and Universities Commission on Accreditation (ALCUCOA). The AACCUP accredits curricular programs, particularly those of state universities and colleges, whose main purpose is to develop a mechanism for and conduct the evaluation of programs and institutions.

However, Krisnaresanti et al. (2021) mentioned that various problems occurred during the accreditation process, including disorganized data and slow data submission from the task force that handles the different areas of accreditation. It was also found out that the necessary data needed for accreditation activities was not updated regularly by the person responsible. The result is that when it is needed for accreditation, there is a difficulty in retrieving the old data because it was not organized, making it difficult to collate when needed. The gap highlights the need for more advanced, integrated, and intelligent repository systems capable of improving discovery and long-term preservation of institutional knowledge.

In the system developed by Villarosa (2021), a record archiving system to facilitate paperless management, ensure reliable database backups, and streamline the storage and retrieval of information was designed to demonstrate the practical benefits of structured digital record management. This highlights that the archiving system in an institution can help close knowledge gaps and improve the accreditation process.

Different studies on the archiving system, researchers analyzed the security of data storage in a cloud-based digital archiving system, implementing cloud computing in digital archive management using MySQL as a relational database management system. Archive data can be stored, accessed, and managed more securely while ensuring data integrity, which several organizations have shown significant improvements in archive management efficiency and a reduction in operational costs (Sipahutar & Sipayung, 2025). Moreover, Pillen and Eckard (2022) explore the impact of the shift to cloud computing on digital recordkeeping practices at the University of Michigan Bentley Historical Library,

whose mission is to collect materials for the University of Michigan.

Furthermore, Yap and Velasco (2024) developed a cloud-based data processing system, tailored for the complex demands of the higher education landscape, which aims to address prevalent data processing challenges, design, and develop a state-of-the-art cloud-based system to evaluate its effectiveness in transforming data management within the universities.

On these preliminaries, it permits the development of a cloud-based institutional archiving system for program accreditation for storage, easy access, and retrieval of documents as evidence for compliance of an institution, which is secure and user-friendly. Additionally, it contributes to the improvement of accreditation processes, which strengthens quality assurance in higher education by enhancing data management practices and supporting institutions in meeting accreditation standards more effectively.

### Objectives of the Study

The main objective of the study was to develop a cloud-based institutional archiving system for program accreditation.

Specifically, it aimed to:

1. Develop a cloud-based institutional archiving system with the following technical features.
  - a. Indexed-based archiving system;
  - b. Real-time memoranda and reference resources;
  - c. Prompt checking and recommendation;
  - d. Concurrent document access; and
  - e. Document version control.
2. Test the functionality of the aforementioned features.
3. Evaluate the usability of the cloud-based institutional archiving system for program accreditation in terms of:
  - a. System usefulness (SYSUSE);
  - b. Information quality (INFOQUAL);
  - c. Interface quality (INTERQUAL); and

- d. Overall usability.
- 4. Develop a user’s manual.

**MATERIALS AND METHODS**

***Research Design***

This study employs a descriptive-developmental research design to develop and assess a cloud-based institutional archiving system for program accreditation. This integrated method enables the researcher to systematically document existing conditions and user experiences, while concurrently designing and refining a practical technological solution

Descriptive research aims to provide a detailed and accurate portrayal of the characteristics, behaviors, and conditions of a specific population or phenomenon without manipulating any variables (Sirisilla, 2023). It often employs surveys, questionnaires, and interviews to collect data that

helps researchers understand what is happening in a given context. In this study, descriptive research helps to gather comprehensive information about the challenges institutions face in managing accreditation documents, as well as the expectations and experiences of users interacting with archiving systems.

Developmental research systematically studies the design, development, and evaluation of instructional products or processes to ensure they meet standards of internal consistency and effectiveness (Nelson & Klein, 2025).

***Respondents of the study***

Table 1 presents the distribution of respondents for the usability testing using the PSSUQ 3 standard questionnaire. The study includes fifteen (15) task force members and ten (10) librarians.

**Table 1.** *Respondents of the usability testing*

Respondents of the Study	F
Task force	15
Librarians	10
Total	25

***Software Development Life Cycle (SDLC)***

The Software Development Life Cycle (SDLC) is a structured process used to develop high-quality software that meets customer needs. It includes important stages such as gathering requirements, designing, coding, testing, and maintaining the system. Following these steps helps ensure an organized and effective software development process (Hamja et al., 2025).

The type of SDLC that is followed in the study is the rapid application development (RAD) model, a software development method that emphasizes rapid prototyping and iterative delivery

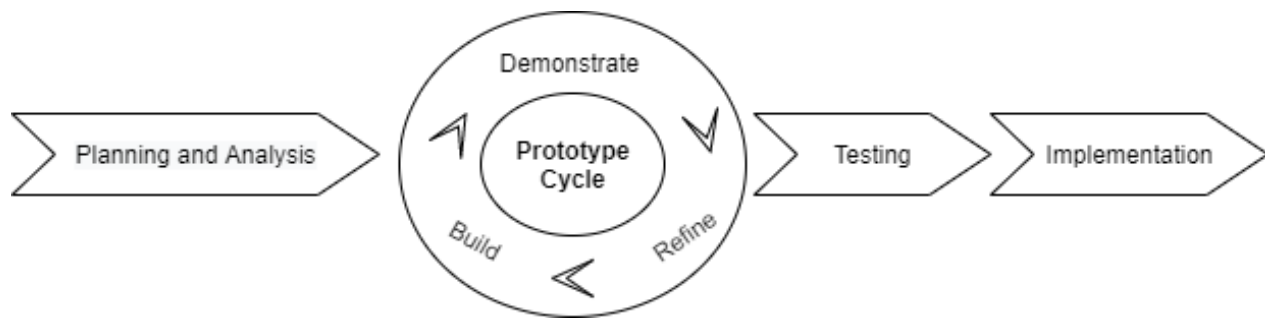
(Mondero et al. 2024). The Rapid Application Development method is an object-oriented approach to system development that includes a development method and software. Rapid Application Development uses an iterative (repetitive) method in developing systems, where the system working model is constructed at the beginning of the development stage to determine user requirements (Andarwati, 2023), until the testing phase, which makes this model the best choice for developing the Cloud-based Institutional Archiving System for Program Accreditation. The decision to use the RAD was based on the researchers' understanding of the

project requirement, the ability to deliver software in manageable increments within a tight timeframe, and the system's inherent scalability (Mondero et al., 2024).

Figure 1 illustrates the software development model used in the system's development, specifically the Rapid Application Development (RAD) approach. Figure 3 shows the Software Development Life Cycle (SDLC) model, which is a structured process from planning to deployment. However, the researcher applied the planning to test only for a limited time to develop the system. SDLC provides a

systematic framework that guides the planning, creation, and maintenance of software, ensuring that the final product meets both technical and user requirements. Each phase has specific deliverables and review processes, which help manage risks and ensure quality. In addition, SDLC helps organizations produce high-quality software that is well-documented, cost-effective, and delivered on time. It also facilitates communication among stakeholders and ensures that software projects are aligned with business goals (Almeida et al., 2023).

Figure 1. *Rapid Application Development (RAD) Model*



*Preserving Scholarly Endeavors: A System for Archiving Thesis and Dissertations,*” by N. L. Mondero Jr., R. F. Ereje, R. M. M. Bermejo, R. M. Dela Torre, K. Soberano, Y. M. R. Dusaran, & M. T. Porquez, 2024, *GAS Journal of Multidisciplinary Studies*, 2(4).

**Software Development Phases**

The software development phases of the study include the planning, analysis, design, coding, and testing phase of the study for this study.

**a. Planning Phase**

This is the first phase in developing the cloud-based institutional archiving system for program accreditation, which focuses on defining the project's purpose, scope, and objectives. The researcher estimates costs, resources, and timelines, and identifies key stakeholders and risks. Planning in

software development is the process of defining how the software will be designed, built, tested, deployed, and maintained across the project lifecycle (Pulsion Technology, 2026). The first and one of the most important parts of the project development process is where the requirements will be gathered through one-on-one interviews with the users and the objectives will be identified, clarified, and examined. In this step, it ensures that the people who will use the system are part of the process from the start. During this phase, the researchers also identified all the important individuals and groups who have a stake in the project, such as the QA coordinator, the

QA director, the accreditation task force members, and the accreditor. The result of the interviews with the stakeholders will give the researcher a set of clear goals and a list of features the system should include, such as an indexed-based archiving system, real-time memos and reference resources, prompt checking, recommendations, concurrent document access, and document version control. In this regard, the researcher will seek permission from the Campus Administrator of Central Philippines State University – Victorias to conduct interviews with the stakeholders.

The researcher considered the costs, like software tools or technical support, to make sure everything could be done within the available budget. This phase helped guide the whole project

### **b. Analysis Phase**

In this phase of the software development process for the Cloud-based Institutional Archiving System for Program Accreditation. The researcher will explore the requirements and needs of the system. This phase involved in-depth discussions and consultations with the end users, including the local task force, the QA coordinator, and the QA director. By engaging with the end users through observation and interviews, the researcher gathered valuable insights into the specific features and functionalities that the archiving system should include. The information acquired helped in building a clear and detailed set of requirements that will serve as the foundation for the system's design. In addition, requirements gathered also involved defining the system's architecture, database structure, and process flow.

In addition, the researchers reviewed current literature and prior art related to the user needs. This entailed doing a thorough investigation to identify places where improvements could be made without jeopardizing critical needs. Scalability and future extension considerations were also built into the system's architecture to ensure that it could handle an increasing number of documents kept in the archiving system. Finally, the analysis phase set the groundwork for design and development, outlining a

clear path for creating a user-friendly archiving system for program accreditation.

### **c. Design Phase**

The design phase translates requirements into a blueprint for the software. During the Software Design Phase, developers use the gathered requirements to create the structure of the software. The system is divided into organized and manageable modules that can be developed and tested separately. This phase is important because it serves as the foundation for building a functional and reliable software system (Bayliss & Hardy, 2011). In this phase, after gathering all the needed information from earlier stages, the researcher should understand the system to figure out how the system would work and what it should look like on screen. This is where the researcher builds a prototype, which is a basic version of the system, starting with the backend (where data is stored and managed) and then moving to the frontend (what the user will see and interact with). Once the initial design is ready, it is shown to the users (such as QA directors, QA coordinators, and task force members) for feedback. If users request changes or new features, the design is adjusted to match their needs. This phase helps make sure that the system will be user-friendly, meet expectations, and work smoothly before moving to full development.

### **d. Coding Phase**

The coding phase in the Software Development Life Cycle (SDLC) for the Cloud-based Institutional Archiving System for Program Accreditation. To make the system work smoothly, the three-layered architecture organizes the system into three main parts: User interfaces are the access points where users interact with designs (Morales Díaz, 2022). Depending on the design of the interface, each of these systems will either be usable, that is, easy to learn and use, or a problem for users.

### **e. Testing Phase**

This phase is a test for the functionality and usability to answer the objectives and to make sure

the system meets the design specification and users' expectations.

### Initial Testing

Functional testing is a software quality assurance technique that validates whether each specific function of a software application operates in alignment with documented business requirements. By utilizing a "black-box" approach, this method focuses on verifying the external behavior of components—such as user interfaces, APIs, and databases—to ensure they produce the expected output for a given input (Campbell, 2025).

### Procedure

The procedure outlines the step-by-step approach the researcher follows to evaluate the system's functionality. The researcher studies the system's requirements and features to understand what needs to be tested. This includes core functionalities like an indexed-based archiving system, real-time memos and reference resources, prompt checking and recommendation, concurrent document access, and document version control. The procedure used to set up and operate a particular software system, and documentation of the program (Gupta, 2021).

### Instrumentation

Instrumentation refers to the tools and materials used to conduct the testing. The primary instrument is a set of well-prepared test cases or scenarios, often organized in checklists or tables, which guide testers through the specific functionalities to verify. Additionally, interviews and questionnaires may be employed for the systematic and consistent collection of information from task forces, Information Technology Experts, QA coordinator, director, and librarians to collect qualitative feedback from respondents regarding the use of the system (Koo & Yang, 2025).

Constructing a test cases was based on the system's expected behavior, and specific test cases were created. Each test case defines a particular action—such as uploading a document or searching for a file—and the expected outcome, like a confirmation message or successful retrieval. A test case is used to check whether the features of a system work correctly and meet standards, guidelines, and customer requirements. Writing test cases also helps identify errors or defects in the system before deployment (Tech Target, 2024).

### Final Testing

Usability testing is a method used to assess the user experience of a product, such as a website or application. It helps determine whether users can navigate the application with ease, how efficiently and effectively the application supports users in achieving their objectives, and the extent to which users are satisfied with the application (Hidayat et al., 2022). Moreover, the standardized Post-Study System Usability Questionnaire (PSSUQ) Version 3 will be employed to assess users' perceived satisfaction with the specified goals of the system.

This includes 16 survey items grouped into three subscales: System Quality, Information Quality, and Interface Quality. PSSUQ follows a 7-point Likert scale; therefore, participants rated each item on a 7-point scale, where 1 means "Strongly Agree" and 7 means "Strongly Disagree." Lower scores indicate better system performance and higher user satisfaction.

### Development of the User Manual

The user's manual for the Cloud-based Institutional Repository for Program Accreditation was developed to help users easily understand how to use the system. It explains the system's features and guides users through key tasks like uploading documents, posting memos and reference materials, notifications, dashboard for monitoring. The manual will include screenshots and be arranged in a simple, step-by-step format. It will be written clearly to help

both new and experienced users. Before the final version is released, a test group will review the manual, and their feedback will be used to make it easier to understand and use.

## RESULTS AND DISCUSSION

The study developed a cloud-based Institutional Archiving System for Program Accreditation with index-based archiving, real-time memos and references, prompt checking and recommendations, concurrent document access, and version control, all delivered through a secure, organized cloud platform. Functionality testing by IT experts, a Quality Assurance coordinator, and an accreditor showed a 100% success rate, confirming that the system performs its intended functions accurately, reliably, and without errors, delays, data loss, or document conflicts.

Usability evaluation using the Post-Study System Usability Questionnaire (PSSUQ-3) revealed a very high level of usability and user satisfaction, with all indicators rated “Strongly Agree” and the lowest mean score of 1.16 on System Usefulness, indicating excellent usability; users found the system easy to learn, user-friendly, and efficient for accreditation tasks. PSSUQ-3 also normalizes the 7-point Likert scale (1 = best usability, 7 = worst) into a standardized format, with benchmark norms from Sauro and Lewis (2016) providing a reference for evaluating system usability. Overall, the system is functional, reliable, and highly acceptable for improving document management, workflow efficiency, and accreditation readiness in educational institutions.

**Figure 2:** *User Login Interface*

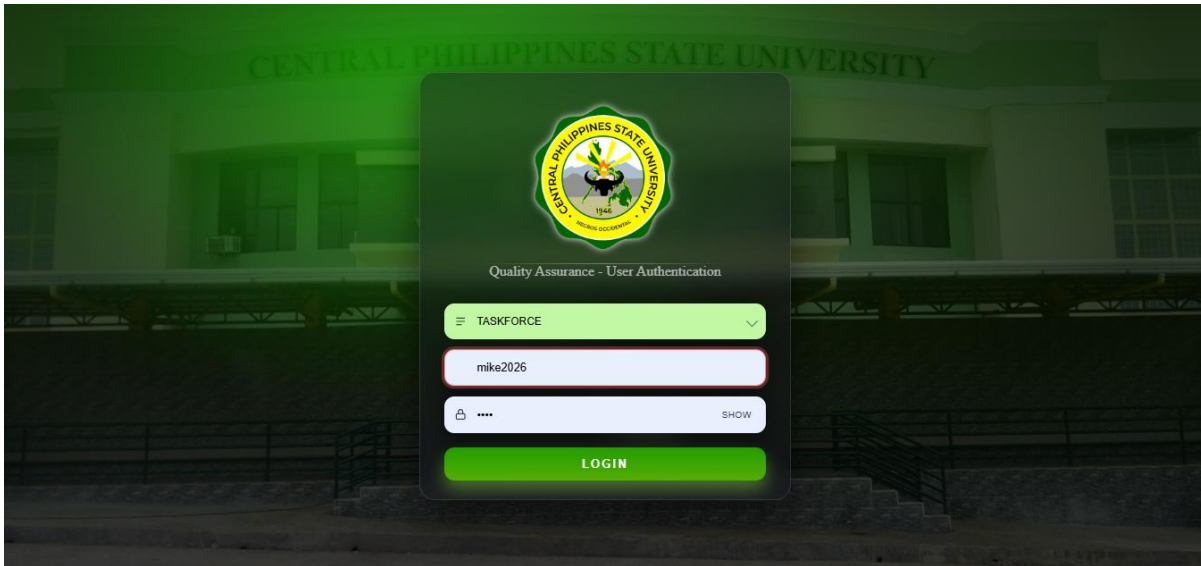


Figure 2 shows that upon accessing the system, users are directed to the main interface and then to the login page, where authorized credentials are required to ensure secure access.

**Figure 3: Create User Account**

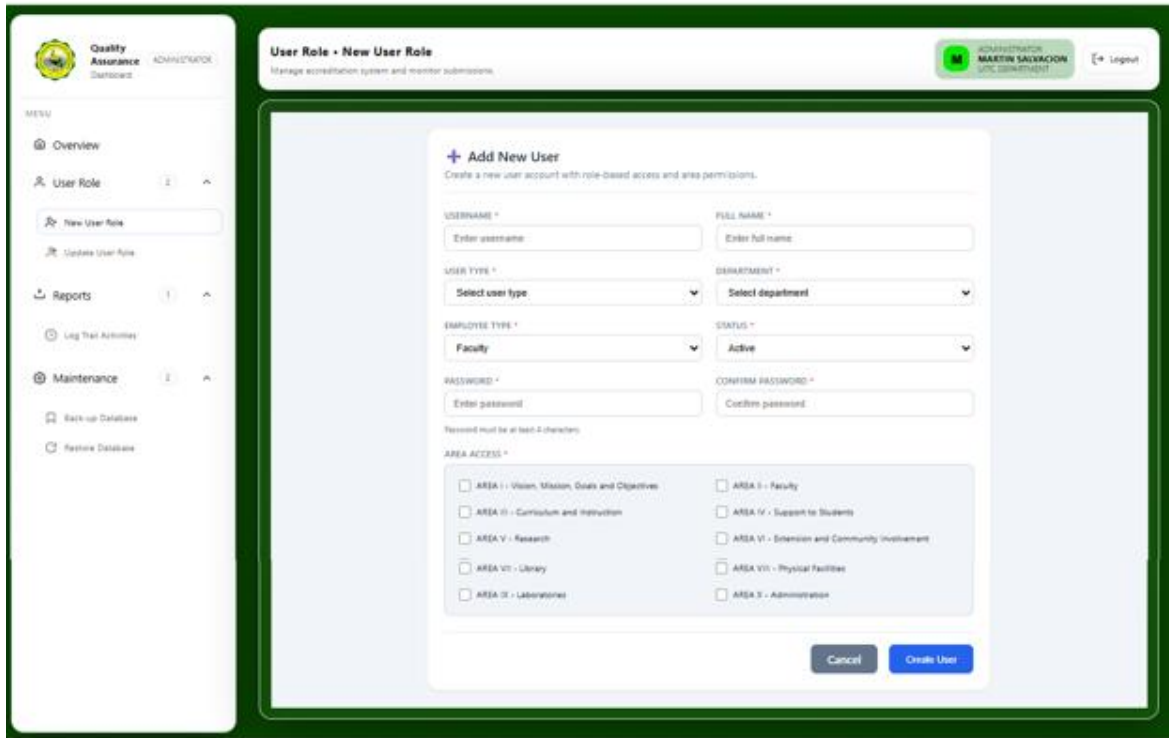


Figure 3 presents how to create a user account. When adding a user, provide the basic information like username, full name, password, role, department, employee type, and status. Select which accreditation areas the user can access and click Create User. This setup ensures each user gets the right permissions based on their role and assigned accreditation areas.

**Figure 4: Generating QA Report**

AREA	DEPARTMENT	SUBMISSION	EXPECTED	COMPLETION	NON-COMPLETION
AREA I	BSIT	3	3	100.00%	0.00%
AREA II	BSIT	2	7	28.57%	71.43%
AREA III	BSIT	0	6	0.00%	100.00%

Figure 4 shows the QA Report feature that allows users to filter, view, and print submission completion reports by area, department, and date range. For example, a report for BSIT shows 3 out of 3 submissions

completed in AREA I (100%), but only 2 out of 7 in AREA II (28.57%), and 0 out of 6 in AREA III (0%), resulting in an overall completion rate of 9.26%. A separate report for BSAB shows 4 out of 3 submissions in AREA I (66.67%), but 0 completions in AREAS II and III, giving an overall completion of 5.56%. These reports help QA leadership track compliance per area, identify gaps, and generate official documentation for accreditation review.

**Test the Functionality of the System's Technical Features**

The second objective of the study was to test the functionality of the system’s key features. Functionality testing was conducted with five (5) respondents, composed of three (3) IT experts and two (2) Quality Assurance Coordinators who assessed the system based on actual case scenarios.

Functional testing, sometimes referred to as specification-based testing, is a quality assurance methodology that confirms an application performs as intended by verifying its features against predefined requirements. Alternatively, it is viewed as a comprehensive validation strategy that ensures the system’s integrated components and interactions

reliably deliver the expected business outcomes under diverse real-world scenarios (Prabhashi et al., 2022).

Table 2 presents the summary of the functionality test results based on the predefined test cases. The functionality test results show that all four key features of the system passed with a 100% success rate. These include the index-based archiving system, real-time access to memos and reference resources, prompt checking and recommendations, concurrent document access, and document version control. This confirms that the system reliably supports accreditation document management without performance issues or data conflicts.

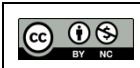
**Table 2. Summary of the Functionality Test Results**

No.	Features	Result	Remarks
1	Index-based Archiving System	100%	Passed
2	Real-time Memos and Reference Resources	100%	Passed
3	Prompt Checking and Recommendations	100%	Passed
4	Concurrent Document Access	100%	Passed
5	Document Version Control	100%	Passed

**Evaluate the Usability of the System**

The third objective of the study was to determine the level of usability of the Cloud-based

Archiving System for Program Accreditation, in terms of system usefulness (SYSUSE), information quality (INFOQUAL), interface quality



(INTERQUAL), and overall satisfaction among the users, which was conducted using the Post-Study System Usability Questionnaire (PSSUQ-3). The PSSUQ 3, a standardized questionnaire, was utilized to measure the user’s perceived satisfaction with a system before the implementation. In interpreting the PSSUQ, the score starts with 1, which means strongly agree, and ends with 7, which means strongly disagree. This implies that the lower the score, the better the performance.

Results in Table 3 indicate the mean scores and standard deviation for the level of System Usefulness (SYSUSE) of the cloud-based institutional archiving system for program accreditation. All six criteria have the interpretation of “Strongly Agree,” indicating that users found the system highly useful, easy to use, and supportive of their tasks. The highest mean score was for the statement “I was able to complete the tasks and scenarios quickly using this system” with a mean of 1.24 and a standard deviation of .523, showing that

users strongly recognized the system’s efficiency in completing accreditation-related tasks. This was followed by “Overall, I am satisfied with how easy it is to use this system” with a mean of 1.20 and a standard deviation of .408.

In addition, the statements “It was simple to use this system,” “I felt comfortable using this system,” and “It was easy to learn to use this system” all obtained the same mean score of 1.12, reflecting strong agreement that the system is user-friendly and easy to understand. The statement “I believe I could become productive quickly using this system” had a mean of 1.16 and a standard deviation of .374, which also indicates a positive perception of the system’s usefulness in improving work efficiency. The overall mean for System Usefulness was 1.16, interpreted as “Strongly Agree,” confirming that the cloud-based institutional archiving system is highly useful, efficient, and acceptable for supporting program accreditation processes.

**Table 3.** Level of System Usefulness (SYSUSE) of the Cloud-based Institutional Archiving System for Program Accreditation

No.	Criteria	Mean	Standard Deviation	Interpretation
1.	Overall, I am satisfied with how easy it is to use this system.	1.20	.408	Strongly Agree
2.	It was simple to use this system.	1.12	.332	Strongly Agree
3.	I was able to complete the tasks and scenarios quickly using this system.	1.24	.523	Strongly Agree
4.	I felt comfortable using this system.	1.12	.332	Strongly Agree
5.	It was easy to learn to use this system.	1.12	.332	Strongly Agree
6.	I believe I could become productive quickly using this system.	1.16	.374	Strongly Agree
System usefulness (SYSUSE)		1.16	.310	Strongly Agree

Table 4 presents the mean scores and standard deviation for the level of Information Quality (INFOQUAL) of the cloud-based institutional archiving system for program accreditation. All six criteria were interpreted as “Strongly Agree,” which indicates that users were highly satisfied with the quality, clarity, and usefulness of the information provided by the system. The highest mean score of 1.36 was recorded for both the statements “The system gave error messages that clearly told me how to fix problems” and “Whenever I made a mistake using the system, I could recover easily and quickly,” with standard deviations of .757 and .569, respectively. This shows that users strongly appreciated the system’s clear guidance and support in resolving errors and recovering from mistakes.

The statements “The information provided with this system was clear” and “The organization of

information on the system screens was clear” both obtained a mean of 1.20, with standard deviations of .500 and .408, showing that users found the system’s help features, documentation, and screen organization understandable and well-structured. Meanwhile, the statements “It was easy to find the information I needed” and “The information was effective in helping me complete the tasks and scenarios” both received a mean of 1.16 and a standard deviation of .374, which still reflects strong agreement that the system supports users in accomplishing accreditation tasks efficiently. The overall mean for Information Quality was 1.24 with a standard deviation of .433, interpreted as “Strongly Agree,” confirming that the system provides reliable and useful information that enhances user performance and satisfaction during program accreditation processes. Clear, reliable, and useful information that enhances user performance and satisfaction during program accreditation processes.

**Table 4.** *Level of Information Quality (INFOQUAL) of the Cloud-based Institutional Archiving System for Program Accreditation*

No.	Criteria	Mean	Standard Deviation	Interpretation
1.	The system gave error messages that clearly told me how to fix problems.	1.36	.757	Strongly Agree
2.	Whenever I made a mistake using the system, I could recover easily and quickly.	1.36	.569	Strongly Agree
3.	The information (such as online help, on-screen messages, and other documentation) provided with this system was clear.	1.20	.500	Strongly Agree
4.	It was easy to find the information I needed.	1.16	.374	Strongly Agree
5.	The information was effective in helping me complete the tasks and scenarios.	1.16	.374	Strongly Agree

6.	The organization of information on the system screens was clear.	1.20	.408	Strongly Agree
<i>Information quality (INFOQUAL)</i>		1.24	.433	Strongly Agree

Results in Table 5 show the mean scores and standard deviation for the level of Interface Quality (INTERQUAL) of the cloud-based institutional archiving system for program accreditation. All four criteria were interpreted as “Strongly Agree,” indicating that users were highly satisfied with the system’s interface design and functionality. “Overall, I am satisfied with this system” got a mean

of 1.16, interpreted as “Strongly Agree” which implies the users are satisfied with the system. The overall mean for Interface Quality was 1.22 with a standard deviation of .402, interpreted as “Strongly Agree,” confirming that users found the system’s interface pleasant, functional, and satisfying for program accreditation tasks.

**Table 5.** Level of Interface Quality (INTERQUAL) of the Cloud-based Institutional Archiving System for Program Accreditation

No.	Criteria	Mean	Standard Deviation	Interpretation
1.	The interface of this system was pleasant.	1.28	.458	Strongly Agree
2.	I liked using the interface of this system.	1.24	.436	Strongly Agree
3.	This system has all the functions and capabilities I expect it to have.	1.20	.500	Strongly Agree
4.	Overall, I am satisfied with this system.	1.16	.473	Strongly Agree
<i>Interface quality (INTERQUAL)</i>		1.22	.402	Strongly Agree

Table 6 shows that the cloud-based institutional archiving system for program accreditation has a very high level of usability, as all areas received the interpretation of “Strongly Agree.” System usefulness (SYSUSE) obtained the lowest mean score of 1.16, followed by interface quality (INTERQUAL) with 1.22 and information quality (INFOQUAL) with 1.24, while the overall usability mean was 1.21 with a standard deviation of

.352. It implies that users strongly agree that the system is useful, provides quality information, and has an effective interface, showing that the system is highly acceptable and efficient for accreditation purposes.

Moreover, the PSSUQ 3 normalization score is applied to adjust PSSUQ scores to enable better comparison across users by transforming the original 7-point Likert scale responses—where lower scores

indicate better usability—into a standardized scale with consistent interpretation. Since PSSUQ scores range from 1 (strongly agree, best usability) to 7 (strongly disagree, worst usability). A lower score indicates better perceived system usability. PSSUQ 3 norms typically refer to the three established

benchmark values for the Post-Study System Usability Questionnaire (PSSUQ). Based on the validated findings of Sauro and Lewis (2016), these three norms provide a standard reference for evaluating the usability of a system.

**Table 6.** *Summary of the Mean Scores on the Level of Usability of the Cloud-based institutional archiving system for program accreditation*

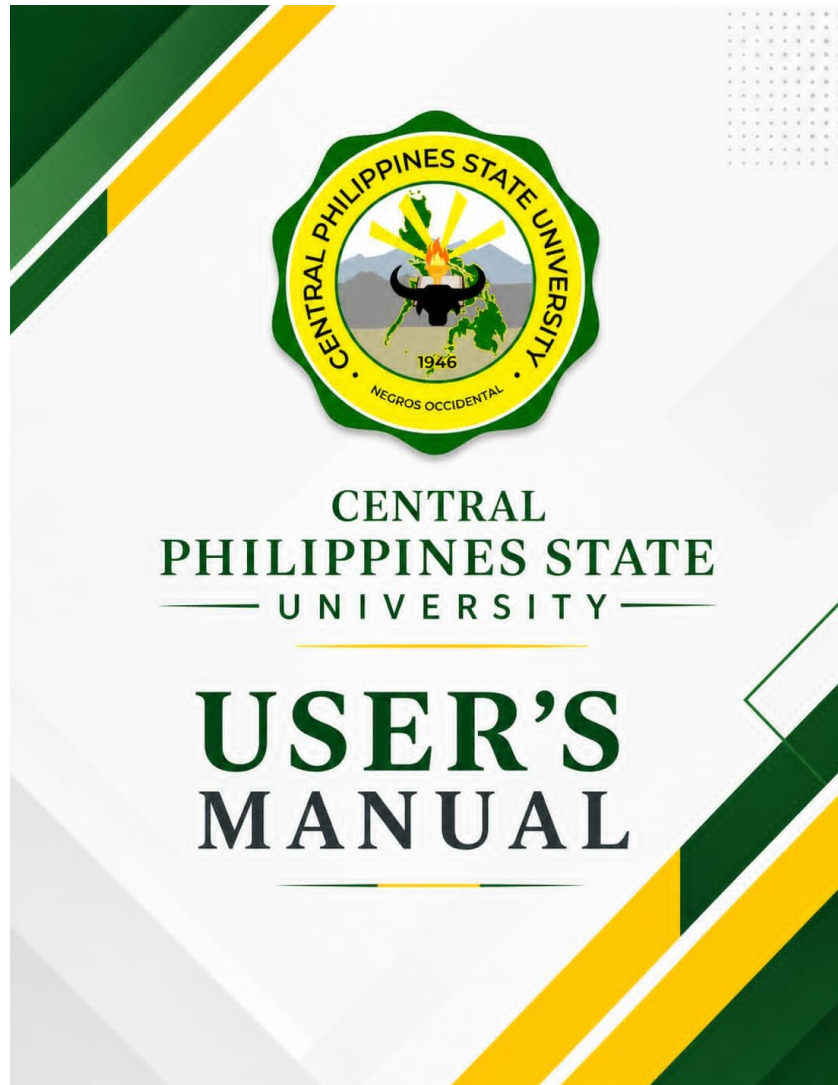
Item	Mean	Standard Deviation	Interpretation
System usefulness (SYSUSE)	1.16	.310	Strongly Agree
Information quality (INFOQUAL)	1.24	.433	Strongly Agree
Interface quality (INTERQUAL)	1.22	.404	Strongly Agree
Overall Usability	1.21	.352	Strongly Agree

**Development of the User Manual**

The final objective of the study was to develop a user manual for the Cloud-Based Institutional Archiving System for Program Accreditation. This manual is a useful guide that

explains how to use the system step-by-step. It also helps users use a system easily by providing simple, step-by-step instructions and allows users to fix basic problems on their own, learn how to use advanced features, and complete tasks faster without needing extra help.

**Figure 7:** *User's Manual*



*The cover design of the Cloud-Based Institutional Repository System for Grey Literature user manual.*

### **Findings**

The following are the summary of the findings of the study:

1. The study found that the cloud-based institutional archiving system is fully functional and highly effective for program accreditation. All five key features—index-based archiving, real-time access to memos and reference resources, prompt checking and recommendations, concurrent document access and document version control—passed the functionality test with a 100% success rate, proving that the system performs accurately without errors, delays, or data conflicts.
2. The usability evaluation using the Post-Study System Usability Questionnaire (PSSUQ-3) showed that the system has a very high level of usability. All areas, including system usefulness, information quality, and interface quality, were interpreted as “Strongly Agree,” with low

mean scores indicating better performance and user satisfaction.

3. System usefulness received the lowest mean score of 1.16, showing that users found the system easy to use, simple to learn, comfortable, and helpful in completing tasks quickly. Users also strongly agreed that the system improved productivity and made accreditation work more efficient.
4. System usefulness received the lowest mean score of 1.16, showing that users found the system easy to use, simple to learn, comfortable, and helpful in completing tasks quickly. Users also strongly agreed that the system improved productivity and made accreditation work more efficient.

### Conclusions

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

1. The cloud-based institutional archiving system is fully functional and dependable for program accreditation. Since all four key features passed the functionality test with a 100% success rate, the system can effectively manage accreditation documents without errors, delays, or data conflicts.
2. The system has a very high level of usability based on the PSSUQ-3 evaluation. The “Strongly Agree” interpretation in all areas shows that users are highly satisfied with the system’s usefulness, information quality, and interface design.
3. The system is highly useful and user-friendly for accreditation tasks. Its low mean score in system usefulness confirms that users find it easy to learn, comfortable to use, and effective in helping them complete tasks quickly and improve productivity.

4. The study concludes that the developed system performs better than the standard PSSUQ benchmark values. This proves that the cloud-based institutional archiving system is reliable, efficient, and highly acceptable for supporting accreditation document management in educational institutions.

### Recommendations

Based on the comments and suggestions of the participants, here is the list of recommendations:

1. The system should include a recycle bin that, when a user delete a document and realizes that it needs to access to review before finally deleting the documents, users can check the recycle bin to recover the deleted file.
2. File in the recycle bin should have a certain period of time for storing in the archive like three (3) months for example and after that certain period it will automatically delete in the system.
3. In the preview section the one that will appear in the preview is not the file format but what the documents look like and no need to open the document in full preview.
4. Future researchers are encouraged to improve the cloud-based institutional archiving system by adding features such as advanced search tools, stronger security, and mobile access. Additionally, future studies may explore the use of artificial intelligence and data analytics to further improve document management and accreditation processes.

**Acronyms:** RAD – Rapid Application Development; PSSUQ – Post-Study System Usability Questionnaire; Commission on Higher Education; National Network of Quality Accrediting Agencies; Accrediting Agency of Chartered Colleges and Universities of the Philippines; Association of Local Colleges and Universities

Commission on Accreditation (ALCUCOA);  
Software Development Life Cycle.

## REFERENCES

Kumar, P., Shukla, B., & Passey, D. (2020). Impact of accreditation on quality and excellence of higher education institutions.

Commission on Higher Education. 2005-CMO-NO1.pdf

Krisnaresanti, Aldila et al. (2021). Website-based accreditation information system as an improvement of accreditation data service quality. *International Journal of Economics, Business and Management Research* Vol. 5, No.11; 2021. <https://ijebmr.com>

Villarosa, E. (2021). Design and development of a manuscript online digital archiving management system for Eastern Visayas State University. *International Journal of Research and Management Review*, 11(30). <https://ijramr.com/sites/default/files/issues-pdf/5525.pdf>

Villarosa, E. C. (2022). Developing a record archiving system in Eastern Visayas State University–Burauen Campus. *Aloha International Journal of Multidisciplinary Advancement (AIJMU)*, 4(4), 94–100. <https://www.evsu.edu.ph/university-research-and-created-works/developing-a-record-archiving-system-in-eastern-visayas-state-university-burauen-campus/>

Sipahutar, M. N. M. B., P, A. L., & Sipayung, S. P. (2025). Security analysis of data storage in cloud-Bbsed Digital archive management systems. *Journal of Advanced Computer Knowledge and Algorithms*, 2(3), 80–83. <https://doi.org/10.29103/jacka.v2i3.22436>.

Pillen, D., & Eckard, M. (2023). The impact of the shift to cloud computing on digital recordkeeping practices at the University of Michigan Bentley Historical Library. *Archival Science*, 23(1), 65–80. <https://doi.org/10.1007/s10502-022-09395-2>.

Yap, Vincent Aldrin & Velasco Rosemary (2024). Data archiving for the Philippines Higher Education in compliance with accrediting bodies – A cloud-based data processing system for Universities. *IJIRMP* (E-ISSN: 2349-7300), Volume 12, Issue 2, (March-April 2024).

Sirisilla, S. (2023, February 9). Descriptive research | Definition, types, and Ffaws to avoid. *Enago Academy*.

<https://www.enago.com/academy/descriptive-research-design/>.

Richey, Rita C., Nelson, W., & Klein, J. D. (2025). Developmental research: studies of instructional design and development. <https://doi.org/10.4324/9781410609519-54>.

Hamja, A., Mukit, M., Maruf, S. M., & Sourov, S. (2025). An Efficient Documentation for SDLC of a Software. <https://doi.org/10.13140/RG.2.2.15282.26569>.

Mondero, N. L., Jr., Ereje, R. F., Bermejo, R. M. M., Dela Torre, R. M., Soberano, K., Dusaran, Y. M. R., & Porquez, M. T. (2024). Preserving scholarly endeavors: A System for archiving thesis and dissertations. *GAS Journal of Multidisciplinary Studies*,2(4). <https://doi.org/10.5281/zenodo.11063772>.

Andarwati, M., Swalaganata, G., Pamuji, F. Y., & Hendrawan, N. D. (2023). *Application of the RAD (Rapid Application Development) method to develop a website-based E- Mudharabah Savings and Loans System*.

Almeida, F., Calistru, C., & Ferreira, P. (2023). A review of software development life cycle models in the context of agile environments. *Journal of Software: Evolution and Process*, 35(1), e2472. <https://dAWS>. (2025, June 2).

Pulsion Technology. (2026, January 18). Planning for software development. Retrieved: [Planning for Software Development - Pulsion Technology](https://www.pulsion.com/Planning-for-Software-Development).

Bayliss, C., & Hardy, B. (2011). Supervisory control and data acquisition. In *Elsevier eBooks* (pp. 827–862). <https://doi.org/10.1016/b978-0-08-096912-1.00021-6>.

- Morales Díaz, L. V. (2022). What is a User Interface, again? A Survey of Definitions of User Interface: Our shared and implicit understanding of the concept of User Interface. *Proceedings of the 9th Mexican International Conference on Human-Computer Interaction, MexIHC '22*, 1–7. <https://doi.org/10.1145/3565494.3565504>
- Campbell, K. (2025, March 4). Role of Functional testing in software quality assurance. <https://www.linkedin.com/pulse/role-functional-testing-software-quality-assurance-kathleen-campbell-u25jc>.
- Gupta, B. (2021). Study of Software Development Process & Exploration of SDLC Models. *IARJSET*. <https://iarjset.com/papers/study-of-software-development-process-exploration-of-sdlc-models/>.
- Koo, M., & Yang, S.-W. (2025). Questionnaire Use and Development in Health Research. *Encyclopedia*, 5(2), 65. <https://doi.org/10.3390/encyclopedia5020065>
- What Is A Test Case? | Definition from TechTarget. (2024). Search Software Quality. Retrieved May 17, 2026, from <https://www.techtarget.com/searchsoftwarequality/definition/test-case>
- Hidayat, R., et al. (2022). Implementation of usability testing in measuring the effectiveness of user experience. *Proceedings of the 2022 International Conference on Information Technology*, 118929. <https://doi.org/10.5220/0011892900003422>
- Sauro, J., & Lewis, J. R. (2016). *Quantifying the user experience: Practical statistics for user research* (2nd ed.). Morgan Kaufmann/Elsevier
- Prabhashi, H. K. D., Shafana, M. S., & Sabani, M. J. A. (2022). *Comparative Analysis of Functional Test Automation Tools*.