Web-Based Online Platform for Research Study

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Abstract
The aim of this study was to develop a research repository system to serve as a secure, efficient, and reliable databank for thesis documents of both undergraduate and graduate students. The system was designed to be user-friendly and comply with the specified requirements. To achieve success, the researchers adopted the Agile-model approach within the Software Development Life Cycle (SDLC) for verifying and validating the application.

To evaluate the system's effectiveness, a survey questionnaire was administered to students and research coordinators in various universities in Negros Occidental, Philippines. The results showed that the respondents expressed a strong interest in implementing the system, as it provides an improved and well-managed data archiving solution for research digital content.

In summary, the study successfully developed a research repository system that met the necessary requirements and demonstrated its potential to effectively manage research digital content.
Keywords: Research Repository System, Databank, Agile-Model Procedure, Software Development.

I. INTRODUCTION

The prevalent rise of the Internet becomes an essential part of our daily lives, allowing us to interact with people around the world, access vast amounts of data, and simplify everyday tasks [1]. Hence, it is changing the way we work, study, and play. With this, anyone and everyone can have access to different information, especially research studies.

Research is defined as the methodical exploration and analysis of materials and resources for the purpose of establishing facts and drawing new conclusion [2]. Thus, it is imperative to engage ourselves with research for us to better comprehend our surroundings, identify problems then create solutions, develop new technologies, assist in decision making, and expand the knowledge and understanding of the world.

A Web-Based Online Platform is a repository on which anyone can store and share their published research study to everyone. In addition, it will provide an easy viewing and access to anyone who wants to read and keep track of different research studies.

II. METHODOLOGY

The researchers used an agile-model approach to assess and verify the platform. Based on the needs identified through user assessments, the researchers meticulously established the solution's architecture, design, functional specifications, and work plan throughout the verification phase. The goal of this phase was to identify the functions of the ideal system without influencing its creation. To generate a user requirements document that directed the design of software objects fulfilling system demands and analytical models, user interviews were performed. During the validation step, the researchers examined each procedure to weed out any code-level issues, including any small procedures that needed to be fixed. The conceptual structure of the study is depicted in Figure 1, which demonstrates the close connections between various experts' definitions of transaction processing.

Figure 1: System Development Life Cycle (Agile Model)

III. REQUIREMENTS

Table 1 lists the software requirements and specifies the minimal software version that was employed in the system's development.

Table 1: Software Requirements (Minimum)

| Software	Version
Sublime Text Editor	V3.2.2 Build 3211
XAMPP DBMS Server	V3.3.27
Google Chrome or Any Browser	Latest version
Composer	V2.5.4

Table 2 lists the hardware specifications needed for the creation and operation of the system.

Table 2: Hardware Requirements (Recommended)

| Device	Specification
Central Processing Unit (CPU)	Processor: Intel Core i74510U
Monitor	17'' 1024x768 resolution
Keyboard	Standard Keyboard
Mouse	Standard Mouse
Hard Disk Drive (HDD)	1 TB
Random Access Memory (RAM)	4 GB
Network cable	UTP Cable Straight Through Type
Switch	5 port 10/100Mbps Mini Switch

IV. DESIGN

Figure 2 depicts the design process, starting with user inputs and leading to desired outcomes. The unique needs of the users serve as the foundation for the design process.
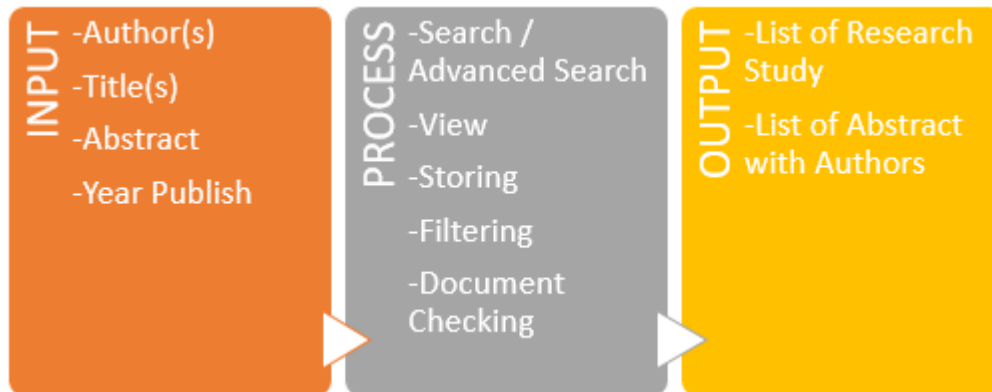
Figure 2: IPO of the Online Platform for Research Study

PROCESS FLOW
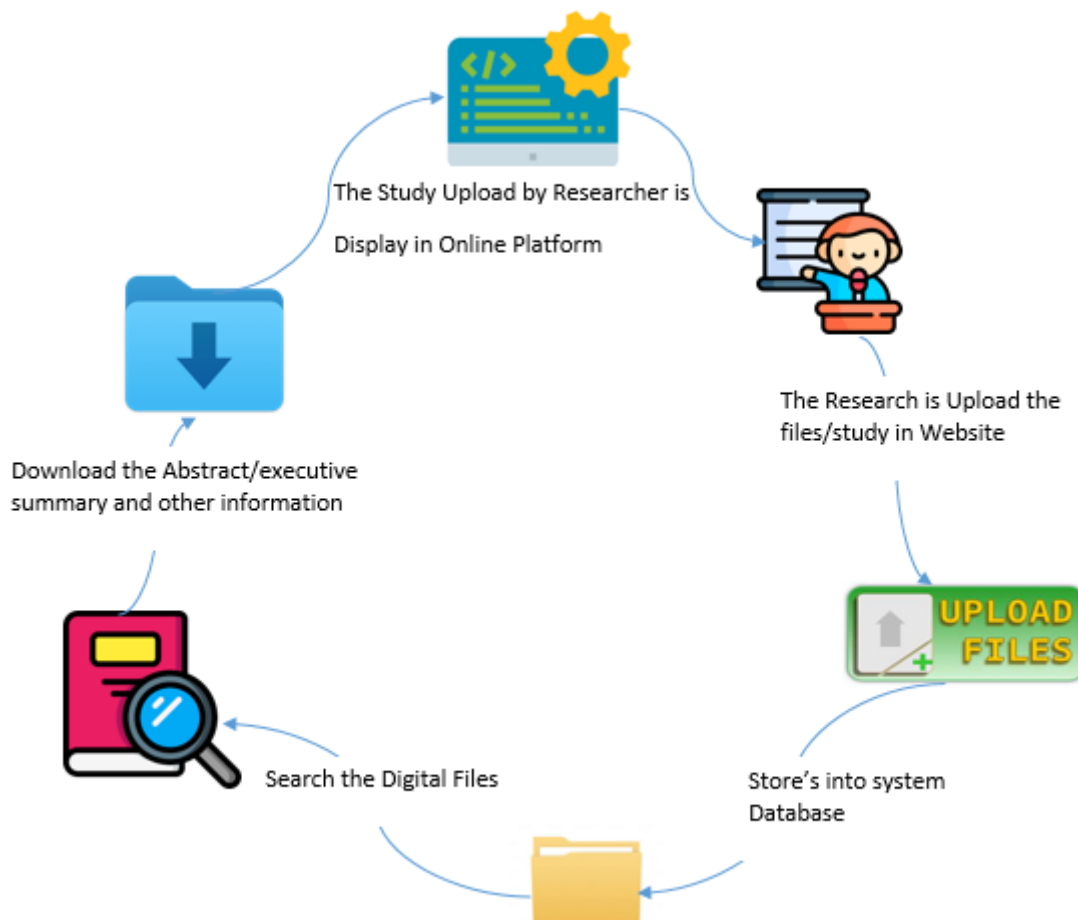
Figure 3: Process Flow of the System

The System's role is to eliminate identical thesis titles. File search and retrieval and storage would be efficient and dependable thanks to the system. Respondents to the survey are undergraduate and graduate students, as well as researchers and writers Search for possible duplication of these with ease titles that they might be interested in. The questionnaire was created with the PIECES framework modification and distribution to 50

students from identified schools in a sample from the province of Negros Occidental The random sampling method. This structure assesses user satisfaction with information systems and the value of information systems

DEVELOPMENT

Back-end features of the R2S platform were developed using the Laravel framework, while the front-end/UI interface was produced using Bootstrap. The database management system used was MySQL, and the local server environment for development was XAMPP 7. Thorough testing was done to make sure the platform worked with different browsers, and it was also tested on mobile devices to make sure it performed well on all kinds of different gadgets.

V. RESULTS AND DISCUSSIONS

Table 3: Distribution of Respondents

Respondents	Frequency	Percentage
Students	40	80.00
Researchers	10	20.00
Total	50	100.00

To assess the importance of computerized systems and how effectively information system users are handled, a survey was undertaken. The survey employed a mixed sampling technique that included random selection to gather a sample from the province of Negros Occidental and the PIECES modification distributed structure to choose 50 respondents from predetermined schools.

Table 4: PIECES Evaluation Framework

Performance	**Unorganized Filing** Because the files are disorganized, take more time to locate
Information	**Lack of Information** Book reproduction necessitates financial allocation
Economy	**Expensive** Anyone can gain access to information and obtain a copy by ripping or stealing the pages photos
Efficiency	**Delay in Processing** Manual processes delay the work
Services	**Time Consuming** Unorganized filing results in more time and effort spent searching obtaining files

Regarding the system's user satisfaction, the Likert scale's standard scores are as follows they utilized.

Table 5: Likert Scale in Evaluating the System and The User's Level of Satisfaction

RATING	WEIGHTED MEAN	SYSTEM CAPABILITY DESCRIPTIVE RATING	LEVEL OF SATISFACTION DESCRIPTIVE RATING
5	4.21-5.00	Excellent	Very Satisfied
4	3.41-4.20	Very Good	Satisfied
3	2.61-3.40	Good	Neither satisfied nor Dissatisfied
2	1.81-2.60	Poor	Dissatisfied
1	1.00-1.80	Needs Improvement	Very Dissatisfied

Based on the respondents' assessments of the system's efficacy, the performance of the system is evaluated in the table below. The outcomes show that the system has successfully satisfied the criteria of the program and is able to record the necessary activities or outcomes as expected by the users. [4] Provides evidence about the degree of customer satisfaction with the system. Based on the rating, it can be deduced that the platform satisfies the needs of its users and the technical requirements required to access and utilize it.

Table 6: Evaluation of System Functionality

FUNCTIONALITY	MEAN	DESCRIPTIVE RATING
Inputting information is fast and convenient	4.40	Excellent
Easy to operate and user-friendly	4.47	Excellent
Searching for data is efficient and displays the results in a second	4.27	Excellent
Generates report in real-time	4.47	Excellent
It functions as expected	4.40	Excellent
TOTAL MEAN	**4.40**	**Excellent**

The user interface of any software is referred to as design or the appearance of things to make them easier to use enhance user experience and usability it's more interesting. The results are shown in Table 7 examining the respondents to see how they communicate with the system. In relation, the overall mean for the platform was 4.36 out of a possible 5 descriptive rating. The outcome implies that the system provides an exceptional user experience. End users would not be burdened by manipulation. [5] Shows an example of a user interface combines interaction and visual design complete information that aids in the target audience is interested in learning about the system's plans perform and draw users' attention.

Table 7: Evaluation of System Design

DESIGN	MEAN	DESCRIPTIVE RATING
It is pleasant to the eyes	4.20	Very Good
Contents are well organized	4.13	Very Good
The interface is user-friendly and very engaging	4.40	Excellent
It is easy to manipulate	4.60	Excellent
The text is clear and easy to read	4.67	Excellent
TOTAL MEAN	**4.36**	**Excellent**

As presented in the table below, system security got an overall excellent rating or a total mean of 4.35. The result indicates that the system has very good security features that prevent the data within the application from being stolen or compromised.

Table 8: Result of The Evaluation on System Security

SECURITY	MEAN	DESCRIPTIVE RATING
Only one user is allowed per account	4.40	Excellent
Users should log in with /her password	4.47	Excellent
It ensures the confidentiality of user's information and stored data	4.40	Excellent
One account can be logged in at a time Only the system administrator can delete	4.27	Excellent
The data	4.20	Very good
TOTAL MEAN	**4.35**	**Excellent**

Maintaining adequate user satisfaction throughout Effective software development necessitates Management strategies, as well as user representation. Table 9 shows how satisfied consumers are with the system. They start using it the first time they log in. After completing the various procedures, log out. For the benefit of the user

Level of Satisfaction, it received a total mean of 4.41, with the description "Very Satisfied." This demonstrates they were pleased with the system's total package. The [7] investigation backs up this finding.

Table 9: Evaluation of User's Level of Satisfaction

LEVEL OF SATISFACTION	MEAN	DESCRIPTIVE RATING
The system performs its intended functionalities	4.47	Very Satisfied
It is easy to operate and familiarize	4.53	Very Satisfied
It provides fast and accurate results	4.53	Very Satisfied
Information is stored securely	4.47	Very Satisfied
I recommend this system be implemented	4.07	Satisfied
TOTAL MEAN	4.54	VERY SATISFIED

VI. CONCLUSION AND RECOMMENDATION

CONCLUSION

The platform fulfills the criteria established by the users, thereby providing significant advantages to the research section of Higher Education Institutions (HEIs) in terms of storing research materials for undergraduate and graduate students. Additionally, the system exhibits user-friendly operation, rapid performance, dependable functionality, and robust security measures. Users will perceive it as highly valuable and secure, as it effectively preserves and offers digital accessibility to documents, consequently reducing the time required for searching and retrieving information.

RECOMMENDATION

It is strongly advised to explore additional techniques in order to enhance the system. Implementing these techniques would enhance the existing features of the developed system, particularly considering the necessity of having a well-suited server for its utilization. Higher Education Institutions (HEIs) can leverage the system for various academic purposes, including the retrieval of research manuscripts. Furthermore, it is recommended that universities establish a policy outlining the appropriate usage of the system across different school units.

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