

WEB-BASED THESIS REPOSITORY SYSTEM WITH PLAGIARISM SCANNER AND AI DETECTOR

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ABSTRACT

This study presents the development and implementation of a web-based thesis repository system enhanced with a plagiarism scanner and AI detector. The system aims to provide a solution for managing and safeguarding academic theses. The core features of the web-based system include a user-friendly interface for seamless navigation, efficient organization of archived theses, and enhanced search capabilities. The integration of a plagiarism scanner ensures the authenticity and originality of submitted work. Moreover, the AI detector enhances the system's ability to analyze and categorize content, facilitating more search queries and supporting academic research endeavors. In this study, the researchers employed a descriptive research design and used quantitative methodology to gauge the preferences of 306 respondents (5 Alpha Testers & 301 Beta Testers). The aim was to assess how well the respondents received the web application, considering its functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability across various devices. The test result garnered a total of 3.94 in the Alpha Testing and 4.43 in the Beta Testing. To put it briefly, the successful implementation of a thesis repository system serves as evidence of the system's high standard of development and readiness for deployment. The integration of advanced features, including plagiarism scanning and AI detection, emphasizes its commitment to academic integrity.

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Keywords

Repository, Plagiarism, AI, Web Development

1. INTRODUCTION

In today's digital age, educational institutions are continuously seeking ways to improve their academic services. With the increasing number of students and the growing demand for online learning, universities and colleges are facing the challenge of organizing and managing large volumes of academic documents, including theses and dissertations. The lack of a dedicated thesis repository system in school presents distinct challenges, hindering the effective management and accessibility of academic research. Additionally, the widespread occurrence of plagiarism in academic submissions underscores the critical necessity for a systematic evaluation. This underscores the urgency of establishing a robust thesis repository system to uphold academic integrity and ensure the authenticity of scholarly work. To address this challenge, a web-based thesis repository system can be developed to provide a secure and efficient way of storing and accessing academic documents.

Technological developments in the field of education have opened up new innovations for the advancement of science and technology, making it simpler for us to carry out various academic activities. One technology that is frequently utilized are websites, they are used in data management, servers, and repositories. Websites may also be used for a variety of educational purposes, this includes, digital repositories, e-learning, student portals, etc. Campus/School Institutions these days are required to be more creative, innovative, modern, advanced, and evolving as a result of technology's impact on the area of education. [1]

Electronic document management system would increase user satisfaction, raise productivity, and ensure time and data efficiency.

As a result, well-known document management systems surely aid in the storage and management of a significant amount of an organization's knowledge assets, which comprise documents and other related objects. Document management is now crucial to the development of an organization. It is essential to distribute the right paper to the right people in a secure and effective manner. Digital repositories are now more crucial for the collection and dissemination of scholarly materials because of the growing trend toward online scholarly communication and the absence of scholarly content management systems among universities. [2]

This study focuses on the design and implementation of an efficient web-based thesis repository system for Don Honorio Ventura State University (DHVSU) in Pampanga. The system intends to enable students, faculty, and researchers to easily store and access electronic theses, capstones, and dissertations online.

The objective of this research is to provide a valuable resource for the academic community at DHVSU, facilitating the access and storage of theses, capstones, and dissertations. To attain this objective, the system will be developed with intuitive and user-friendly interface, prioritizing security and efficiency. By enhancing accessibility and streamlining the management of academic documents, the system aims to be a beneficial tool for students, faculty, and researchers. The success of this study will be gauged by the enhanced accessibility and functionality of the system.

2. PROJECT CONTEXT

The proposed system aims to enhance accessibility by providing a user-friendly platform for the academic community to submit, store, search, and access thesis papers. It will feature secure document storage, advanced search capabilities, metadata management. In addition, a plagiarism scanner and AI detector functionality will be incorporated to ensure the integrity of the research outputs. The implementation of system will transform the research paper management of DHVSU. The system will have efficient access, secure preservation, and facilitating the sharing of knowledge within the academic community which aligns with the commitment of the university to academic excellence and research advancement.

3. STATEMENT OF THE PROBLEM

The absence of a dedicated thesis repository system within our school has led to specific challenges that hinder the efficient management and accessibility of our academic research. Furthermore, the frequency of plagiarism in academic submissions emphasizes the pressing need for a systematic evaluation to address and mitigate this issue, emphasizing the urgency of implementing a robust thesis repository system to uphold academic integrity and safeguard the authenticity of scholarly work. Some of the key issues include:

1. A limited centralized repository system makes it difficult for students and faculty to store their academic works.
2. The frequency of plagiarism and AI generated content on academic works poses a significant threat to the authenticity and integrity of research outputs.
3. To guarantee the effectiveness of the repository system, it is vital to conduct a thorough system evaluation.

4. OBJECTIVES OF THE STUDY

The aim of the study is to enhance the integrity, accessibility, and reliability of academic research within Don Honorio Ventura State University. The objectives of this study are as follows:

1. Develop a user-friendly thesis repository system that provides an intuitive interface for students, faculty, and researchers to submit, store, search, and access academic documents.
2. Integrate credibility functionalities to detect and prevent any instances of plagiarism and AI generated content, ensuring the originality and integrity of the research outputs.
3. Perform a system evaluation based on ISO25010.

5. SCOPE AND LIMITATION

The scope of this study encompasses the development and implementation of the website repository system specifically tailored for DHVSU. It will cover the entire processing of academic documents, starting from the submission phase to storage, search, retrieval, AI detection, and plagiarism detection.

The system will focus on facilitating the management and accessibility of academic documents but will not provide functionalities for evaluating or assigning grades to the submitted works. The system is not designed to cross-reference or verify information from external databases, websites, or any sources beyond the documents stored within our specific database. Therefore, it does not assess information outside the submitted documents. The system will only accept PDF format documents.

6. DEFINITION OF TERMS

Academic Community – A group of people in higher educational institutions who continuously engage in core intellectual activities such as teaching, learning and research.

Document Management - is defined as the organization and maintenance of paperwork related to specific tasks and procedures as their significance and use have grown over time.

Data Repository – is a data library or data archive. It may be referred to large database management systems or several databases that collects, manages, and store sensitive data sets for data analysis, sharing, and reporting.

AI Detector - is a system or tool that employs artificial intelligence (AI) techniques and algorithms to recognize, examine, or pinpoint particular patterns, anomalies, or information within a designated dataset or situation. The efficacy of an AI detector relies on factors such as its training data, algorithms, and the specific context in which it is utilized.

Plagiarism - using someone else's work without giving them proper credit. In academic writing, plagiarizing involves using words, ideas, or information from a source without citing it properly.

7. SYSTEM TECHNICAL BACKGROUND

The thesis repository system is built on a web-based architecture using various technologies and tools to ensure efficient and reliable functionality. The technical background of the system includes:

Front-End Development: The user interface of the system is developed using front-end technologies such as HTML, CSS, and JavaScript. These technologies enable the creation of an intuitive and interactive interface for users to submit, search, and access academic documents. In web development, HTML establishes content structure, CSS dictates style and layout, and JavaScript adds interactivity.

Back-End Development: The back-end of the system is developed using a server-side programming language such as Python. This allows for the implementation of the system's business logic, data

processing, and integration with the database. Python serves as a versatile computer programming language widely employed for website and software development, task automation, and data analysis. It is a general-purpose language, allowing the creation of diverse programs without specialization for specific problems. Python's adaptability, coupled with its user-friendly nature, has positioned it as one of the most utilized programming languages in contemporary applications.

Database Management: The system utilizes a relational database management system (RDBMS) such as MySQL. The database is responsible for storing and managing thesis metadata, user information, plagiarism scan results, and other relevant data. The chosen RDBMS ensures data integrity, security, and efficient retrieval of information. SQL stands for Structured Query Language. SQL is used to communicate with a database. It is the standard language for relational database management systems. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database. Some common relational database management systems that use SQL are: Oracle, Sybase, Microsoft SQL Server, Microsoft Access, Ingres, etc.

Document Storage: The system incorporates secure document storage mechanisms, which may involve storing academic documents on the server or utilizing cloud storage services such as Amazon S3, Google Cloud Storage, or Microsoft Azure Blob Storage. These storage solutions provide scalability, accessibility, and data redundancy to ensure the safe preservation of academic documents.

Plagiarism Detection: The system integrates a plagiarism detection tool or library to compare submitted theses with a database of previously published works. The tool may use techniques such as text similarity analysis, natural language processing (NLP), or machine learning algorithms to identify plagiarized content accurately.

AI Content Detection: The system incorporates AI detection methods to identify content that may have been generated by AI models. This involves training machine learning or deep learning models on AI-generated text data to recognize patterns and characteristics specific to AI-generated content.

Search and Retrieval: The system implements efficient search algorithms and indexing mechanisms to enable users to search and retrieve academic documents based on various criteria, such as keywords, authors, departments, or publication dates. Techniques like full-text search and database indexing are employed to ensure fast and accurate search results.

User Authentication and Security: The system includes user registration and authentication mechanisms to secure access to the system's functionalities. Password storage and encryption techniques are implemented to ensure the confidentiality and integrity of user credentials. Additionally, security testing and penetration testing are performed to identify and address vulnerabilities and protect against unauthorized access and data leaks.

Performance Optimization: The system undergoes performance testing to assess its responsiveness and scalability. Techniques such as caching, query optimization, and load balancing may be employed to enhance the system's performance under various loads and stress conditions.

System Deployment: The system is deployed on a hosting platform, which may involve setting up a web server, configuring the necessary infrastructure, and ensuring proper connectivity and security measures.

Overall, the technical background of the thesis repository system encompasses a combination of web development technologies, database management systems, document storage solutions, plagiarism detection tools, AI content detection techniques, search algorithms, authentication mechanisms, security measures, and deployment processes. These technologies work together to create a robust and efficient system for managing academic documents.

8. CONCEPTUAL FRAMEWORK

The conceptual framework outlines a Web-Based Thesis Repository System that integrates a Plagiarism Scanner and AI Detector. It follows a systematic process, starting with the submission of theses and user data, progressing through thorough plagiarism checks against an extensive database, and culminating in AI-driven content analysis. The outcomes include a well-structured thesis repository, comprehensive plagiarism reports, and AI detection reports, enhancing the accessibility, authenticity, and security of the stored academic content. User-friendly features like registration, search functions, and feedback mechanisms contribute to an accessible interface. A continuous feedback loop ensures ongoing improvements, with user insights guiding enhancements in plagiarism scanning and AI detection mechanisms.

This framework addresses the crucial need for an advanced repository system, not only facilitating efficient storage and retrieval of academic theses but also incorporating advanced technologies to prevent plagiarism and maintain the integrity of the archived content. The incorporation of user-friendly elements emphasizes the commitment to continuous refinement, aligning the system with evolving academic standards and meeting user expectations.

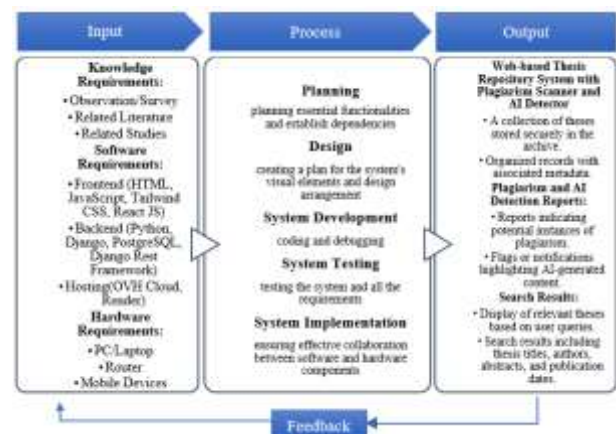


Figure 1 - Conceptual Framework

The figure above shows the process of storing and managing of the theses, capstones, and dissertations in the repository system. The Input-Process-Output (IPO) model for the web-based thesis repository system illustrates a systematic approach to managing academic research. Users input theses and associated metadata, initiating various process. Authentication and authorization ensure secure access, while the system manages submissions, implementing plagiarism scanning and AI detection. These processes are integral to the repository system and it contribute to the creation of an organized repository of theses. The system outputs valuable reports, such as plagiarism and AI detection results, contributing to academic integrity. Search results further enhance user experience, allowing efficient retrieval of

information. This model represents a sophisticated structure in which user inputs undergo a series of controlled processes, leading to the development of a thesis repository.

10. METHODOLOGY

This chapter contains a thorough description of the processes, techniques, tools, and methods employed for gathering data, with a specific emphasis on identifying users' needs that align with the study's goals. Additionally, it encompasses the system development methodology, which involves a recurring progression through analysis, planning, design, development, and testing stages. This systematic methodology ensures a comprehensive exploration of user requirements and facilitates the effective development and evaluation of the project.

This academic project uses descriptive quantitative research. Quantitative research involves gathering and analyzing numerical data, enabling the identification of patterns, calculation of averages, prediction-making, testing causal connections, and extending findings to broader populations. Quantitative research is commonly employed to standardize the collection of data and make generalizations based on the findings. [3]

The researchers used an iterative model as the Software Life Development Cycle (SLDC) in the development in the system. Wherein, the iterative model represents a category within the software development life cycle that centers on an initial, simple implementation, progressively incorporating more complexity and a wider array of features until the ultimate system reaches completion.

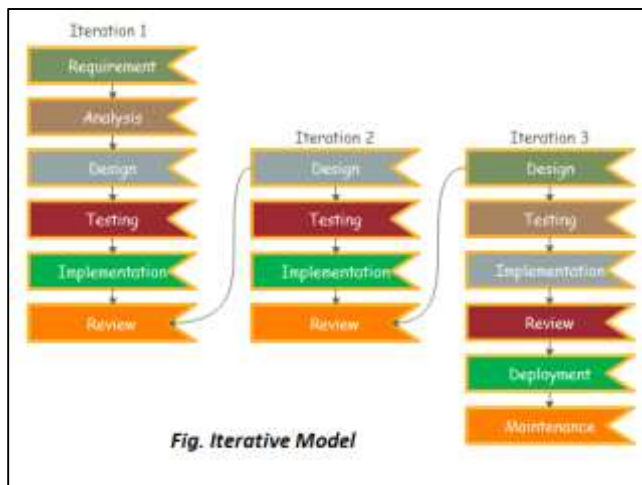


Figure 2 – Iterative Model Software Development Life Cycle

The iterative model represents a category within the software development life cycle that centers on an initial, simple implementation, progressively incorporating more complexity and a wider array of features until the ultimate system reaches completion. In essence, iterative development is a strategy that involves dividing the software development process of a large program into smaller, manageable components.

The Iterative model incorporates several stages as outlined above:

1. Requirement Gathering and Analysis:

- During this phase, requirements are gathered and examined by the researchers for feasibility.

Once validated, the researchers proceed to the next stage.

2. Design:

- In the design phase, the researchers conceptualize the software using various diagrams such as Data Flow diagrams, Entity Relationship Diagrams, and Software Development Life Cycle Diagram.

3. Implementation:

- Implementation involves translating the requirements into code, creating computer programs that constitute the web-based thesis repository system.

4. Testing:

- Following the coding phase, software testing commences, employing various to ensure the system's functionality such as storing theses, dissertations, capstones, functionality of plagiarism scanner and AI detector.

5. Deployment:

- Upon completion of all phases, the software is deployed to its designated environment.

6. Review:

- Post-deployment, a review phase is conducted to assess the behavior and validity of the developed product. The system will undergo alpha testing and beta testing. If errors are identified, the process returns to the requirement gathering stage.

7. Maintenance:

- In the maintenance phase, after the software is deployed, any identified bugs or errors are addressed, and new updates may be incorporated. Maintenance involves debugging and the addition of new features.

11. REQUIREMENTS ANALYSIS

The web-based academic documents archive will include the following functional requirements. Firstly, users will be able to securely register and authenticate their accounts, create personal profiles, and log in using their credentials. Secondly, users will have the ability to electronically submit their academic documents by uploading the document file and providing relevant metadata, such as the title, author, abstract, publication date, and keywords.

The system will also provide search and browse functionality, enabling users to find academic documents based on criteria such as title, author, keywords, or department. Users will be able to enter search queries and receive relevant results. Additionally, a document preview feature will allow users to view a summary or excerpt of a thesis paper before downloading it.

To ensure appropriate access control, the system will implement mechanisms to manage user permissions and restrict access to academic documents. Only authorized users will have the ability to access and download the documents.

In terms of non-functional requirements, security will be a priority. The system will employ robust measures, including secure user authentication, data encryption, and access control mechanisms, to ensure the confidentiality, integrity, and availability of academic documents and user data.

Scalability is another crucial non-functional requirement. The system will be designed to handle a large number of academic documents and concurrent users, with the ability to scale up resources as the archive grows to accommodate increased demand.

Usability will be a key consideration in the system's design, aiming for an intuitive, user-friendly, and accessible user interface. Users should be able to navigate the system easily and perform tasks without confusion.

Performance optimization will be crucial to the system, ensuring fast search results and document retrieval to provide a smooth user experience.

The system will be compatible with various web browsers and operating systems to ensure broad accessibility. Thorough testing will be conducted on popular browsers and platforms to ensure consistent functionality across devices.

To safeguard against data loss or system failures, the system will incorporate backup and recovery mechanisms, including regular data backups and established procedures for data recovery.

Maintenance and support will be prioritized, with provisions for regular updates, bug fixes, and technical support to ensure the system remains functional and up to date.

From a technical perspective, the system will be developed using a web development framework such as Django. A reliable database management system such as MySQL will be chosen to store academic documents and metadata. The system will be hosted on an appropriate environment with web servers, storage, and bandwidth that ensure availability and performance. Additionally, document conversion mechanisms will be implemented to convert academic documents to a standard format, such as PDF, for consistent display and easy downloading.

This requirement analysis will serve as a guide for the development and implementation of the web-based academic documents archive, ensuring it effectively meets user needs while operating securely and reliably.

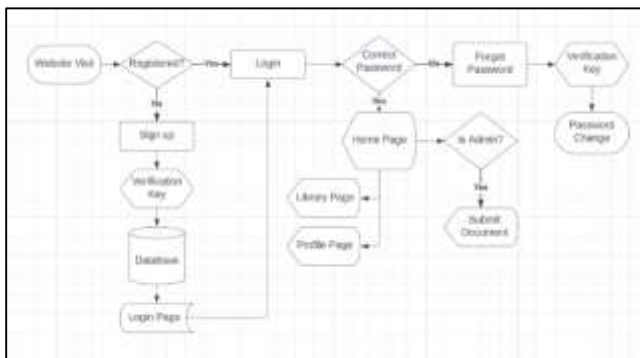


Figure 3 – System Process Flowchart

The figure above shows the sequential flow of steps involved in accessing the system. It highlights that the initial steps involve user registration and login for system entry. Upon successful access, users can utilize the functionalities of the thesis archive system.

12. DESIGN OF THE SYSTEM SOFTWARE

The design of the thesis archive system focuses on creating a software system that efficiently manages and archives academic documents through a web interface. It encompasses the following key aspects:

For System Architecture and Component Design, the system includes User Management, Thesis Management, Search Functionality, Document Preview, Plagiarism Scanner and AI Detector, and Access Control.

For Database Design, the database schema includes tables for users, theses, and associated metadata. Relationships are established using primary and foreign keys for data integrity and retrieval efficiency.

For User Interface Design, the user interface features an intuitive and responsive design with forms for thesis submission, search filters, and user profile management. It adheres to accessibility standards and compatibility with different devices.

For Error Handling and Exception Management, robust error handling mechanisms catch and handle exceptions, displaying user-friendly error messages. Exceptions are logged for troubleshooting and system improvement.

For Security and Privacy, user authentication, access control, and encryption techniques ensure secure access and protect sensitive information. Privacy measures comply with data protection regulations.

For Performance and Scalability, the system is designed to handle a large volume of academic documents with efficient indexing and query optimization. Load balancing and scalability techniques can be implemented.

For Testing and Quality Assurance, thorough testing includes unit testing, integration testing, and user acceptance testing. Comprehensive documentation covers system architecture, database schema, API documentation, and user manuals.

13. PRODUCT AND PROCESS

The web-based thesis repository system is a comprehensive platform designed to facilitate the management, storage, and access of academic documents. It provides the following features:

1. User Registration and Authentication:

- Users can create accounts and authenticate themselves to access the system.
- User roles and permissions are defined to control access to different system functionalities.

2. Thesis Submission and Management:

- Users can upload their academic documents in PDF format.
- Metadata associated with each thesis, including title, author name, supervisor, abstract, keywords, and year of publication, are collected during the submission process.
- The system organizes and stores the uploaded academic documents, ensuring secure and reliable storage.

3. Advanced Search Functionality:

- Users can search for academic documents based on criteria like title, author, keywords, supervisor name, and year of publication.
- Advanced search options allow for more precise and tailored searches.

4. Document Preview:

- The system provides a document preview functionality, allowing users to view the content of academic documents without the need to download the entire file.

5. Plagiarism Scanner and AI Detector:

- The system integrates a plagiarism scanner and AI detector to analyze uploaded academic documents.
- These tools identify potential instances of plagiarism, ensuring academic integrity.

6. Access Control and Security:

- Role-based access control is implemented, allowing different levels of access for students, faculty, and administrators.
- The system ensures data privacy and protection by employing encryption techniques for sensitive information.

Process: The development and implementation of the web-based thesis repository system involve the following steps:

1. Requirement Analysis:

- Gather requirements from stakeholders, including users, administrators, and faculty members.
- Identify the core features, functionalities, and system constraints.

2. System Design:

- Define the system architecture, including the client-server model.
- Design the database schema, considering tables for users, theses, and associated metadata.
- Create wireframes and prototypes for the user interface, ensuring a user-friendly design.

3. Development:

- Develop the system components, including User Management, Thesis Management, Search Functionality, Document Preview, Plagiarism Scanner and AI Detector, and Access Control.
- Implement the database and establish necessary relationships.

4. Testing and Quality Assurance:

- Perform unit testing to verify the functionality of individual components.

- Conduct integration testing to ensure the seamless interaction between different system modules.

- Perform system testing to validate the overall system behavior, including user workflows and data integrity.

- Conduct user acceptance testing to gather feedback from stakeholders and refine the system.

5. Deployment and Maintenance:

- Deploy the web-based thesis repository system on a suitable server environment.

- Ensure the system's availability, performance, and security through regular monitoring and maintenance.

- Address any bug fixes, security vulnerabilities, and system enhancements identified during the maintenance phase.

- Continuously gather user feedback and incorporate new features and improvements to enhance the system.

14. SYSTEM DEVELOPMENT

A. System Architecture and Design:

- Create the overall system architecture, which will include the web server, database, and user interface.
- MySQL will be used to develop the database schema to store thesis metadata, user information, and scan results.
- Tailwind CSS will be used to develop the user interface for submitting, searching, and viewing the thesis.
- Django will be used to develop the backend of the system.

B. User Registration and Authentication:

- Implement a user registration and login system to authenticate users.
- Develop password storage and encryption mechanisms that are secure.

C. Thesis Submission and Storage:

- Create a form for users to submit their theses, along with the necessary metadata (e.g., title, author, abstract).
- Implement a file upload feature to securely save the academic documents on the server or in cloud storage.

D. Plagiarism Scanner Integration:

- Integrate a plagiarism detection tool or library that can compare the submitted thesis to a database of previously published works.
- Incorporate an algorithm to compare similarities between the submitted thesis and the current database.
- Create a plagiarism report that includes probable plagiarized elements as well as their sources.

- E. AI Detection:
 - Integrate an AI detection method to discover content that may have been created by AI models.
 - Implement a machine learning or deep learning model trained on AI-generated text data to identify suspicious content.
 - Integrate the AI detection module into the system and create a report that highlights potential AI-generated portions.
- F. Search and Retrieval:
 - Implement a search feature to allow users to discover theses based on criteria such as author, keywords, or topic.
 - Create algorithms to retrieve and display search results efficiently.
- G. User Management and Administration:
 - Develop an administration panel for system administrators to manage users, view reports, and perform other administrative tasks.
 - Implement user roles and permissions to control access levels and privileges.

15. EVALUATION INSTRUMENT AND CRITERIA

The ISO 25010 standard, renowned for its comprehensive framework, will be methodically applied within the system to ensure and evaluate its quality. By integrating ISO 25010, a set of internationally recognized guidelines and criteria, the system aims to adhere to rigorous standards in aspects such as functionality suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. This utilization underscores a commitment to delivering a high-quality system that aligns with internationally acknowledged benchmarks, ultimately ensuring robust performance, user satisfaction, and longevity. The implementation of ISO 25010 reflects a commitment to upholding standards in software development. Here the key aspects emphasized by ISO 25010:

1. **Functionality Suitability:** This aspect assesses whether the system's functions meet specified and implied needs, ensuring that it delivers the intended features and capabilities.
2. **Performance Efficiency:** ISO 25010 evaluates the system's ability to perform efficiently, considering factors such as response time, throughput, and resource utilization under varying conditions.
3. **Compatibility:** This dimension focuses on the system's ability to interact effectively with other systems, ensuring seamless integration and data exchange.
4. **Usability:** ISO 25010 addresses the user experience by evaluating the system's user interface, accessibility, and overall user-friendliness.
5. **Reliability:** The standard assesses the system's ability to perform consistently and reliably over time, minimizing the likelihood of failures or errors.

6. **Security:** ISO 25010 emphasizes the importance of implementing robust security measures to protect the system from unauthorized access, data breaches, and other security threats.
7. **Maintainability:** This dimension evaluates how easily the system can be modified, enhanced, and repaired over its lifecycle, contributing to its long-term viability.
8. **Portability:** ISO 25010 considers the system's adaptability to different environments and platforms, ensuring that it can be deployed effectively across various settings.

16. RESPONDENTS OF THE STUDY

In this study, five (5) IT Professionals took part in the alpha testing and three hundred one (301) DHVSU CCS students took part in the beta testing. This study uses purposive sampling technique in determining the respondents for beta testing. Purposive sampling involves a set of non-probability sampling methods where units are chosen deliberately because they possess specific characteristics required for inclusion in the sample. In essence, units are selected intentionally or "on purpose" in purposive sampling. It is a form of non-random sampling technique. [4]

Table 1 – Total Number of Respondents

Respondents	No. of Respondents
CCS Students of DHVSU.	301
IT Professionals	5
Total	306

The respondents consist of five (5) IT Professionals and three hundred and one (301) CCS students from Don Honorio Ventura State University (DHVSU). The said respondents were selected based on the qualifications needed to conduct a study. The researchers distributed the survey questionnaire randomly to potential respondents with supervision.

To determine the samples for the study, the researchers defined the following criteria for selecting the respondents. For CCS Student of DHVSU, the respondents must be qualified on the following factors: (1) a bonafide graduating student of the College of Computing Studies (CCS) of Don Honorio Ventura State University (DHVSU); (2) enrolled in the following courses: Bachelor of Science in Computer Science, Bachelor of Science in Information Technology or Bachelor of Science in Computer Engineering; (3) currently enrolled in Thesis Writing subject; (5) has the willingness to participate in the study.

For IT Professionals, the following criteria should be met: (1) the respondents must have a bachelor's degree in Computer Science, Information Technology or a related degree; (2) should have a professional background in Information Technology or a closely related field; (3) should have at least 1 year experience of active engagement in IT roles; (4) should currently hold a position in an IT-related role, such as web development, software development, systems administration, cybersecurity, database management, or IT consulting. (5) has the willingness to participate and contribute their insights and experiences in the study.

17. DATA GATHERING INSTRUMENTS

The researchers employed a descriptive research questionnaire. Survey descriptive research is a quantitative method that concentrates on detailing the characteristics of a phenomenon

without exploring into the reasons behind it. This approach aims to enhance understanding of the nature of the subject under investigation, laying a solid foundation for subsequent research endeavors. [5]

The survey instrument utilized for this study is a web-based form created on Google Forms, serving as the means for the researcher to gather the necessary information. All inquiries were crafted in a closed-ended format, providing predetermined options for respondents to choose from. The questionnaires were distributed randomly to the CCS students of Don Honorio Ventura State University (DHVSU).

18. STATISTICAL TREATMENT OF DATA

The data obtained through the Google Forms was structured and managed using the web-based spreadsheet application Google Sheets. This tool permits users to generate, format, and automatically link with Google Forms, presenting the outcomes in spreadsheet form and facilitating collaborative work with others. The data is treated using a quantitative method, and the weighted mean was calculated by converting responses through the Likert Scale. The Likert scale, often comprising five or seven points, enables individuals to express their level of agreement or disagreement with a specific allowing them to convey the strength of their positive-to-negative agreement or feelings regarding the given statement or question. The Likert Scale does not only interpret a yes / any answer from the respondents, but it allows a level of opinions, and even no opinion at all. This flexibility enables the acquisition of quantitative data, facilitating easy analysis of the gathered information. [6]

Table 2 – 5-Point Likert Scale

Scale	Value	Range
Strongly Agree	5	4.20-5.00
Agree	4	3.40-4.19
Neutral	3	2.60-3.39
Disagree	2	1.80-2.59
Strongly Disagree	1	1.00-1.79

Table 1 shows the weighted mean values with their assigned descriptive ratings. A weighted mean of 1.00 to 1.79 (inclusive) has a descriptive rating of “Strongly Disagree”, a weighted mean of 1.80 to 2.59 (inclusive) has a descriptive rating of “Disagree”, a weighted mean of 2.60 to 3.39 (inclusive) has a descriptive rating of “Neutral” a weighted mean of 3.40 to 4.19 (inclusive) has a descriptive rating of “Agree”, and a weighted mean of 4.20 to 5.00 (inclusive) has a descriptive rating of “Strongly Agree”.

To review the effectiveness of the responses, the weighted mean was computed with the use of the following formula:

Table 5 – Assessment of Plagiarism Awareness and Usage of Tools for Pre-Survey

$$WM = \frac{\sum WV}{N}$$

Where:

WM = weighted mean devise

WV = weighted Value

N = number of cases

\sum = Summation

19. RESULTS AND DISCUSSIONS

To determine the effectiveness of the developed system, the researchers conducted an evaluation based on the ISO25010 standard. This evaluation examines into software quality characteristics such as functionality suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. The results of this evaluation, as analyzed by the researchers, form the basis of the discussion and its overall contribution to enhancing the academic research at Don Honorio Ventura State University.

19.1 Pre-Survey for the CCS Students of Don Honorio Ventura State University

Table 3 – Assessment of Importance of Centralized Repository for Pre-Survey

Question	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
How important is having a centralized repository of Academic Papers in DHVSU?	155 (775)	141 (564)	5 (15)	0 (0)	0 (0)	301 (1354)	4.5	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Importance of Centralized Repository for Pre-survey of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. A weighted mean of 4.5 or an interpretation of “strongly agree” was given by the students. This shows that a centralized repository is important in DHVSU.

Table 4 – Assessment of Frequency of Using Online Academic Paper Repositories for Pre-Survey

Questions	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
How often do you use online repositories of Academic Papers like Google Scholar, PubMed, and Research Gate?	153 (765)	142 (568)	4 (12)	1 (2)	1 (1)	301 (1348)	4.48	Strongly Agree
How often do you encounter difficulties accessing recent academic papers related to your studies for references?	166 (830)	128 (512)	7 (21)	0 (0)	0 (0)	301 (1363)	4.53	Strongly Agree
Average Weighted Mean							4.51	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Frequency of Using Online Academic Paper Repositories for Pre-Survey of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.51 or an interpretation of “strongly agree” was given by the students. This shows that the students often use online repositories when searching for RRLs. Also, it shows that the students encounter difficulties when accessing recent academic papers related to their studies for references.

Questions	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
Do you agree that plagiarism is rampant among students?	167 (835)	128 (512)	6 (18)	0 (0)	0 (0)	301 (1365)	4.54	Strongly Agree
How often do you use online tools for scanning documents for plagiarism/AI-generated content?	120 (600)	169 (676)	12 (36)	0 (0)	0 (0)	301 (1312)	4.36	Strongly Agree
Do you agree that using tools like ChatGPT for students doing Thesis studies is widespread among students?	160 (800)	134 (536)	7 (21)	0 (0)	0 (0)	301 (1357)	4.51	Strongly Agree
Average Weighted Mean							4.47	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Plagiarism Awareness and Usage of Tools for Pre-Survey of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.47 or an interpretation of “strongly agree” was given by the students. This shows that the students agree that plagiarism is rampant among the students. Also, it shows that the students often use tools for scanning documents and the students agree that using tools like ChatGPT for students doing thesis studies is widespread among students.

19.2 Alpha Testing Results of IT Professionals based on ISO25010

Table 6 – Assessment of Functional Suitability for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The user interface of The Web Based Thesis Repository System is user-friendly and easy to navigate.	1 (5)	4 (16)	0 (0)	0 (0)	0 (0)	5 (21)	4.2	Strongly Agree
Learning to use The Web Based Thesis Repository System was straightforward and did not require extensive training.	1 (5)	4 (16)	0 (0)	0 (0)	0 (0)	5 (21)	4.2	Strongly Agree
The Web Based Thesis Repository System has all the functions and capabilities expected from a thesis repository system.	0 (0)	4 (16)	1 (3)	0 (0)	0 (0)	5 (19)	3.8	Agree
Average Weighted Mean							4.07	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Functional Suitability for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.22 or an interpretation of “strongly agree” was given by the IT Professionals.

Table 7 – Assessment of Performance Efficiency for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System is impressively prompt and efficient in its response when I interact with its user interface.	0 (0)	4 (16)	1 (3)	0 (0)	0 (0)	5 (19)	3.8	Agree
The Web Based Thesis Repository System does not overwhelm my device's system resources (e.g., high CPU or RAM usage).	1 (5)	4 (16)	0 (0)	0 (0)	0 (0)	5 (21)	4.2	Strongly Agree
The Web Based Thesis Repository System can support a large number of concurrent users without becoming unresponsive.	0 (0)	4 (16)	1 (3)	0 (0)	0 (0)	5 (19)	3.8	Agree
Average Weighted Mean							3.93	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Performance Efficiency for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 3.89 or an interpretation of “agree” was given by the IT Professionals.

Table 8 – Assessment of Compatibility for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System handles different file formats and ensures compatibility during file upload and download.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
The Web Based Thesis Repository System seamlessly combines with a wide range of systems and configurations.	0 (0)	3 (12)	2 (6)	0 (0)	0 (0)	5 (18)	3.6	Agree
The Web Based Thesis Repository System works smoothly and reliably with our existing infrastructure.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
Average Weighted Mean							3.87	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Compatibility for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism

Scanner and AI Detector”. An average weighted mean of 3.78 or an interpretation of “agree” was given by the IT Professionals.

Table 9 – Assessment of Usability for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The interface of design of The Web Based Thesis Repository System is functional, and the colors have enough contrast to be readable and accessible.	3 (15)	2 (8)	0 (0)	0 (0)	0 (0)	5 (23)	4.6	Strongly Agree
The Web Based Thesis Repository System is essential for improving efficiency and productivity in office operations.	1 (5)	4 (16)	0 (0)	0 (0)	0 (0)	5 (21)	4.2	Strongly Agree
The Web Based Thesis Repository System provides clear indicators that help users determine its suitability for their specific requirements.	0 (0)	4 (16)	1 (3)	0 (0)	0 (0)	5 (19)	3.8	Agree
Average Weighted Mean							4.2	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Usability for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.11 or an interpretation of “agree” was given by the IT Professionals.

Table 10 – Assessment of Reliability for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System consistently meets and upholds the reliability standards that have been established for its performance.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
The Web Based Thesis Repository System demonstrates its capability to effectively manage and address errors when they arise.	0 (0)	3 (12)	2 (6)	0 (0)	0 (0)	5 (18)	3.6	Agree
The Web Based Thesis Repository System can resume functioning and restore data if it has been shut down accidentally.	0 (0)	2 (8)	3 (9)	0 (0)	0 (0)	5 (17)	3.4	Agree
Average Weighted Mean							3.67	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Reliability for Alpha Testing

of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 3.89 or an interpretation of “agree” was given by the IT Professionals.

Table 11 – Assessment of Security for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System ensures data confidentiality and restricts access to authorized users only.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
The Web Based Thesis Repository System can protect user information/data from threats and cyber-attacks.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
Each action performed in The Web Based Thesis Repository System can be distinctly traced back to the specific entity, ensuring accountability and transparency.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
Average Weighted Mean							4	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Security for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4 or an interpretation of “agree” was given by the IT Professionals.

Table 12 – Assessment of Maintainability for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System's adaptability ensures that it can easily receive updates and bug fixes as soon as any issues arise, guaranteeing continuous and hassle-free operation.	0 (0)	3 (12)	2 (6)	0 (0)	0 (0)	5 (18)	3.6	Agree
The Web Based Thesis Repository System consistently meets and successfully passes all tests designed to evaluate its performance.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
Users can notify the developers as bugs and error messages arise within the system.	0 (0)	2 (8)	3 (9)	0 (0)	0 (0)	5 (17)	3.4	Agree
Average Weighted Mean							3.67	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Maintainability for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism

Scanner and AI Detector”. An average weighted mean of 3.55 or an interpretation of “agree” was given by the IT Professionals.

Table 13 – Assessment of Portability for Alpha Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System portability can run through any screen size of any device.	2 (10)	3 (12)	0 (0)	0 (0)	0 (0)	5 (22)	4.4	Strongly Agree
The Web Based Thesis Repository System can run on various operating systems(e.g., Android, iOS, Windows, Linux, etc.).	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
The Web Based Thesis Repository System can be successfully deployed in a specific environment.	0 (0)	5 (20)	0 (0)	0 (0)	0 (0)	5 (20)	4	Agree
Average Weighted Mean							4.13	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Portability for Alpha Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.11 or an interpretation of “agree” was given by IT Professionals.

Table 14 – System Performance for Alpha Testing

System Performance	Average Mean	Verbal Interpretation
Functional Suitability	4.07	Agree
Performance Efficiency	3.93	Agree
Compatibility	3.87	Agree
Usability	4.2	Strongly Agree
Reliability	3.67	Agree
Security	4	Agree
Maintainability	3.67	Agree
Portability	4.13	Agree
Grand Mean	3.94	Agree

The data in the table indicates that respondents consistently rated the system as “agree” with the exception for usability which is rated as “strongly agree”, resulting in an overall grand mean of 3.94. Across all criteria, respondents expressed agreement, suggesting that the system has been developed to a commendable standard. This positive evaluation indicates that the system is now prepared for deployment.

19.3 Beta Testing Results of CCS Students of Don Honorio Ventura State University based on ISO25010

Table 15 – Assessment of Functional Suitability for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System’s user-friendly interface ensures easy task management, letting you focus on your work not the tool.	168 (840)	102 (408)	30 (90)	1 (2)	0 (0)	301 (1340)	4.45	Strongly Agree
The Web Based Thesis Repository System’s user interface is intuitive and easy to navigate.	151 (755)	134 (536)	16 (48)	0 (0)	0 (0)	301 (1339)	4.45	Strongly Agree
The Web Based Thesis Repository System has all the convenient features and functions you’d want in a thesis Repository system.	156 (795)	136 (544)	9 (27)	0 (0)	0 (0)	301 (1366)	4.54	Strongly Agree
Average Weighted Mean							4.48	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Functional Suitability for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.48 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 16 – Assessment of Performance Efficiency for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System delivers swift and effective feedback when using its user interface.	157 (785)	116 (464)	27 (81)	1 (2)	0 (0)	301 (1332)	4.43	Strongly Agree
The Web Based Thesis Repository System doesn’t put a heavy strain on device system resources.	151 (755)	127 (508)	23 (69)	0 (0)	0 (0)	301 (1333)	4.43	Strongly Agree
The Web Based Thesis Repository System maintains its responsiveness and performance.	158 (790)	130 (520)	13 (39)	0 (0)	0 (0)	301 (1338)	4.45	Strongly Agree
Average Weighted Mean							4.44	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Performance Efficiency for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean

of 4.44 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 17 – Assessment of Compatibility for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System supports various file types and maintains their integrity when transferring them to and from the platform.	161 (805)	111 (444)	29 (87)	0 (0)	0 (0)	301 (1336)	4.44	Strongly Agree
The Web Based Thesis Repository System integrates smoothly with various types of platforms and settings.	138 (690)	134 (536)	28 (84)	1 (2)	0 (0)	301 (1312)	4.36	Strongly Agree
The Web Based Thesis Repository System integrates seamlessly and dependably with current systems.	169 (845)	114 (456)	18 (54)	0 (0)	0 (0)	301 (1355)	4.50	Strongly Agree
Average Weighted Mean							4.43	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Compatibility for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.43 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 18 – Assessment of Usability for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System’s user interface design is effective, and the colors are well-balanced to ensure readability and accessibility.	149 (745)	119 (476)	33 (99)	0 (0)	0 (0)	301 (1320)	4.39	Strongly Agree
The Web Based Thesis Repository System assists in optimizing your workflow, handling tasks, and enhancing team collaboration.	136 (680)	141 (564)	24 (72)	0 (0)	0 (0)	301 (1316)	4.37	Strongly Agree
The Web Based Thesis Repository System meets their particular needs by looking at its transparent criteria.	151 (755)	131 (524)	19 (57)	0 (0)	0 (0)	301 (1336)	4.44	Strongly Agree
Average Weighted Mean							4.44	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Usability for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.44 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 19 – Assessment of Reliability for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System keeps its promises and meets expected standards.	160 (800)	108 (432)	33 (99)	0 (0)	0 (0)	301 (1331)	4.42	Strongly Agree
The Web Based Thesis Repository System shows how it can handle and resolve issues that occur in a timely and efficient manner.	140 (700)	134 (536)	27 (81)	0 (0)	0 (0)	301 (1317)	4.38	Strongly Agree
If The Web Based Thesis Repository System unexpectedly shuts down, it can recover data and continue working.	154 (770)	115 (460)	29 (87)	3 (6)	0 (0)	301 (1323)	4.4	Strongly Agree
Average Weighted Mean							4.4	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Reliability for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.44 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 20 – Assessment of Security for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System keeps its promises and meets expected standards.	150 (750)	117 (468)	34 (102)	0 (0)	0 (0)	301 (1320)	4.39	Strongly Agree
The Web Based Thesis Repository System is to protect the privacy of its data and to grant access only to those who have the proper authorization.	141 (705)	140 (560)	20 (60)	0 (0)	0 (0)	301 (1325)	4.4	Strongly Agree
The Web Based Thesis Repository System records every action with the exact entity that performed it, providing clear and reliable accountability and transparency.	165 (825)	122 (488)	14 (42)	0 (0)	0 (0)	301 (1355)	4.5	Strongly Agree
Average Weighted Mean							4.43	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Security for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.43 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 21 – Assessment of Maintainability for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
Users have the capability to notify the developer of bugs and error messages within the system.	135 (675)	113 (452)	44 (132)	8 (16)	1 (1)	301 (1276)	4.24	Strongly Agree
The Web Based Thesis Repository System always achieves and exceeds the expected standards.	128 (640)	137 (548)	36 (108)	0 (0)	0 (0)	301 (1296)	4.31	Strongly Agree
The Web Based Thesis Repository System's adaptability ensures that it can easily receive updates and bug fixes as soon as any issues arise.	158 (790)	109 (436)	32 (96)	2 (4)	0 (0)	301 (1326)	4.41	Strongly Agree
Average Weighted Mean							4.32	Strongly Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Maintainability for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.32 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 22 – Assessment of Portability for Beta Testing

Aspect	SA 5	A 4	N 3	D 2	SD 1	WV	WM	Interpretation
The Web Based Thesis Repository System's portability features function well on screens of all sizes.	165 (825)	107 (428)	28 (84)	1 (2)	0 (0)	301 (1339)	4.45	Strongly Agree
The Web Based Thesis Repository System is compatible with different operating systems.	143 (715)	137 (548)	21 (63)	0 (0)	0 (0)	301 (1326)	4.41	Strongly Agree
The process of setting up and removing The Web Based Thesis Repository System in a given environment can be accomplished without any issues.	174 (870)	117 (468)	10 (30)	0 (0)	0 (0)	301 (1368)	4.55	Strongly Agree
Average Weighted Mean							4.47	Agree

Table shows the frequency distribution, weighted mean and interpretation of the assessment of the Portability for Beta Testing of “Web-Based Thesis Repository System with Plagiarism Scanner and AI Detector”. An average weighted mean of 4.47 or an interpretation of “strongly agree” was given by the students of Don Honorio Ventura State University (DHVSU).

Table 23 – System Performance for Beta Testing

System Performance Indicators	Average Mean	Verbal Interpretation
Functional Suitability	4.48	Strongly Agree
Performance Efficiency	4.44	Strongly Agree
Compatibility	4.43	Strongly Agree
Usability	4.44	Strongly Agree
Reliability	4.4	Strongly Agree
Security	4.43	Strongly Agree
Maintainability	4.32	Strongly Agree
Portability	4.47	Strongly Agree
Grand Mean	4.43	Strongly Agree

The table shows the opinions of the students regarding the system, and they assigned it a rating of "4.43", indicating an overall agreement. Each criterion received a strongly agree rating, suggesting that the system is well-crafted. Therefore, it can be inferred that the system is prepared for use.

20. SUMMARY

While developing the web-based thesis repository system, which incorporates a plagiarism scanner and AI detector, it was essential to consider key features such as content portability, maintainability, security, reliability, usability, compatibility, performance efficiency, and functional suitability.

According to the respondents' evaluation using the Software Quality Standard (ISO25010), the overall numerical ratings were Alpha 3.94 which is rated as “agree” and Beta 4.43 which is rated as “strongly agree”, with an interpretation that is highly fitting. All requirements received an acceptable rating, signifying the establishment of a high standard for this approach. Consequently, the system is ready for deployment.

21. CONCLUSION

With all requirements deemed acceptable, this system demonstrates a high standard of development and readiness for deployment. The integration of advanced features, including plagiarism scanning and AI detection, underscores its commitment to academic integrity and technological innovation. The web-based thesis repository system not only meets the immediate needs of users but also sets a benchmark for future developments in the realm of thesis repository and academic research. Overall, this system stands as a testament to the successful fusion of technological sophistication and user-centric design, promising significant contributions to the efficiency and reliability of thesis repository in academic settings.

22. RECOMMENDATION

The findings of this study, along with the conclusions, offer recommendations that can serve as instructive guidance for future researchers developing systems with similar services and functionalities. Firstly, it is advised to incorporate or develop a grammar checker within the system, contributing to the improvement of written content quality. Secondly, implement a functionality that enable users to request document downloads to enhance user experience and system accessibility. Lastly, include “add to favorites” functionality to let the users bookmark a document. These recommendations collectively form a comprehensive approach to inform the development of future systems with similar objectives.

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