DEVELOPMNENT OF A WEB-BASED SCHOOL PLATFORM WITH AN INTEGRATED ONLINE RESEARCH REPOSITORY FOR SENIOR HIGH SCHOOL AT BECURAN NATIONAL HIGH SCHOOL

A Capstone Project

Presented to the

Faculty of the College of Computer Studies

Santa Rita College of Pampanga

In Partial Fulfillment

of the Requirements for the Degree

BACHELOR OF SCIENCE IN INFORMATION SYSTEM

By

Mark Glen P. Guevarra

Roy D. Juntilla

Llanyell R. Manalang

September 2025

APPROVAL SHEET

This Capstone Project entitled "**Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School**" proposed and submitted by**, Mark Glen P. Guevarra, Roy D. Juntilla, Llanyell R. Manalang** in partial fulfillment of the requirements for the degree **BACHELOR OF SCIENCE IN INFORMATION SYSTEM,** has been examined and found in order and is hereby recommended for acceptance and approval for **ORAL EXAMINATION**.

CAPSTONE PROJECT PROPOSAL COMMITTEE

Jonilo C. Mababa, DIT
Chair

Richmon L. Carabeo, DIT   **Eugene S. Perez, MIT**
Member   Member

....

PANEL OF EXAMINERS

Passed by the PANEL OF EXAMINERS on ORAL EXAMINATION with a grade of _____ on _____.

Jonilo C. Mababa, DIT
Chair

Richmon L. Carabeo, DIT   **Eugene S. Perez, MIT**
Member   Member

Anthony C. Rivera, ITS
Adviser

....

Accepted and approved in partial fulfillment of the requirements for the degree **BACHELOR SCIENCE IN INFORMATION SYSTEM.**

_____   **Fernand T. Layug, DIT**
Date   Dean

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

BACKGROUND OF THE STUDY

Research paper is one of the most critical academic tasks in the Senior High School, especially among Grade 12 students. It is the final stage of the learning and expertise they have gained in the course of their academic life. The research papers demonstrate that they can not only think critically, analyze information, and offer solutions to the real-life issues, but are also their academic legacy.
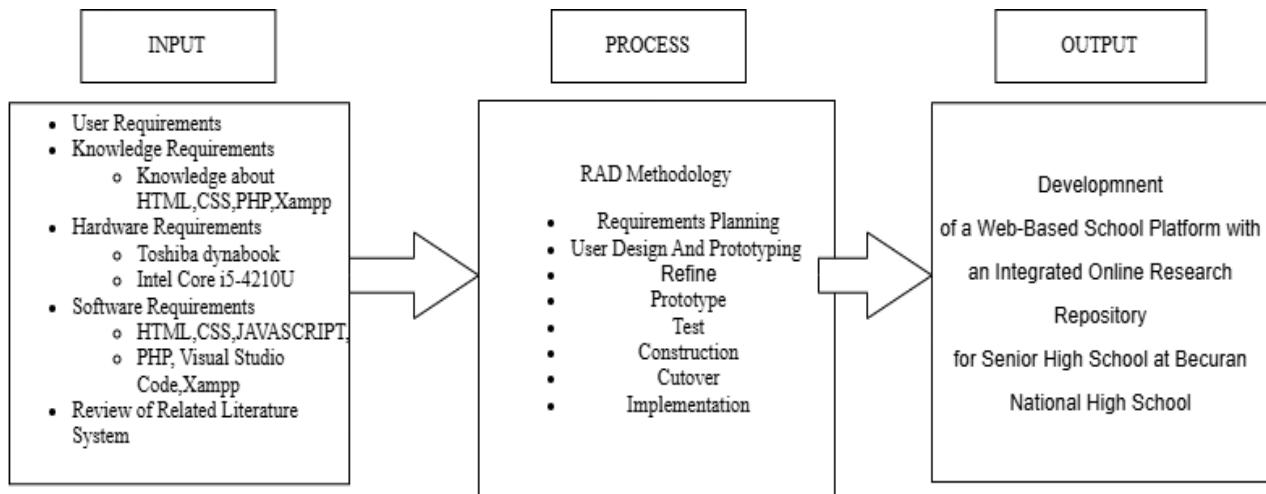
In Becuran National High School, the results of the research findings are usually presented in hardcopy or stored in personal computers and adviser machines respectively. Sadly enough, these papers are prone to misplacing, damages or complete losses after graduation. This means that the successive categories of students lack access to good references that could otherwise help them in developing their studies. This brings about a cyclic issue whereby the input of students who graduate is not maintained and the school is denied a chance to establish a viable knowledge base towards academic development.

A centralized research repository also poses a barrier to collaboration and knowledge sharing between students and teachers due to the absence of one. The cumulative intellectual products of the students could not be exploited without digital platform so that their influences could be minimal on the learning environment. Due to this gap, the researchers suggest designing a Web-Based School Platform with an Inbuilt Online Research Repository. This system will be a safe, convenient, and systematized digital library of Grade 12 research papers so that they can be preserved even after the students have graduated.

Moreover, the performance and acceptance of the usage of the suggested system by users will be evaluated with the help of the Technology Acceptance Model (TAM). TAM is a well-known model that determines the perceptions and the adoption of a new technology by the users. It is concerned with two prominent constructs, Perceived Usefulness (PU), Perceived Ease of Use (PEOU) and Behavioral Intention to Use (BIU) that are used to define whether the system is useful and easy to use by the users. With the help of TAM, the researchers will be able to make sure that the platform is not only functional but also widely accepted and used by the target audience of it, who are students, teachers, and administrators.

Figure1

Conceptual framework Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School.

INPUT	PROCESS	OUTPUT
• User Requirements • Knowledge Requirements o Knowledge about HTML,CSS,PHP,Xampp • Hardware Requirements o Toshiba dynabook o Intel Core i5-4210U • Software Requirements o HTML,CSS,JAVASCRIPT, o PHP, Visual Studio Code,Xampp • Review of Related Literature System	RAD Methodology • Requirements Planning • User Design And Prototyping • Refine • Prototype • Test • Construction • Cutover • Implementation	Developmnent of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School

In figure 1, presents the conceptual framework illustrating the inputs required for developing the Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School. It outlines the processes involved in completing the system. Key knowledge requirements include HTML, CSS, JavaScript, PHP, MySQL, and Bootstrap, while hardware requirements include an Intel Core i5-4210U processor.

STATEMENT OF THE PROBLEM

The primary purpose of this study is to develop a web-based school platform with an integrated online research repository for Senior High School at Becuran National High School. Specifically, the study aims to address the following problems.

Problems:

1. How to design and develop a user-friendly web-based school portal that provides easy access to information, resources, and updates for senior high school students at Becuran National High School? Identify the features and functionality included in the record management system?

2. How to create a system using the features and functionalities discussed with the locale of the study, ensuring that it meets the needs of senior high school students, teachers, and researchers at Becuran National High School?

3. What are the benefits of the proposed system in terms of improving information accessibility, research management, and communication within the senior high school community at Becuran National High School?

4. To evaluate the system using the Technology Acceptance Model (TAM) in terms of perceived usefulness, perceived ease of use and behavioral intention.

OBJECTIVES OF THE STUDY

The main objective of this study is to design and develop a web-based school platform with an integrated online research repository for Senior High School at Becuran National High School.

Specific Objectives

The following are the study team's precise objectives:

1. To design and develop a user-friendly web-based school portal that provides easy access to academic resources, school updates, and important information for students.

2. To Integrate system features and functionalities that meet the academic and research needs of Senior High School students, teachers, and researchers within the institution.

3. To Evaluate and identify the benefits of the system in enhancing information accessibility, efficient research management, and improved communication within the school community.

4. To evaluate the system using the Technology Acceptance Model **(TAM)** in terms of perceived usefulness, perceived ease of use and behavioral intention.

SIGNIFICANCE OF THE STUDY

This study will modernize academic research management by developing a web-based platform that allows users to easily access and interact with the research repository. The Result of the Study will be great benefit to the following:

- **School Administrators-** The system will help administrators efficiently manage and oversee the admission research repository, ensuring accessibility and organization.

- **Teachers and Students-** They will be able to access research materials through the web platform, enhancing their academic studies and supporting learning.

- **Researchers -** This system will serve as a valuable resource for researchers in gathering, storing, and retrieving relevant studies.

- **Future Researchers -** The developed research repository will serve as a guide for future researchers, providing a foundation for expanding knowledge and improving academic research methodologies.

SCOPE AND DELIMITATION OF THE STUDY

This research is about the design of a Web-Based School Platform with an Integrated Online Research Repository for the Grade 12 students of Becuran National High School. The platform will allow students to upload research papers they completed as part of their studies for archiving as a valuable resource. The student submissions will be reviewed and approved by teachers or advisers prior to being archived in the online repository. Once archived, research outputs (student works) will not only be able to accessed by students from future batches, but they will also be categorized, organized, and aligned in a format to serve as a scholarly reference for those future batches. The system includes a user authentication feature, research uploading, approval workflow of submissions, search, repository viewing, and an admin panel to manage user authentication and submissions.

There are some limitations concerning the study. The system is web-based which is intended for use on computers with internet access; it is not intended to operate like a standalone mobile application. Additionally, the study does not employ advanced functions such detecting plagiarized content, sharing external academic database, and as such, it is not built for offline use outside of the online repository. It may be noted too that any uploaded research papers must be in PDF form to ensure consistency and standardization.

DEFINITION OF TERMS

The following terminologies are operationally defined to make this study simpler to understand and interpret:

1. **Web-Based Platform** – A system that is accessed and used by means of an internet connection via a web browser. For the purposes of this study, the web-based platform refers to the online system that was created to organize school information, announcements, and research outputs.

2. **Online Research Repository –** An online repository for storing academic research documents which is open and organized in a way that allows access for authorized users. The intention of an online research repository is to provide authorized users with ease of submission and retrieval for research they produced.

3. **User Interface (UI)** – The visual and interactive elements of a system which allow users to input, retrieve, and navigate. In this study, this term refers to the layout and visual design aspects of the school platform that facilitate ease of use for students and teachers.

4. **Information Dissemination** – The process of sending and conveying important announcements, notifications, and documents to a number of individuals. In this case, information dissemination involves entering news and updates related to the school and the research into the web-based platform.

5. **Usability –** The quality of a system that makes it easy and effective to use by its intended user. In this study, this term is used to mean how easy and usable the platform is for users including students, faculty, and researchers.

6. **System Evaluation –** A systematic and structured process for validating functionality, performance, and reliability of a system through user testing and gathering feedback. In this study, the term refers to the process of gathering input from users (school and research) for evaluation.

7. **Quantitative Research –** Research method that involves data being collected in numerical or statistical form to analyze and draw conclusions. The study employed quantitative research.

8. **Database Management –** A systematic manner of storing, organizing, and coping with big quantities of facts in a based format. For this study, it refers back to the control of studies documents and faculty files within side the on-line repository.

9. **Stakeholders –** Individuals or companies who've a hobby within side the fulfillment of the machine, which includes students, teachers, researchers, and faculty directors concerned in the usage of or coping with the platform.

CHAPTER II

REVIEW OF RELATED LITERATURE AND STUDIES

In this chapter, the researchers conducted research on earlier studies that are relevant to the current study and that the researchers can recommend. Any related research or articles should be included as references in the Student Permanent Record Management System to identify areas for improvement.

RELEVANCE OF THE DIFFERENT RELATED STUDIES

Institutional repositories are crucial research infrastructure for research-based universities, as stated by Okon et al. (2020). An appropriately sized institutional repository can boost the effect of research and raise an institution's profile through its academic outputs. Designing and creating a web-based digital repository for academic publications and materials in a postsecondary institution is the study's goal. In order to make study and research work less difficult and stressful for academic staff and students, this project aims to provide a long-term solution to the need for an efficient, dependable, and easily accessible system for storing and retrieving scholarly materials. This will allow them to easily carry out their daily activities, particularly when it comes to obtaining pertinent.

Based on Chavan et al., (2022), the tremendous technological breakthroughs have led to a plethora of innovative projects. Every project inspection requires a great deal of work. It was noted during the inspection that a web platform was required in order to showcase the project ideas that students from different colleges had submitted. The constraints pertaining to the respondents are ascertained by evaluating the existing systems.

This study offers a platform to go beyond these limits and solve the shortcomings of the current system based on the survey.

In accordance with Ronquillo et al. (2023), the researchers were inspired to create a system called Creation of an Online Research Outputs Repository for City College of Tagaytay, which can facilitate quicker and simpler finding and storing results of research. This system will assist the institution's users in managing research papers, and it will act as a resource to support the guide handling of research manuscript storage. Additionally, it seeks to offer convenient access in locating research works that will assist students in gaining relevant concepts that are helpful for them to construct a larger study.

In the study by Tindoc Jr. et al., (2023), the conventional archiving approach is keeping research papers in filing cabinets and folders, which need a large, roomy space to hold the volume of research papers. This issue has persisted throughout all of the colleges on campus, and in comparison, to a web-based archiving system, this approach uses a lot of space and has a short archival capacity. That is the purpose of the research archiving system project called ASSET. The system is made to record more quickly through file uploads and in a more structured way.

Research is one of the essential duties required in an academic institution, as stated by Itiola et al. (2021). As a result, it is anticipated that higher education institutions will place a high value on identifying, safeguarding, and advancing the intellectual property of their faculty, staff, and students. production; It will play a vital role in conserving and spreading the institution's research effort as well as in the dissemination of academic resources. As a result, an institutional repository for scholarly research was created for the Federal University of Technology Akure's (FUTA) Department of Computer Science.

The Research Information System is the most crucial system for higher education institutions, as stated by Jeyapragash et al. (2019). It helps obtain faculty profiles, including affiliations, publications, research projects, awards and honors, education details, and more. This helps the department and institution become more visible in order to obtain funding and fellowship opportunities. This essay talks about Bharathidasan University's implementation of a research information system.

As stated by Caseres et al. (2020), having access to numerous article directories and institutional repositories can frequently be the nightmare of academics and students. Lack of an online tool to find and access digitally saved, high quality The prevalent problem that could result in an inadvertent repetition of previous research findings on campus. Thus, a compilation of citations and academic works by researchers in Bukidnon State University is required. The objective of this study was to create an online application named Research portal that provides current information on the topic and research articles for quick references scholar at the university.

Over time, this program has developed into a complete record management system to monitor state of the active research projects.

A study by Rosales et al. (2023), two well-known problems with institutional research are replication and a lack of departmental cooperation. Without access to consolidated research data, organizations are establishing innovation silos across offices and departments. It avoids the institution's research objective and stymies innovation. The goal of the project is to create a digital repository for Adamson University's scholarly publications in order to make it easier for the institution to store and share research material. The five primary scopes of the research are User Management, Research Repository, Data

Visualization, User Interface Development, and System Testing. The researchers divided the respondents into three categories: research staff, academic staff, and students.

As stated by Irhansyah et al. (2023), information technology can be used in the field of education to support other scholars, facilitate government operations, and provide information about an institution's profile. Information technology that can preserve student thesis data and be utilized as a search engine for theses published inside the Faculty of Science and Technology is currently lacking at UIN North Sumatra, particularly in the Faculty of Science and Technology. Electronically archiving thesis manuscripts will also facilitate the tracking of each student's and lecturer's progress in thesis preparation.

Based on Li and Mostafa (2023), the Research Management Centre (RMC) of UTHM oversees and improves all of the university's research cultures and initiatives. The Scientific Data Repository (SDR), a web-based scientific data repository, was created with the intention of offering a platform for managing and archiving research data. The technology enables researchers to request or donate research data, and it also enables RMC to manage the data. The C# programming language and the prototyping approach were used in the development of this system.

As per Okon et al. (2023), this paper presents a case study of the Journal of Research and Innovations in Engineering (JORIE) and discusses the construction of a web application for journal management. The iterative-incremental model was used to construct the program. Additionally, the backend was created using the model-view-controller (MVC) design, which divides the system into three primary logical components: view, controller, and model. The web application was built on the three-tier architecture. The

journal management dashboard (administration backend) and the journal website are the two sub-systems that make up the system's functional decomposition.

As stated by (Cofino et al., 2022), the study's goal was to establish a research repository system that would serve as a databank for the thesis materials of the graduate and undergraduate students who offer a dependable, effective, and safe repository; create a user pleasant design, and demonstrate that the created design conforms with the system specifications and requirements. To ensure the development was successful, the researchers employed a model that would respect the project. It adhered to the Software Development Life Cycle's Agile model process. (SDLC) in order to validate and confirm the application

(Muslim, 2023) states that higher education is an organization with multiple departments and work units that collaborate to implement the Tri Dharma principles—research, learning, and service—and that can handle massive volumes of data in both traditional and digital formats. Since College X in Pagar Alam, South Sumatra does not yet have a repository—as it is known digitally—a feasibility study that may eventually serve as a forum for recommendations must be conducted. A feasibility study must be conducted prior to the repository's creation in order to ensure proper development. This feasibility study, which incorporates survey technique research, is initially conducted through the management life cycle.

The goal of this study is to create a web-based repository system for the graduating projects of Jamhuriya University of Science & Technology in Somalia, as stated by SHURIE (2021). The created project might make it easier for the parties concerned to organize their activities with the least amount of work and manage their graduation projects

through a well-designed website. Through a mailing system (which is integrated into our website to guarantee that everyone can get in touch with one another), the website may make it easier for student supervisors to monitor their students' progress and provide them with comments.

Research Data Repositories are the repository for research data, according to Ansari et al. (2024). It is a way to preserve research data, which is essentially the result of information gathered by earlier researchers and scientific research. It can be gathered both online and offline, and research data is gathered using a variety of instruments and techniques. A research data repository is a system used for the long-term storage and retrieval of research data. There are a number of technologies available for designing and creating a research data repository that will help with data discovery, preservation, access, and curation

UPN "Veteran" Jawa Timur has been granted a predicate of "Klaster Mandiri" (Self-Governing Cluster) in terms of research since 2019 according to Afandi et al. (2022), which is based on an evaluation of the university's research performance from 2016 to 2018. As the number of research funds that LPPM may manage internally increases, the status directly affects that number. LPPM, however, has difficulties in overseeing its operations concerning the execution of independent grants. Any organization, including LPPM, has been obliged to create a substitute for the limited face-to-face interaction due to the COVID-19 pandemic, particularly in the previous two years.

TECHNOLOGY RELATED TO THE PROJECT

Google Scholar

https://scholar.google.com/

Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across a wide range of publishing formats and disciplines. It is designed to search academic resources such as journal articles, theses, books, conference papers, preprints, technical reports, patents, and court opinions. Unlike regular Google, which searches the entire public web, Google Scholar focuses specifically on scholarly content from academic publishers, professional societies, online repositories, universities, and other websites. It aims to rank documents in a way that reflects how researchers evaluate relevance, considering factors like the full text of the document, the author, the publication source, and the frequency and recency of citations in other scholarly work.

Animo Repository

https://animorepository.dlsu.edu.ph/

The Animo Repository is the institutional repository of De La Salle University (DLSU) in the Philippines, acting as a digital archive and open access platform for the university's intellectual output, including faculty research, electronic theses and dissertations, and publications. It is managed by the DLSU Libraries and aims to increase the visibility, accessibility, and impact of the university's scholarly works by making them available to a global audience.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

The methodology and research design are crucial elements of the study "Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School." By utilizing appropriate research design principles and methodological procedures, the researchers can effectively analyze and evaluate how the proposed platform addresses the needs of students and faculty. Through surveys, case studies, interviews, observations, and document analysis, the study aims to gather valuable insights that will guide the development, implementation, and improvement of the web-based school platform. This ensures that the system not only achieves its objectives but also enhances accessibility, efficiency, and academic productivity within Becuran National High School.

RESEARCH DESIGN

It was a quantitative approach that assessed the efficiency and reliability of the Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School through surveys and system performance metrics. Additionally, the researchers conducted an evaluation of the existing information dissemination and research management processes used by the school to determine their technological viability and relevance in the development of the Web-based platform.
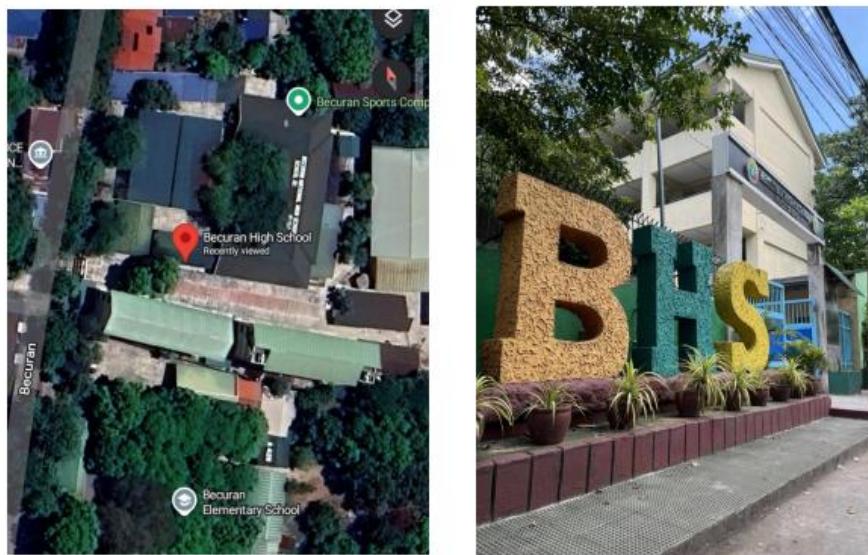
RESEARCH PARTICIPANTS

The participants of this study will include Senior High School Students, Research Teacher, and School Administrators at Becuran National High School who are directly involved in research and information dissemination.

RESEARCH LOCALE

This study will be conducted at Becuran National High School, where the Development of a Web-Based School Platform with an Integrated Online Research Repository will be developed and implemented. The school will be the primary place of study as it has senior high school students and faculty members who engage in academic research. This document will focus on the practices of research management and dissemination currently in place at the institution to identify areas the proposed system will address. The digital infrastructure of the school would also be taken into consideration; that is, internet accessibility at the institution should be in place so the proposed web-based platform would be ensured of feasibility.

Figure 2
*Geographical Map and Canvas of the Locale*
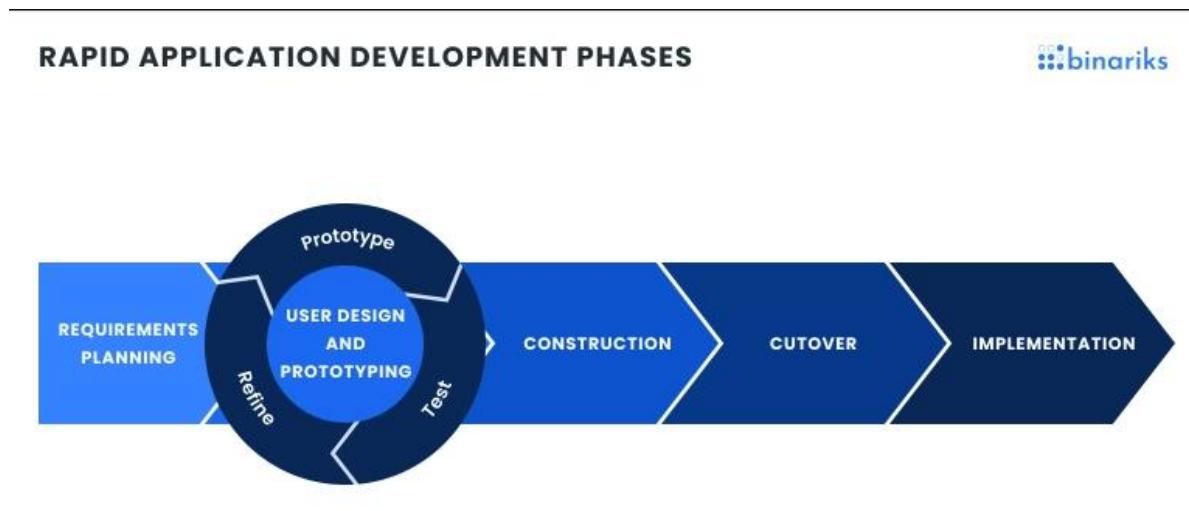
SOFTWARE DEVELOPMENT METHODOLOGY

The researchers employed RAD to design the system. The series of clearly defined stages that a software product goes through as it advances through the project life cycle is known as rad. The Resource Planning, Refine, Prototype, Test, Construction, Cutover and Implementation phases are all included in this procedure.

Figure 3

Rad Software Development Life Cycle

The researchers developed and created the proposed system using a variety of development tools, including PHP, JavaScript, HTML, CSS, and MySQL, along with other related technologies. The study employs the Rapid Application Development (RAD) methodology, which emphasizes iterative prototyping, user feedback, and rapid development cycles. This approach allows for continuous refinement and enhancement of the system based on stakeholder input, ensuring a more flexible and efficient development

process. By following this model, the researchers aim to design a stable, robust, and user-friendly web-based system for Becuran National High School.

Requirements Planning

In this phase, developers, stakeholders, and end-users collaborate to define the system's objectives, scope, and requirements. Unlike the Waterfall model, RAD focuses on gathering broad system requirements quickly and refining them throughout the development process.

User Design and Prototyping

In this iterative phase, prototypes are built, tested, and refined based on user feedback. This ensures that the system aligns with user expectations before full-scale development begins.

Construction Phase

the design is finalized; developers rapidly build the functional system based on the refined prototypes. Since most issues were addressed earlier, development is faster and more efficient.

Cutover & Implementation Phase

The final phase involves system deployment, user training, and final testing before full-scale implementation.

SAMPLE AND SAMPLING PROCEDURES

The clustered sampling method was utilized by the researchers to identify the respondents. In this method, the population was divided into groups or clusters, and specific clusters were selected to represent the entire population. This approach allowed the researchers to gather data efficiently from a representative portion of the academic community of Becuran National High School, ensuring that the chosen sample reflected the perspectives of students, teachers, and administrators.

RESPONDENTS OF THE STUDY

The respondent of this study Senior High School Students, Research Teacher, and School Administrators.

THE RESEARCH INSTRUMENT

The use of survey questionnaires and system evaluation checklists were research instruments in the study to gather relevant data concerning the Web-Based School Website with an Online Research Repository for Senior High School at Becuran National High School. These instruments intended to assess the usability, functionality, and overall effectiveness of the developed system.

Online Research - These are mostly publications in some of the academic online repositories, digital learning platforms, and web-based school management systems. These papers are brought together to guide the design of a system to increase research accessibility, collections management, and ease of use for students, teachers, and administrators. Further, best practices from previous studies are incorporated into the

system to allow an efficient and user-friendly platform for research submission, storage, and retrieval.

Interview - The researchers visited Becuran National High School and engaged in discussions with School Principal and Research Advisers to gain a thorough understanding of the current research management process. The interaction created an opportunity to evaluate the current challenges in research storage and accessibility while revealing the intended School Website with Online Research Repository for Senior High School so that insights and feedback could inform its development.

Library Method – The researchers referred to a previous Santa Rita College of Pampanga capstone project as a source in documenting how the Web-Based School Website with an Online Research Repository for Senior High School at Becuran National High School evolved. This source gave good background information on documentation of systems, management of a research repository, and development of a web-based platform. Upon analyzing its architecture and methods, the researchers had it so the proposed system practices best in its design, performance, and execution.

DATA GATHERING PROCEDURES

Using interviews, the researchers were able to collect the data required for this study. By questioning Research Adviser about their opinions of the system and some facts regarding the current state of the senior high school faculty, the researchers were able to collect data and information from their genuine point of view.

DATA ANALYSIS TOOL

The researchers used interviews to obtain the information required for this study. To obtain data from the actual viewpoint of the senior high school faculty, the researchers conducted an interview with them in which they inquired about their opinions regarding the system and certain facts regarding the state of Becuran National High School at the time.

Survey questionnaires based on the TAM framework will measure user feedback on these constructs. A Likert scale will be used for responses, and results will be analyzed using weighted mean to interpret the level of acceptance.

$$\text{Rating} = \frac{(VG*4) + (G*3) + (P*2) + (VP*1)}{\text{Total Respondents}}$$

Table 1

The Likert Scale Conversion

DESCRIPTION	VALUE	CONVERSION
VG	4	3.26 - 4.00
G	3	2.51 - 3.25
P	2	1.76 - 2.50
VP	1	1.00 - 1.75

Whereas:

Rating = total result of the evaluation

VG= total number of respondents who answered Very Good

G = total number of respondents who answered Good

P = total number of respondents who answered Poor

VP = total number of respondents who answered Very Poor

STATISTICAL TOOLS USED

This section will serve as a guide for the researchers as they choose which statistical tools to employ.

Frequency: This was used to calculate the proportion of respondents who fit the statistical survey criteria for the range of given attributes.

Percentage: This was used to determine the number of respondents. The formula is:

$$P = \frac{F * 100}{N}$$

Where:

P = Percentage

F = Frequency

N = Total number of populations

Mean: This was utilized to ascertain the general description of the answers provided by the participants for every question on the survey.

The formula is:

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

Where:

$\bar{x}$ = Weight Mean

$\Sigma f i x i$= Sum of Weighted Frequencies

$\Sigma f i$= Sum of Number of respondents

SYSTEM DEVELOPMENT TOOLS

This section shows the different instruments and techniques that researchers employ to build the proposed system. These were employed to enhance the evaluation of the system requirements.

1. **Programming Languages**

- **HTML5** – Used to structure the content and layout of the web pages.
- **CSS/Tailwind CSS** – Applied for styling and designing the user interface, ensuring a clean and responsive design.
- **JavaScript** – Implemented to provide interactivity and enhance the user experience.
- **PHP** – Served as the backend scripting language to handle server-side processes

2. **Database**

- **MySQL** – Used as the relational database management system to securely store, manage, and retrieve research papers and user data.

3. **Development Environment**

- **XAMPP** – Provided the local server environment for system development and testing.

- **Visual Studio Code (VS Code)** – Used as the primary code editor due to its flexibility and wide range of extensions.

4. **Design and Prototyping Tools**

- **Figma/Canva** – Utilized for creating system prototypes, layouts, and design mockups.

5. **Version Control and Collaboration**

- **Git/GitHub** – Used for version control, tracking changes in the system, and collaborative development.

6. **Testing Tools**

- **Browser Developer Tools** – Used for debugging, testing responsiveness, and ensuring compatibility across browsers.

Data Flow Diagram (DFD)

The process of flow and logic was visualized using a data flow diagram. The system data's input and output are also displayed.

Entity relationship Diagram (ERD)

Displayed the connections between the entity sets that were kept in the database. In this context, an entity is a part of the data. The database's logical structure is shown in the ERD.

Database Tables

One of the system's most important components is its database tables. It will function as a storage facility for the system's vital input data and information.

CHAPTER IV

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

The information acquired by the researchers on how the proposed system addresses the problem statement is presented in this chapter. It encompasses the creation of a student information system. The findings of the system evaluation, which was conducted using the **Technology Acceptance Model (TAM)**, are also included in this section. The evaluation focuses on the following factors:

Perceived Usefulness (PU): how the system enhances the efficiency and effectiveness of managing student information and research outputs.

Perceived Ease of Use (PEOU): how simple and user-friendly the system is for both teachers and students.

Behavioral Intention to Use (BIU): the willingness of users to continue using the system in the future.

Through TAM, the researchers were able to analyze and interpret the level of user acceptability of the Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School.

REQUIREMENTS PLANNING PHASE OF THE SYSTEM

In this phase, the researchers visited Becuran National High School to observe the current process of handling student information and research outputs. The researchers carefully studied how academic documents and research papers were managed within the Senior High School department, identifying the difficulties faced in accessing and organizing these important materials. On November 25, 2023, the researchers formally

submitted a letter to the administration of Becuran National High School, proposing the development of a comprehensive system to improve the management of student information and research works. The goal was to create a platform that would securely store and organize academic data and research projects in a more efficient, accessible, and systematic way.

Through discussions with school administrators, the researchers gathered important insights to ensure that the proposed Web-Based School Platform with an Integrated Online Research Repository would effectively address the needs of the institution. The researchers explained how the system would operate, how it would make retrieving student academic information and research papers easier, and how it would contribute to preserving the school's academic resources for future generations.
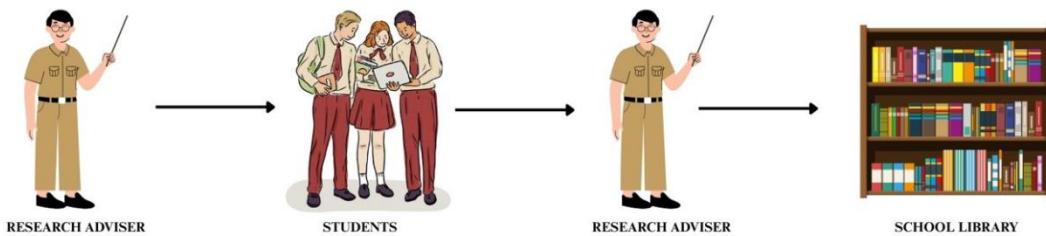
**Figure 4**

Interview with the Locale

DESIGN PHASE OF THE SYSTEM

The traditional way of handling research papers is manual record keeping and physical processes. Students submit hard copies when they are printed, and teachers read and store them in filing cabinets. Grading and recordkeeping are usually manual, occasionally with the help of simple spreadsheets or handwriting. Retrieval of past research entails searching through physical records, which takes a lot of time and is also prone to errors like loss or destruction. Announcements and reminders are usually done verbally or in printed form. Access is limited, information retrieval is delayed, and confidential documents are poorly secured using this practice. Student and teacher interaction is also less efficient as a result. With increasing scholarly demands, this process becomes more undependable and impairs effective research management and sharing.

Figure 5
Traditional Procedure of Submitting Research Papers at Becuran National High School

RESEARCH ADVISER   STUDENTS   RESEARCH ADVISER   SCHOOL LIBRARY

DESIGNING OF THE PROPOSED SYSTEM
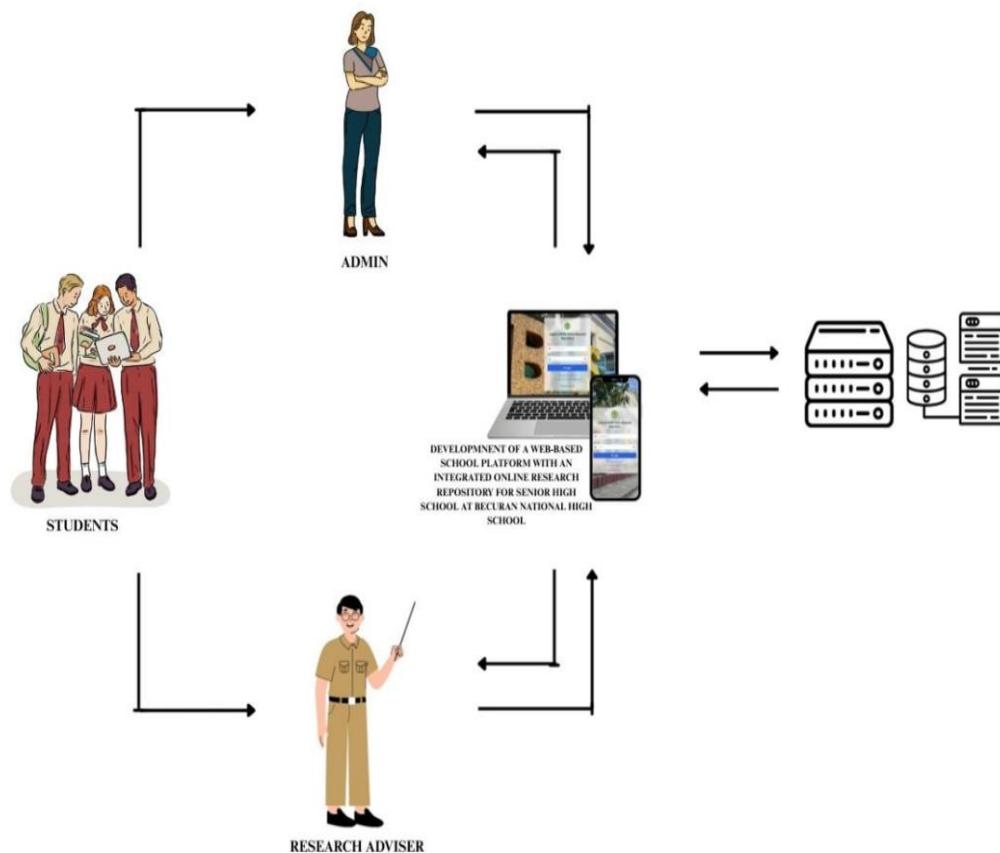
Requirements Planning – In this phase, we the researcher's visited the School Principal at Becuran National High School and we told the school principal to proposed a Web-Based School Platform with an Integrated Online Research Repository.

User Design and Prototyping – For this, prototypes are developed and tested based on user feedback, ensuring that they are consistent with the system to be created and also ensuring that they are consistent with user expectations before the developer finish the system.

- **Refine** - We revised the design and user interface based on feedback from users, including school staff and students. This aimed to improve functionality, usability, and accessibility.

- **Prototype** - We developed updated prototypes that reflect the suggested changes, these mock ups closely simulate the actual system functions.

- **Test** - We tested these prototypes with a small group of users to check their performance, usability, and how well they meet user needs. We gathered more feedback for ongoing improvement before starting full development.

- **Construction Phase** – In this phase, the system design is finalized and functional by the developer based on the suggested or addressed from our local Becuran National High School.

- **Cutover & Implementation Phase** - This is the final phase; the system should be operational for system deployment and the users who will use it before it is actually implemented at Becuran National High School.

Figure 6
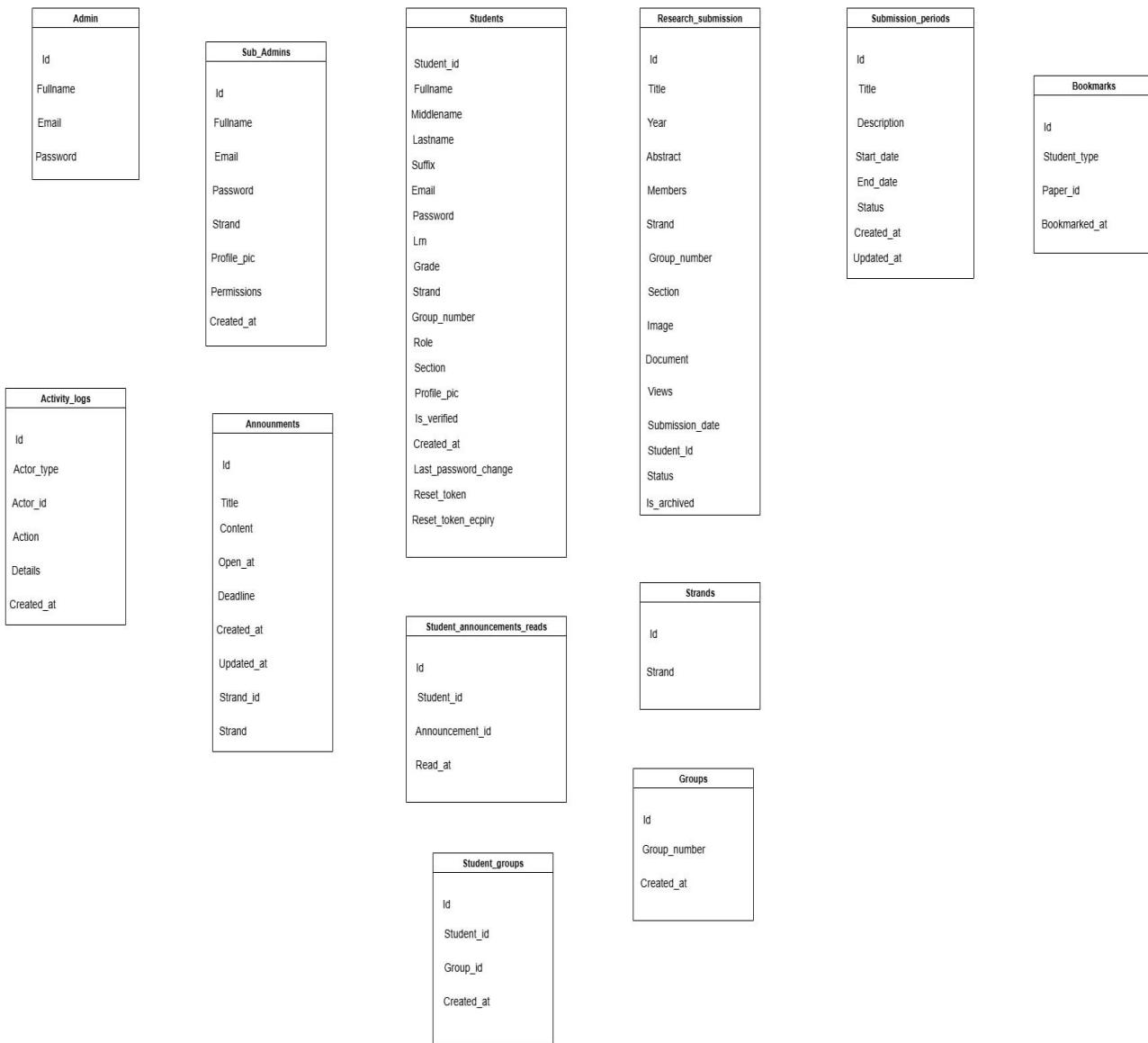
Overall Process of a School Platform with an Integrated Online Research Repository for

Senior High School at Becuran National High School

DATABASE TABLES

Figure 7

Database Table of a School Platform with an Integrated Online Research Repository for

*Senior High School at Becuran National High School*
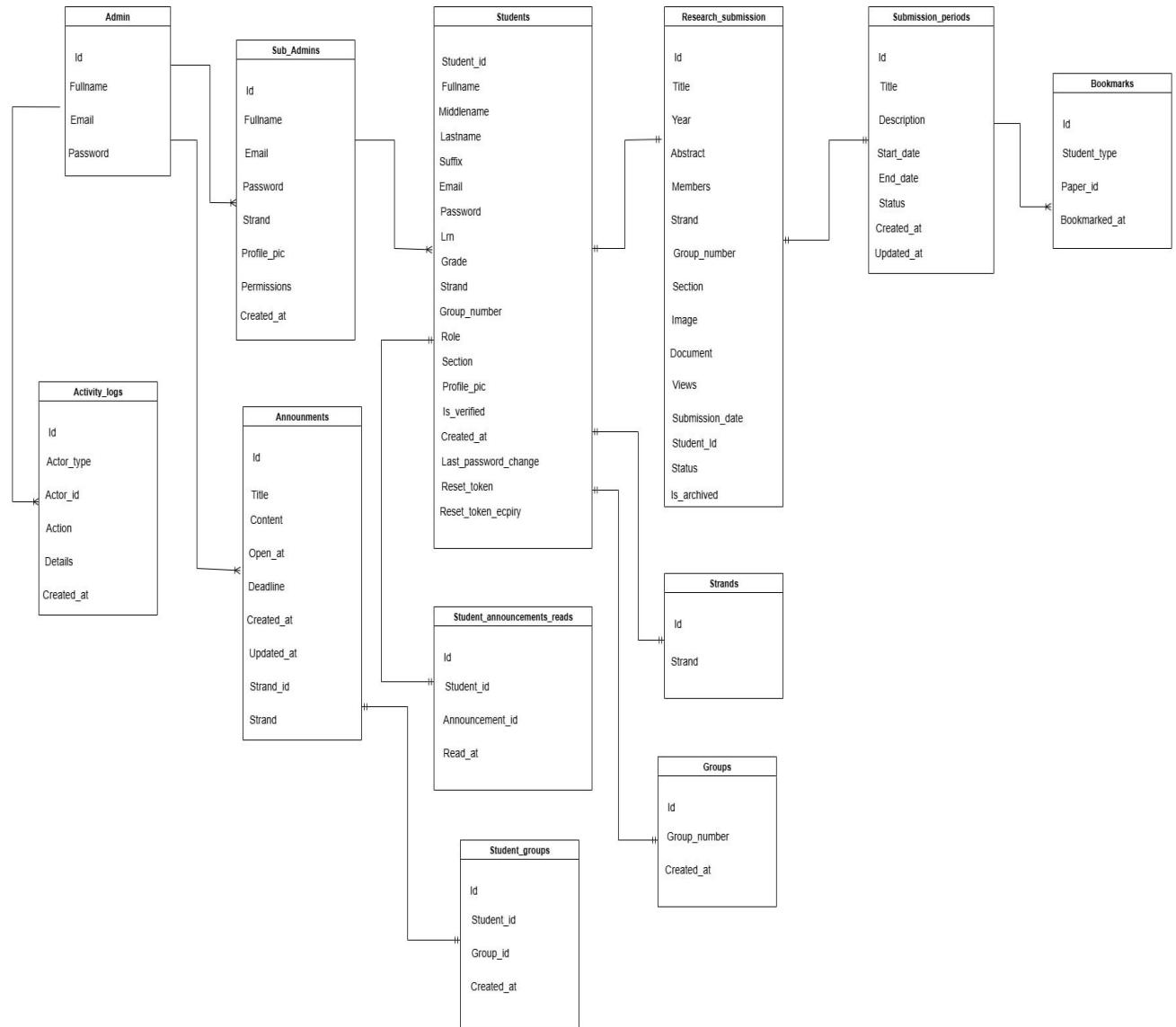

Figure 7 demonstrates the database design as it lays out the database's framework. It

determines how connectedly the database tables relate to one another.

ENTITY RELATIONSHIP DIAGRAM (ERD)

Figure 5

Entity Relationship Diagram of a School Platform with an Integrated Online Research

Repository for Senior High School at Becuran National High School

USE CASE DIAGRAM (UML)

The relationships between the process and the data were defined by the use case

diagram. It shows the users with access to the system as well as the features of the system.

Figure 9
Use Case Diagram of a School Platform with an Integrated Online Research
*Repository for Senior High School at Becuran National High School*
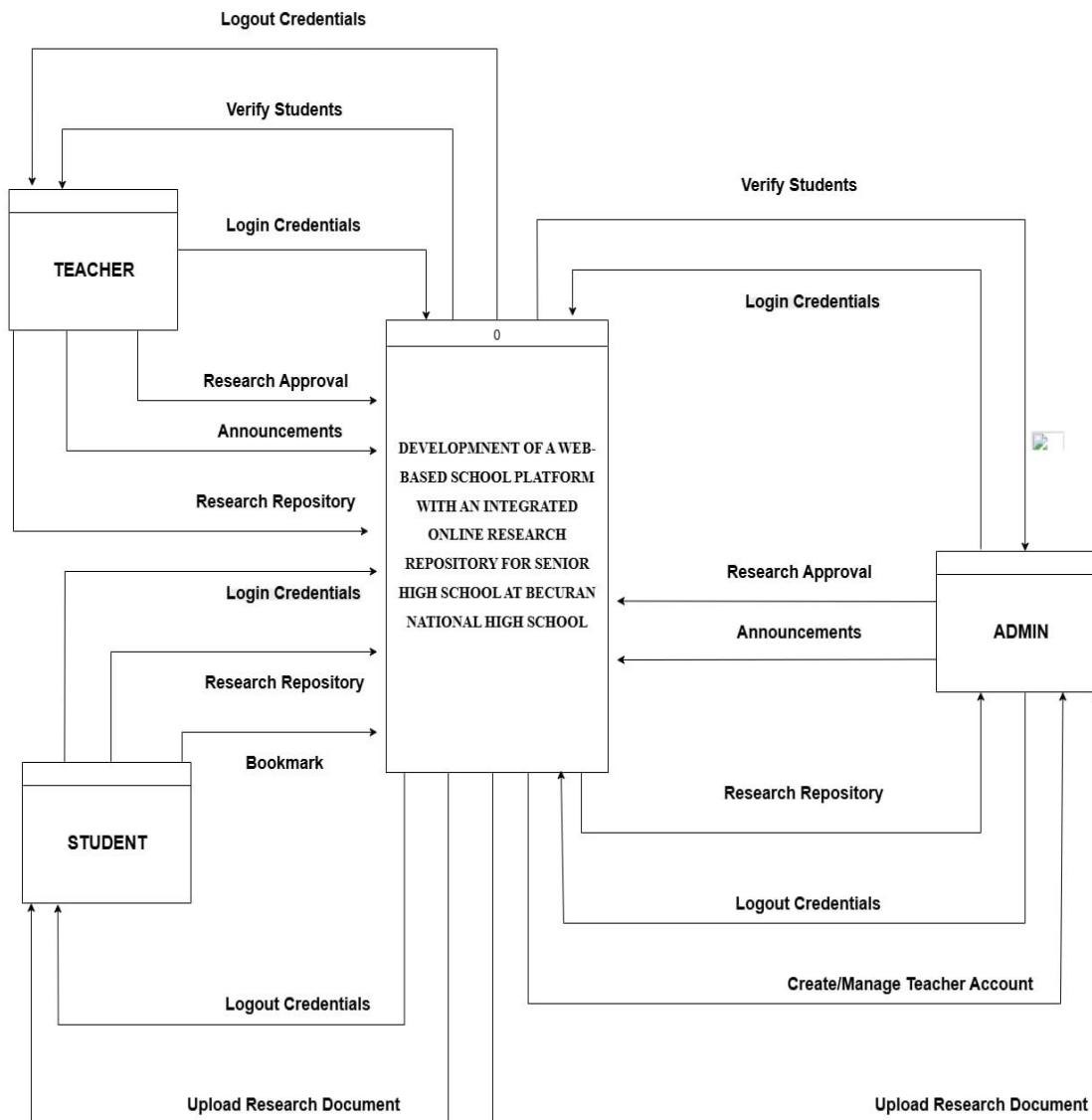
DATA FLOW DIAGRAM (DFD)

The Data Flow Diagram shows the flow of data and process of the system.

Figure   **9**
Context Diagram Level 0 of a School Platform with an Integrated Online Research
Repository for Senior High School at Becuran National High School

System Evaluation Results of User Acceptability

Based on the Technology Acceptance Model (TAM), the system's user acceptability was evaluated using the following constructs:

Perceived Usefulness (PU)

Refers to the degree to which users believe that the web-based school platform with an integrated online research repository enhances their academic tasks and improves the management and accessibility of research papers.

Perceived Ease of Use (PEOU)

Refers to the degree to which users believe that the system is user-friendly, easy to navigate, and requires minimal effort to operate when uploading, accessing, and managing research papers.

Behavioral Intention to Use (BIU)

Refers to the likelihood that users will continue to use and recommend the system as an alternative to the traditional research paper submission process.

These constructs serve as the foundation for measuring user acceptability and adoption of the system among students, teachers, and administrators of Becuran National High School.

PERCEIVED USEFULNESS

Based on the Technology Acceptance Model (TAM), the user acceptability of the system was described using the following constructs: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Behavioral Intention to Use (BIU).

Table 2
Evaluation of System Perceived Usefulness

Indicators	4	%	3	%	2	%	1	%	Mean
The system helps preserve research outputs effectively.	6	60.00	3	30.00	0	0.00	1	10.00	3.4
The system improves accessibility of research papers for students and teachers.	5	60.00	4	30.00	0	0.00	1	10.00	3.8
The system enhances academic continuity and knowledge sharing.	4	40.00	4	40.00	1	10.00	1	10.00	3.1
The system makes my tasks (uploading, reviewing, or accessing research papers) more efficient.	6	60.00	2	20.00	1	10.00	1	10.00	3.3
Overall, the system is useful in supporting research activities at school.	5	50.00	3	30.00	1	10.00	1	10.00	3.2
Weighted Mean									3.36

Table 2 shows the system evaluation based on Perceived Usefulness as rated by respondents in this study. Most of the respondents rated the system's Perceived Usefulness positively with a general weight mean of 3.36.

PERCEIVED EASE OF USE

Table 3

Evaluation of System Perceived Ease of Use

Indicators	4	%	3	%	2	%	1	%	Mean
The system is easy to use and navigate.	4	40.00	3	30.00	2	20.00	1	10.00	3.00
The process of uploading and searching research outputs is simple and convenient.	5	50.00	3	30.00	1	10.00	1	10.00	3.2
The system interface is user-friendly and requires minimal training..	5	50.00	4	40.00	0	0.00	1	10.00	3.3
I can quickly learn how to operate the system without difficulty.	6	60.00	3	30.00	0	0.00	1	10.00	3.4
Overall, I find the system easy to interact	6	60.00	3	30.00	0	0.00	1	10.00	3.4

with.research activities

at school.

Weighted Mean	3.26

Table 3 shows the system evaluation based on Perceived Ease of Use as rated by respondents in this study. Most of the respondents rated the system's Perceived Ease of Use positively with a general weight mean of 3.26.

BEHAVIORAL INTENTION TO USE

Table 4
Evaluation of System Behavioral Intention to Use

Indicators	4	%	3	%	2	%	1	%	Mean
I intend to continue using the system in the future.	5	50.00	3	30.00	2	20.00	0	0.00	3.3
I am willing to recommend the system to my classmates, teachers, or colleagues.	5	40.00	4	40.00	0	00.00	1	10.00	3.3

I would prefer using this system over traditional paper-based storage of research outputs.	3	30.00	6	60.00	0	0.00	1	10.00	3.1
I believe the system is worth integrating into school processes.	5	50.00	4	40.00	0	0.00	1	10.00	3.3
Overall, I am satisfied and intend to adopt the system for research purposes.	4	40.00	3	30.00	1	10.00	2	20.00	2.9
Weighted Mean									3.18

Table 5 shows the system evaluation based on Behavioral Intention to Use as rated by respondents in this study. Most of the respondents rated the system's Behavioral Intention to Use positively with a general weight mean of 3.18.

DEVELOPMENT PHASE OF THE SYSTEM

System Features and Functionalities

1. **Web Page**

    The user can see the pictures of our locale where the creators of the system can also be seen here.

2. **Login**

    Login only Staff and Admin can access the research of student at Becuran National High School (BNHS).

3. **Dashboard**

    The user may observe how many recorded of student's research, for example, 10 Research File Uploaded as Senior High School.

4. **Search**

    The staff, admin, and students are the ones who search the studentt research records so that it will not be difficult to search for research titles and avoid confusion.

5. **Edit**

    This is where the user edits student records that can be corrected if there is an error in the information entered.

6. **Upload File**

    Here they can upload the PDF file of a record of a senior high school student research title studying at Becuran National High School (BNHS).

7. **View Students**

    Allows viewing the list of students.

8. **View Research**

Allows viewing the research titles submitted by students.

9. **Approve Students**

Enables Research Advisers or Admin to approve student accounts or registrations.

10. Approve Research Title

Enables Research Advisers or Admin to approve submitted research titles.

11. **Sign-Out**

Users can log out after office hours at Becuran National High School (BNHS).

DEPLOY PHASE OF THE SYSTEM

Becuran National High School administration and faculty had been using manual processes in managing students' information and research outputs. The working procedures they had in place created the school with inefficiencies and limited access. To fix this problem, we developed the Web-Based School Platform with an Online Research Repository for the Senior High School department.

In the deployment phase, we delivered the system final version to the school teachers and principal. We also had an orientation session for the senior high school teachers and research advisers. We spent several weeks learning, testing, and finalizing the features of the system. Our main goal was to ensure that it would satisfy the school requirements and perform well when implemented on site.

We requested formal consent from the designated school representative before the system was launched. This was done by signing the letter of implementation, which confirmed that the administration had agreed to utilize the system for academic and administrative purposes.

After receiving the consent, we launched the system and installed it on the school server. Faculty members were given their access credentials, and we commenced our trial period to observe performance and make any needed adjustments. The research repository module, which allows students and faculty to upload, browse, and search academic research outputs, was also part of the deployment.

REVIEW PHASE OF THE SYSTEM

System Evaluation Results of User Acceptability

To evaluate the user acceptability of the developed Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School, the researchers utilized the Technology Acceptance Model (TAM).

IMPLEMENTATION OF THE SYSTEM

A new web tool for the Senior High School Students at Becuran National High School was set up. It helps the school admin, research adviser, students, and librarians. The tool is easy to use and keep up. Before it started, the team give a short lesson and made easy guides. This was to make sure it worked well. They did a small test run with some school heads and staff. This was to check key parts, get thoughts, and see small changes needed. Early tests show the tool works well and helps with school tasks: track student info, share and get research work, and lets safe, role-based use. Now, getting student data

and finding research is quick and right. This cuts down on manual work and betters how fast services are given. Good scores from the test run show the tool is ready for more use. The research team will keep an eye on it, fix issues, and make it better as more feedback comes.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

Becuran National High School was founded in 1966 to provide quality education to the youth of the community. Since its establishment, the research papers and other academic outputs of the students, particularly those in Senior High School, have primarily been recorded in printed form or in personal devices. These conventional practices, however, have resulted in missed opportunities for preserving the more invaluable academic works, as the documents become lost, damaged, or misplaced over the years. To address this issue, the researchers developed the Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School in Becuran National High School. This initiative was established to ensure the safety, accessibility and long-term storage of the research papers generated by Grade 12 students. Digitized and centralized student outputs allows subsequent batches of students to utilize as a reference for their own research papers, thereby stimulating the opportunity for educational and academic advancement. With this platform, the workload of teachers will be simplified, as they no longer need to rely solely on paper-based archiving. Instead, research documents will be securely stored within the system, ensuring their protection and availability for future use.

CONCLUSION

The researchers developed a system for Becuran National High School that could help out the school administrators, teachers, and students to manage the research outcome in a faster access and convenient manner storage. Entitled "Development of Web-Based School Platform with Integrated Online Research Repository for Senior High School at Becuran National High School," it is a central storage for research in Grade 12 students where their papers can be stored, organized and accessed for future academic refereeing.

RECOMMENDATIONS

The researchers recommend the continued enhancement of the "Development of a Web-Based School Platform with an Integrated Online Research Repository for Senior High School at Becuran National High School" to maximize its benefits. Future developers may improve the system by adding features such as plagiarism detection, mobile accessibility, and stronger security measures to protect stored research papers. It is also suggested to expand the repository's coverage to include more grade levels or even other schools to promote wider collaboration and resource sharing. Lastly, regular system updates and maintenance should be conducted to ensure sustainability and long-term usability of the platform.
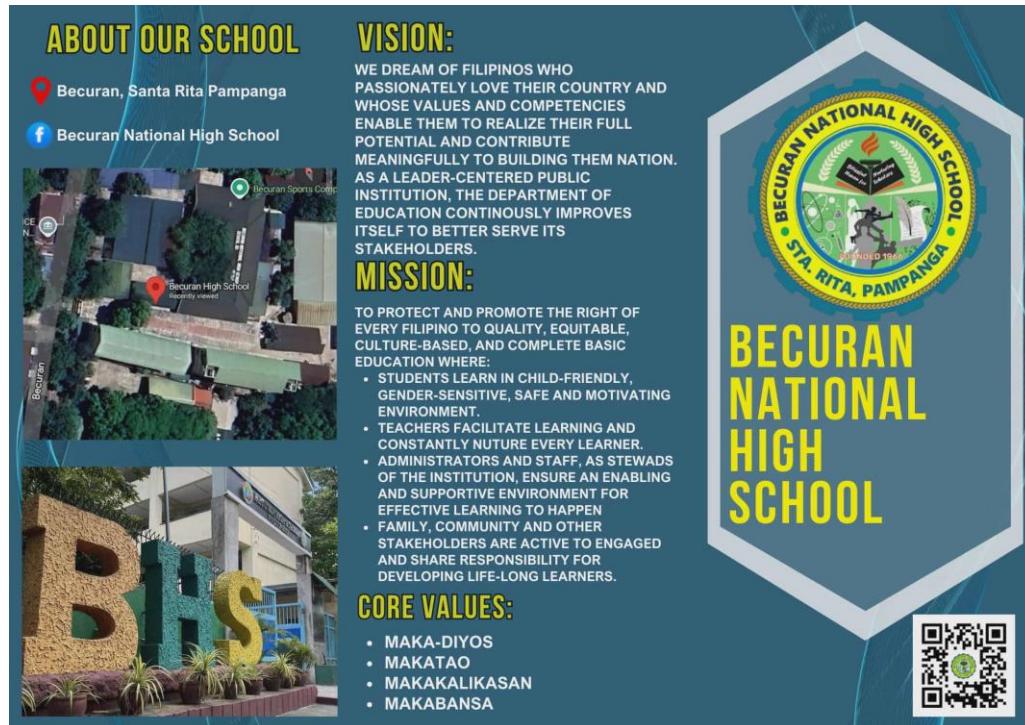
BIBLIOGRAPHY

Okon, R., Eleberi, E. L., & Uka, K. K. (2020). A web based digital repository for scholarly publication. Journal of Software Engineering and Applications,13 (04), 67.
https://www.scirp.org/html/2-9302647_99396.htm

Chavan, S., Kalwar, J., Golatkar, M., & Ransing, R. (2023, May). WebDirect: A Web-based Project Repository. In 2023 7th International Conference on Intelligent Computing and Control Systems (ICICCS) (pp. 991-994). IEEE.
https://ieeexplore.ieee.org/abstract/document/10142630/

Ronquillo, R. A. U. (2023). WEB-BASED REPOSITORY OF RESEARCH OUTPUTS FOR CITY COLLEGE OF TAGAYTAY (Doctoral dissertation, City College).

https://www.academia.edu/download/110881648/Web_based_Repository_Of_Research_Outputs_For_City_College_Of_Tagaytay.pdf

Tindoc, F., Torres, R., Corpuz, K. A., Salem, J., & Paliuanan, L. (2023). Design and Development of the ASSET: A Web-Based Research Archiving System. Journal of Pure and Applied Sciences, 1(2), 8-8.
https://csu.org.ph/jpas/article/view/32

Itiola, C. O., Iwasokun, B. G., & Adetooto, J. D. Development of an Online Repository for Academic Research Works in FUTA.
https://www.academia.edu/download/87818966/10.11648.j.ijsmit.20210701.14.pdf

Caseres, K. J. R., Cruz, R. P., Gonzales, L. A. T., Tapayan, P. G. M. L., & Aribe Jr, S. G. (2020). Developing digital research portal for Bukidnon state university's scholarly work. International Journal on Emerging Technologies, 11(4), 27-38.
https://www.academia.edu/download/63838882/Developing_Digital_Research_Portal_for_Bukidnon_State_Universitys_Scholarly_Work20200705-16847-1pph8cu.pdf

Jeyapragash, B., Muthuraj, A., & Rajkumar, T. (2019). Implementation of research information system at Bharathidasan University. Asian Journal of Information Science and Technology, 9(S1), 37-40.
https://ajist.co/index.php/ajist/article/view/225

Rosales, G. J. P., Lopez, D. J. D., & Alvez, J. T. (2023, May). Development of an Institutional Digital Research Archive for Adamson University. In 2023 8th International Conference on Business and Industrial Research (ICBIR) (pp. 118-122). IEEE. https://ieeexplore.ieee.org/abstract/document/10147626/

Irhansyah, T., & Nasution, M. I. P. (2023). Development Of Thesis Repository Application In The Faculty Of Science And Technology Use Implementation Of Vue. Js Framework. Journal of Information Systems and Technology Research, 2(2), 66-77.
https://journal.aira.or.id/index.php/jistr/article/view/617

Itiola, C. O., Iwasokun, B. G., & Adetooto, J. D. Development of an Online Repository for Academic Research Works in FUTA.
https://www.academia.edu/download/87818966/10.11648.j.ijsmit.20210701.14.pdf

Chung, S. L., & Mostafa, S. A. (2023). Design and Development of SDR System using PHP and HTML. Applied Information Technology And Computer Science, 4(1), 997-1011.
https://penerbit.uthm.edu.my/periodicals/index.php/aitcs/article/view/7667

SHURIE, M. A. M. (2021). WEB BASED REPOSITORY SYSTEM FOR GRADUATION PROJECTS (Doctoral dissertation, NEAR EAST UNIVERSITY).
https://docs.neu.edu.tr/library/8515268591.pdf

Ansari, G., Mushtaq, M., & Shahid, M. H. (2024). Research Data Repositories: Tools, Services and Challenges in Academic Institutes. ACADEMIC LIBRARIES, 276.
https://www.academia.edu/download/113830442/Academic_Libraries_Sustaining _Excellence_Through_Innovation_Technology_Full_Edited_Volume_.pdf#page= 291

Cofino, C., Enquilino, D. B., & Salao, M. J. R2S: A REPOSITORY PLATFORM FOR RESEARCH OFFICES IN THE HIGHER EDUCATION INSTITUTION (HEI's) IN THE PHILIPPINES.
https://www.academia.edu/download/85797748/CAHE_111_JJ22_2_Chester_Cof ino.pdf

Okon, K. E., Simeon, O., & Asuquo, P. M. (2023). Development Of Journal Management Web Application, Case Study Of Journal Of Research And Innovations In Engineering, University Of Uyo. Development, 8(3).
https://www.imjst.org/wp-content/uploads/2023/05/IMJSTP29120862.pdf

Zibani, P., Rajkoomar, M., & Naicker, N. (2022). A systematic review of faculty research repositories at higher education institutions. Digital Library Perspectives, 38(2), 237-248.
https://www.emerald.com/insight/content/doi/10.1108/dlp-04-2021-0035/full/html

APPENDIX A
BROCHURE

APPENDIX B

POSTER

CURRICULUM VITAE

Guevarra, Mark Glen

System Analyst

Contact

📞 +63 9187334929

✉️ guevarramarkglen.1@gmail.com

📍 152, Zone 1 San Basilio Sta. Rita Pampanga

Personal Background

Date of Birth:	January 01, 2004
Age:	21
Gender:	Male
Civil Status:	Single
Religion:	Catholic
Father's Name:	Emmanuel B. Guevarra
Mother's Name:	Grace P. Guevarra

Educational Background

Primary   San Basilio Elementary School
2015-2016

Secondary   San Basilio High School
2020-2021

Tertiary   Santa Rita College of Pampanga
2025-Present

MARK GLEN P. GUEVARRA
Applicant Signature

CURRICULUM VITAE

Juntilla, Roy

S y s t e m   D e v e l o p e r

Contact

📞 +63 926 488 2133

✉ juntillaroy@gmail.com

📍 Zone 2 Dila-Dila Sta.Rita Pampanga

Personal Background

Date of Birth:	January 20, 2000
Age:	25
Gender:	Male
Civil Status:	Single
Religion:	Catholic
Father's Name:	Ronilo T. Juntilla
Mother's Name:	Rosemarie D. Juntilla

Educational Background

Primary Dila-Dila Elementary School
2006-2012

Secondary San Basilio High School
2016-2022

Tertiary Santa Rita College of Pampanga
2025-Present

ROY JUNTILLA
Applicant Signature

CURRICULUM VITAE

Manalang, Llanyell

Project Manager

Contact

📞 +63 919 643 5330

✉️ Llanyellpro@gmail.com

📍 480 Purok 6 Bancal
Guagua Pampanga 2003

Personal Background

Date of Birth:	March 29, 1998
Age:	27
Gender:	Male
Civil Status:	Single
Religion:	INC
Father's Name:	Leopoldo Manalang Jr.
Mother's Name:	Elsa Manalang

Educational Background

Primary   Guagua Elementary School
2004-2010

Secondary   Lubao National HighSchool
2010-2014

Tertiary   Santa Rita College of Pampanga
2025-Present

LLANYELL MANALANG
Applicant Signature