CHAPTER 1

INTRODUCTION

1.1 Background of the Project

In recent years, digital preservation has become increasingly vital for the long-term accessibility and usability of scholarly works. The transition from traditional paper-based archives to digital repositories ensures that valuable academic research is safeguarded against physical deterioration and can be accessed globally. The advent of digital preservation facilitates the organization, storage, and retrieval of educational studies, making them readily available for future research and reference. Moreover, providing free access to these digital collections enhances academic collaboration, innovation, and the dissemination of knowledge. According to a study published by the International Federation of Library Associations and Institutions (IFLA) in 2019, digital preservation secures the integrity of scholarly content. It promotes equitable access to information, crucial for advancing education and research [11].

Managing and accessing information efficiently is more important than ever in today's digital world. Online repository systems are digital platforms that store and organize information, making it accessible from anywhere. A repository, or repo, is an organized storage location where one may house all the files and resources you need [1]. The word "repository" comes from the Latin "repositorium," which refers to a location where items are gathered or kept. A central data repository, on the other hand, is an assembly of data kept somewhere so that all users within an organization can access, update, analyze, and safeguard it [2]. The implementation of repository systems in academic institutions offers numerous advantages. A researcher named Crow emphasized that these systems enhance the visibility and impact of institutional research by providing open access to scholarly works. Additionally, they facilitate knowledge sharing and collaboration among researchers [6].

Notre Dame of Midsayap College (NDMC) is a private Catholic institution in Midsayap, Cotabato, Philippines that offers quality education to elementary and college students [5]. The NDMC Research and Development Center (RDC) currently handles

the storage of all student research documents. This process involves storing research documents in physical form, such as paper or hard copy documents. Notre Dame of Midsayap College (NDMC) has produced and published several scholarly works by its faculties and students, such as theses or particular problem manuscripts. Like typical private schools in the Philippines, NDMC students submit hardbound and digital copies of their research papers and documents to the Research and Development Center (RDC). However, students have difficulty knowing all of the published research of faculty and others since they don't frequently visit the RDC, and it is not posted anywhere in one place. This accessibility issue hinders students from utilizing these valuable resources, which could greatly aid their research, and also benefits the researchers of NDMC to have their published research as a reference.

Physical storage of research documents can have both advantages and challenges. On the positive side, physical storage allows easy access to documents without needing specialized technology or software. It also provides a tangible backup in case of digital failures or data loss. However, physical storage can be prone to damage, loss, or unauthorized access. Developing a comprehensive web-based digital repository system will facilitate the management of all information lifecycle stages for users. More significantly, it will streamline the authoring and creation process, enabling a broader audience to participate by directly contributing various forms of research, such as thesis or capstone project papers, to the digital repository/library [4].

To resolve the stated problem, the proponents propose an Online Repository System entitled "RECHIVA: An NDMC Web-Based Repository System for Published Research, Capstone, and Thesis Documents" a digital platform designed to provide a centralized space for storing and managing students' and faculty-published research papers at Notre Dame of Midsayap College (NDMC). This project aims to develop an efficient and effective system for managing and preserving digital content, specifically the soft copies of published research, capstone, and thesis papers. Key features include a user-friendly interface that allows end-users to easily browse and search for specific research by category, title, year, author’s name, keywords and type of paper.

Additionally, the system will implement a robust access control system to ensure only administrators can upload, manage, input research information, and verify research, capstone, and thesis documents. Once the document has been reviewed and

approved by the admin, it will automatically save to the archive section, which can be accessed only by the admin, maintaining the security and integrity of the repository. Integrate assessment tools that allow users to download and provide feedback and comments on published research to enhance user engagement.

Implementing the "RECHIVA" holds significant importance for enhancing the academic environment. This system will not only address the current accessibility issues faced by the students but also foster a culture of knowledge-sharing and collaboration within the institution. The system will promote transparency, efficiency, and innovation in academic pursuits by centralizing and digitizing research papers, capstone projects, and theses. Moreover, it will empower students with easy access to scholarly resources, enabling them to deepen their research, broaden their perspectives, and contribute meaningfully to the academic community.

1.2 Objectives of the Project

This capstone project aims to design and develop an online repository system for NDMC Research and Development Center (RDC) to serve as an online repository for storing, managing, and accessing capstone and thesis documents from the NDMC Students and Faculty.

Specifically, the system allows the users to:

- Students and site visitors
    1. Search and browse published research, capstone & thesis documents.
    2. download published research, capstone & thesis documents.
    3. filter by category, title, year, author's name, keywords & type of paper.
- Admin
    1. Upload and manage research, capstone, and thesis information.
    2. Input research, capstone, and thesis details.
    3. Verify research, capstone, and thesis documents before uploading for public use.
    4. provide feedback and comments on unpublished research, capstone, and thesis documents.
    5. Generate list of reports on research, capstone, and thesis projects.

- Faculty
    1. create and register an account.
    2. search and browse published research, capstone & thesis documents.
    3. upload and download research, capstone, and thesis documents.
    4. receive notifications.

1.3 Significance of the Project

The project, entitled "RECHIVA: An NDMC Web-Based Repository System for Published Research, Capstone & Thesis Documents", aims to assist students and faculty in searching for related academic documents.

The system provides several key benefits for various users. For students, it simplifies the process of finding relevant research topics, saving time that would otherwise be spent searching manually. Faculty members will have faster access to important research, capstone and thesis, improving their teaching materials and academic work while also saving time. The NDMC Research Development Center will benefit from a centralized platform that effectively manages, organizes, and stores research documents. For Notre Dame of Midsayap College (NDMC), the system offers an advanced solution for easy access to information and efficient management and storage of research documents.

1.4 Scope and Limitations

The scope of this Capstone Project focuses on designing and developing an Online Repository System (ORS) for Notre Dame of Midsayap College (NDMC) that collects and preserves. It disseminates the scholarly output of the NDMC students and faculty. The system will provide a user-friendly interface that allows users to browse and search for research papers quickly. Users can filter search results by category, title, year, author's name, keywords, and type of paper to ensure efficient and effective access to academic resources. Only the admin will have the authority to upload, manage, and verify research, capstone, and thesis documents to be seen and accessed by the public, thereby preventing unauthorized access and modifications. Users can download the research, capstone, and thesis documents and add comments and feedback.

Additionally, the system allows faculty members to create accounts to upload unpublished research documents. The admin will review these documents and provide feedback on their suitability for publishing. Faculty members will also receive notifications when input from the admin is available on their uploaded research.

However, the system is accessible only through an active internet connection and a web browser and cannot be accessed offline. Access to unpublished research documents is restricted to administrators only. Account creation privileges are granted exclusively to faculty members of the school; students and visitors cannot create accounts.

1.5 Definition of Terms

To ensure a clear and comprehensive understanding of the NDMC Web-Based Repository System, the following key terms are defined:

Repository – it refers to digital storage where published research, capstone, and thesis documents from NDMC are stored and accessible by the students and faculty.

Proponents – it refers to the individuals who propose and develop the system.

Research and Development Center – the RDC staff serves as the admin responsible for uploading, managing, and inputting research, capstone, and thesis information into the system.

SQL – the tool used for storing and managing data in the database, ensuring efficient organization and retrieval of information in the system.

Published Research – it refers to the scholarly work of NDMC faculty that has been selected to be displayed in the system for public access and downloaded by users.

Thesis/Capstone Project – Types of research documents produced by students and faculty, which are stored and made accessible through the repository system.

Metadata – it refers to the detailed information about the published research documents entered by the admin, which helps users easily find specific research within the website.

RECHIVA – it refers to the name of the system, which is a combination of Repository and Archive.

1.6 Conceptual Framework

The conceptual framework presented in figure 1.1 illustrates the systematic development and implementation process of the Online Repository System (ORS) for Notre Dame of Midsayap College (NDMC). The framework is structured into three main components: Input, Process, and Output, each crucial for achieving the project's objectives.

In the Input phase, the process begins with the collection of published and unpublished research, capstone projects, and thesis documents. Each document's bibliographic information includes the title, authors, publication dates, journal or conference names, volume/issue numbers, page numbers, DOIs, abstracts, and keywords. Faculty are required to create an account on the repository system by providing their full name, email address, department, username, and password. Once registered, they can log in and upload their research papers, whether authored by students or faculty. However, faculty must wait for the admin to verify if the research paper is ready for publication in the system. Published research papers are available for students, faculty, and visitors to view and download, while unpublished research papers are stored in the archive and accessible only to admin.

In the Process phase, after the initial input, the repository system undergoes procedures to ensure efficiency and organization. Admin can review and verify research papers uploaded by faculty, checking for accuracy and readiness for publication in the system. The system securely categorizes and tags documents based on bibliographic details, while metadata integration enhances their searchability. A user-friendly interface is developed to facilitate the process of uploading and management of research papers, ensuring smooth navigation. This interface allows faculty to efficiently upload, track, and manage their research submissions. Additionally, the system ensures access

control, making published research papers available for viewing and downloading by students, faculty, and visitors.

In the Output phase, the repository system facilitates interaction through comments and feedback, allowing faculty and admin to discuss specific research papers. It generates comprehensive reports listing research, capstone, and thesis projects, detailing the number of published and unpublished papers from each department. Faculty members receive notifications regarding the status of their research paper submissions and any comments exchanged between admin and faculty. Additionally, the system manages and updates metadata for each document and maintains a database of registered accounts for faculty and other authorized users.

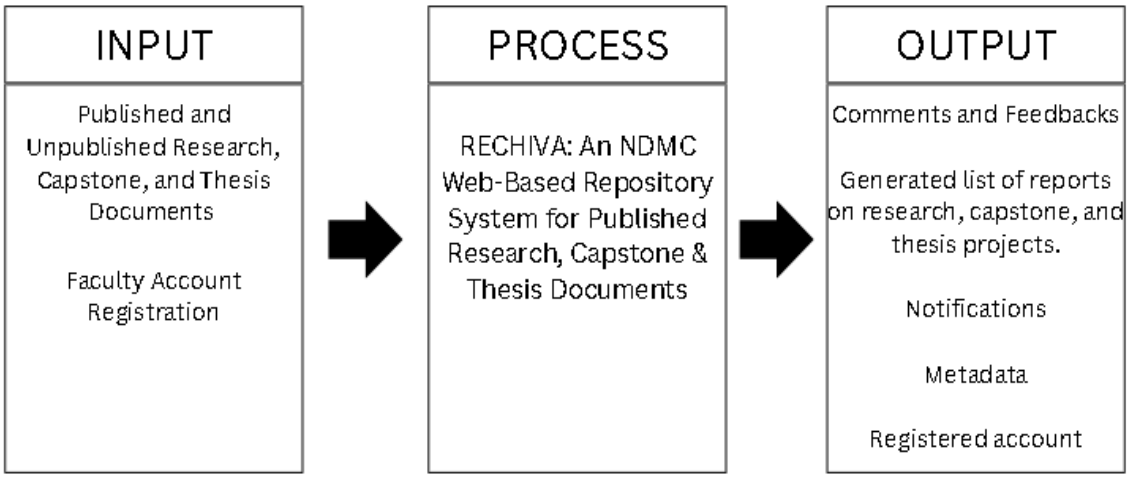

Figure 1.1 Conceptual Framework

1.7 Review of Related Literature (RRL)

Lalisan and Sobejana (2019): "Research and Capstone Project Electronic Repository"

Lalisan and Sobejana (2019) emphasize the transformative potential of electronic repositories in academic settings, particularly for managing research and capstone projects. Their study, "Research and Capstone Project Electronic Repository," explores implementing a digital repository system that centralizes the storage and access of academic documents, ensuring efficient management and dissemination of scholarly work. The primary advantage of electronic repositories is the enhanced accessibility they provide. By digitizing research and capstone projects, institutions can ensure that these documents are easily accessible to authorized users from any location. This ease of access facilitates academic research and collaboration and promotes the visibility of scholarly work, allowing it to reach a wider audience. Furthermore, electronic repositories can improve data security by implementing robust access control systems restricting access to authorized users. This feature is crucial for maintaining the integrity and confidentiality of academic documents [6].

The study's relation to existing literature emphasizes three key aspects. Firstly, Lalisan and Sobejana highlight the necessity of a centralized document storage system, which aligns with the project's goal of developing a user-friendly interface for easy browsing and searching of research and capstone projects, thus enhancing accessibility. Secondly, the project's objective to implement a robust access control system corresponds with Lalisan and Sobejana's emphasis on security measures, ensuring that only authorized users can manage and access academic documents, thereby maintaining confidentiality and integrity. Lastly, Lalisan and Sobejana discuss the benefits of electronic repositories in facilitating collaboration and knowledge sharing, which the project's integration of assessment tools supports by enabling users to provide feedback and reviews on projects, fostering continuous improvement and collaboration within the academic community.

Bajrami et al. (2021): "E-Thesis Repository System"

Bajrami et al. (2021) developed an E-Thesis Repository System to address the challenges of storing, managing, and accessing academic theses. This system was

designed to facilitate efficient document management, improve accessibility, and ensure the security of academic works. Implementing such systems is crucial in enhancing the digital infrastructure of academic institutions, promoting open access, and supporting academic research [7]. The study highlighted several key features of their E-Thesis Repository System, which include a user-friendly interface, robust access control, advanced search functionality, and a feedback and review mechanism. The system is designed with an intuitive interface that allows users to easily upload, search, and retrieve theses. This aligns with the objective of the NDMC Online Repository System, which is to provide a user-friendly interface for browsing and managing research documents.

Bajrami et al. emphasized the importance of a robust access control system to maintain the security and integrity of the repository. Similarly, the NDMC Online Repository System aims to implement an access control system to ensure only authorized users can upload and manage research documents, thus safeguarding the repository's content. The E-Thesis Repository System incorporates advanced search capabilities to help users find specific theses based on criteria such as author, title, and keywords. This feature is mirrored in the NDMC Online Repository System, where users can search for specific theses or capstone projects by category, year, and author's name. Although not explicitly mentioned in Bajrami et al.'s system, the NDMC Online Repository System plans to include assessment tools enabling users to provide feedback and review projects. This feature fosters collaboration, knowledge sharing, and continuous improvement within the academic community.

Alenzuela (2021): "Digital Libraries in Academic Settings"

Alenzuela (2021) highlights that digital libraries significantly improve the accessibility of information, allowing users to access resources from anywhere at any time. This is particularly beneficial in academic settings where timely access to research materials is crucial for students and faculty. The study points out that digital libraries facilitate access and enhance the visibility and impact of institutional research by providing open access to scholarly works. This aligns with the objectives of the NDMC Online Repository System, which aims to create a centralized platform for storing and managing digital content, specifically research papers of NDMC students.

Digital libraries are pivotal in preserving academic content and ensuring its longevity. The transition from physical to digital storage addresses several challenges associated with physical storage, such as deterioration, loss, and limited accessibility [8]. This transition is crucial for NDMC, where the current process involves physically storing research documents, making them prone to damage. By developing a comprehensive web-based digital repository system, NDMC can ensure the preservation of intellectual property and research outputs.

Alenzuela's research also highlights the efficiency gains and cost savings associated with digital libraries. Automating document management processes, including uploading, categorizing, and retrieving research documents, significantly reduces the time and effort required to manage academic content [8]. This efficiency is a key advantage for NDMC, where implementing the Online Repository System will streamline the management of research documents. Automating these processes will save time and resources, allowing the Research and Development Center (RDC) to focus on other tasks.

Institutional Repositories in Academic Libraries

Institutional repositories are digital platforms that collect, manage, and disseminate the scholarly output of an institution. These repositories offer numerous benefits, particularly for university and academic libraries. One of the primary benefits of institutional repositories is the increased visibility and accessibility of research outputs. By providing a centralized platform for collecting and disseminating scholarly works, institutional repositories ensure that research is more accessible to a global audience [9]. This increased visibility can lead to higher citation rates and greater academic impact, as researchers worldwide can easily discover and access the work. For NDMC, the Online Repository System project will significantly enhance the visibility of student research, allowing it to reach a broader audience and contribute to the global academic community.

Institutional repositories promote collaboration and knowledge sharing among researchers. Repositories encourage academic collaboration and exchanging ideas by providing open access to scholarly works. Researchers can build upon existing work, collaborate on new projects, and contribute to the collective knowledge base [9]. The

project Online Repository System will foster a collaborative academic environment at NDMC, enabling students and faculty to engage with each other's work, provide feedback, and collaborate on research initiatives.

Institutional repositories align with and support academic institutions' broader goals and missions. They showcase the institution's research output, demonstrating its contributions to the academic community and society. This can enhance the institution's reputation, attract prospective students and faculty, and secure funding opportunities [9]. For NDMC, the Online Repository System project will serve as a testament to the college's commitment to academic excellence and research, supporting its mission to provide quality education and contribute to advancing knowledge.

"Research and Capstone Project Electronic Repository": Key Points and Findings"

In the study "Research and Capstone Project Electronic Repository," the authors discuss developing and implementing an electronic repository system to digitally store and manage research and capstone projects. This system aims to provide a centralized platform for students and faculty to access, submit, and manage academic work, thereby enhancing the efficiency and accessibility of academic resources.

The key points and findings of the study include significant improvements in accessibility and efficiency [10]. The electronic repository system allows users to access research documents from anywhere with an internet connection, aligning with the NDMC Online Repository System's (ORS) goal of providing seamless access to academic resources for students and faculty. The repository system also ensures efficient management of research documents through features such as categorization, metadata tagging, and secure storage. Similarly, the NDMC ORS aims to categorize and securely store research projects, facilitating easy retrieval and management.

A user-friendly interface is highlighted as crucial to enhancing user experience. The NDMC ORS also focuses on developing a user-friendly interface to enable easy browsing and searching of research projects by category, year, and author's name. Ensuring the security and integrity of digital content is another key aspect of the electronic repository system. The NDMC ORS incorporates a robust access control system, allowing only authorized users (admin) to upload and manage research projects, thus maintaining the system's security and integrity.

The electronic repository system includes tools for user feedback and reviews, promoting continuous improvement and collaboration. The NDMC ORS also integrates assessment tools, enabling users to provide feedback and evaluate the system's reliability, functionality, and usability performance. Lastly, the study emphasizes the importance of open access, allowing unrestricted online access to scholarly works. The NDMC ORS supports this principle by providing open access to research papers and capstone projects, promoting scholarly communication and global visibility of academic outputs.

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