

DIGITAL DOCUMENT REPOSITORY SYSTEM OF RESEARCHES UTILIZING SEARCH ENGINE TOOLS

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Abstract

As this time of pandemic health risk is undeniable communication and technology is a very important aspect of everyday living, that is why through the use of technology we the researcher developed Contact Tracing Application using Quick Response Code and Thermal Scanner in order to help prevent the spread of the COVID 19 and to help spread health awareness to the people. This system together with the collaboration of our clients' ideas and suggestion aims to improve the contact tracing of All for Christ Church in Tanyag, Taguig City. The purpose of this system is to trace the possible person under investigation or what we call the PUI in this case we are using a contactless thermal scanner to scan the temperature and directly send it to the database of the system by this it lessens the work of the staff of the church as we aim for a paperless transaction. By registering to the system, it will generate a unique Quick Response code for every registry to serve as their id whenever they go to the church. The system will mean some various benefits that will be done towards certain purpose. The system is created to help fight the spread of the virus, it detects certain symptoms like high temperature and notifies the admin of the system. Many people are not aware of the risk of COVID 19 and just realized it later on that they socialized on the person with possible virus, that is why we developed the system to prevent and to aware a person if they encounter a certain person with COVID19.

I. INTRODUCTION

With the development of technology, people were also finding ways to make every process automated, especially the flow of information and interactions. One of the methods today that is also considered very important is the document management system, which can help arrange all of the documents.

In this paper, the development of Digital Document Repository System of Researches Utilizing Search Engine Tools was studied to develop a search tool that identifies trends of the archives from the centralized storage, and forming of the thesis or research document and generate graphs that can identify the most used topic of the researcher and can show also results of the usually visited article by the registered students and to innovate the student project storage and thesis process into a web-based platform that will improve the storing and management of projects such as researches and theses that will ease the attainability of the digital copy of the document. It will digitalize the physical copies of research and theses that are traditionally stored in physical stores that are usually limited to the students inside the campus. With the documents uploaded online, it will give students more access to the theses and research online without the struggle of having to go through all the hardbound documents physical storage in the University. During this season where physical interaction is very limited, this development will help the student as well as the thesis advisers to interact also using this system. And it will also be easy for the research department to gain access to the digital copy of the researches of the students.

II. LITERATURE REVIEW

Globally, Electronic Theses and Dissertations (ETDs) are being adopted by more and more universities. The best way to make use of theses and dissertations is through electronic publication. In Iran in the Middle East, according to Ardalán and Feyzbaksh (2017), said that many theses and dissertations are sitting on shelves, unread. A growing realization has emerged among those working on ETDs in Iran that it is critically important that libraries remain not just involved but centrally positioned in the development of the

national information infrastructure. According to Bhardwaj (2016), The Institutional Repository (IR) concept has given a new dimension to information management in the Internet age. With all the related literature presented, the concept of each study relates how they are associated to the researcher's study. In this section, the local and foreign literatures are specified. It shows relevance of the researcher's idea and the proponents such as effectively on the digital repository of the thesis projects for the students as well as the administrator. There are previous studies that justify that the researcher's study is achievable. According to the data gathered by the researcher, the use of Digital Document Repository System of Researches Utilizing Search Engine Tools is an effective way to process the thesis papers' accessibility and storage.

A. Document Management System for the University of the Cordilleras

The concept of Information Systems (IS) emerged in the early 1960s. More often, when an information system is defined, the field Information Science is always associated. Information System is an academic field that deals with the generation, collection, organization, storage, retrieval, and dissemination of recorded knowledge.

B. Electronic Archiving

The electronic archiving of an undergraduate thesis of the College of Engineering and Technology at the Romblon State University is currently in the infancy/pilot stage of implementation. This initial work aims to evaluate the current level of documentation process towards establishing an e-library or an online platform for storing, archiving, and easy access of undergraduate thesis in the fields of agricultural engineering, civil engineering, electrical engineering, and mechanical engineering.

C. Electronic Thesis and Dissertation (ETD) repository systems

In response to technological changes and growing demands of users in the distribution of scholarly materials and the means by which they can be accessed, the University of Cebu-ETD System envisions that in the next years it shall become one of the electronically advanced Electronic Thesis and Dissertation (ETD) repository systems in the Asia-Pacific Region. (Dinauanao, 2014).

D. IRepository

In 2017, the University of Malaysia Perlis (UniMAP) has deployed DSpace in building a digital repository named iRepository (one of the earliest ETD systems in Malaysia). iRepository enables scholars to access and download TD, conference, and journal publications and other communities related information which associates to UniMAP via web browsers.

E. UP Mindanao Manuscript e-library and Repository System (UPMERS)

The study entitled UPMERS is a web-based that covers administrators a tool to monitor and manage records of manuscripts by the graduates of the University This paper describes the development of the UP Mindanao Manuscript e-library and Repository System (UPMERS). (Mesa,2017) Based on this study, It is vital to keep track of all the scholarly works undertaken by the students in research universities. As a premier research university, The University of the Philippines (UP) Mindanao has produced several scholarly works made by its students, such as a thesis or individual problem manuscripts.

F. Search Engine Optimization

Topic-centric, dynamically-created web pages are compiled from links to multimedia content elements. Keywords are identified within the content elements and used to identify a set of topics related to the content elements. A query string comprising the keywords is executed against the content elements and in response to a request to display information about a topic the query string associated with the topic is executed against the collection of multimedia content elements to identify content elements related to the topic.

G. Search Engine Optimization Assistant

The Website optimization methods and tools for optimizing visibility of a website is the internet search engines. A website is automatically evaluated against one or more optimization tests based on one or more search terms. A report is generated along with tools that guide and prompt the user for user input that is used by the tools to directly edit content of the website to improve the visibility of the website to internet search engines. (Connolly, Pegden, Roald, Jordan, Prateek & Yuknat 2014)

III. RESEARCH METHODOLOGY

The researcher used developmental and descriptive methods utilizing the evaluative design to come up with the desired system. This research type was used to develop the Digital Document Repository System of Researches utilizing Search Engine Tools based on the information gathered from the 249 Students, 27 Faculty, and 5 IT Practitioners. This allowed the researcher to better understand the problem on hand and develop the Digital Document Repository System of Researches utilizing Search Engine Tools.

The developmental approach was used since the study aims to determine the acceptability of users in the organization. In this study, the waterfall model was used where phases are structured as follows: requirements gathering, design, development, testing, and evaluation phase. Before the evaluation phase, the researcher conducted an online orientation with the respondents for them to fully understand the scope and

limitations of the proposed system. The descriptive research was used and designed to utilize a checklist questionnaire and survey using online interviews to test the level of acceptability of the proposed system.

Project Development

The Waterfall Model consists of different phases with which every project development should be processed in accordance to the expected requirements given for the project. By using the Waterfall Model, the task will be divided in to different parts to evaluate specific request for the development. The Iterative approach is taken and functional software developed to release after each iteration regarding to its features. Each deployment is updated based on the changes given by the client. The final update of the development contains all the features by the customer



Figure 1. Waterfall Model

Project Design

The diagram above represents the design flow chart of the student and thesis advisers it explains the process flow of the login of both users. In every input of the username and password to the login, it will check if is both correct then it will proceed to end and continue for the next process; same with the other users also, but if the checking of the inputted username and password is false, then proceed to forgot password function and will iterate to the first flow which the input of the username and password.

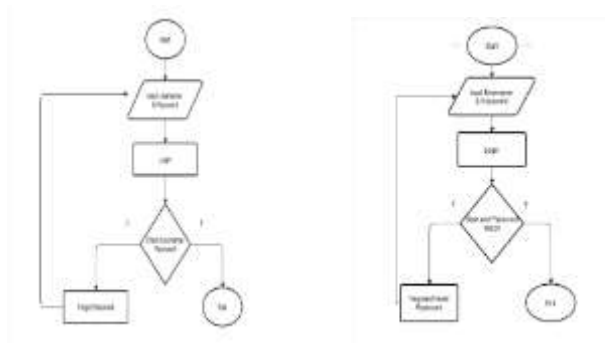
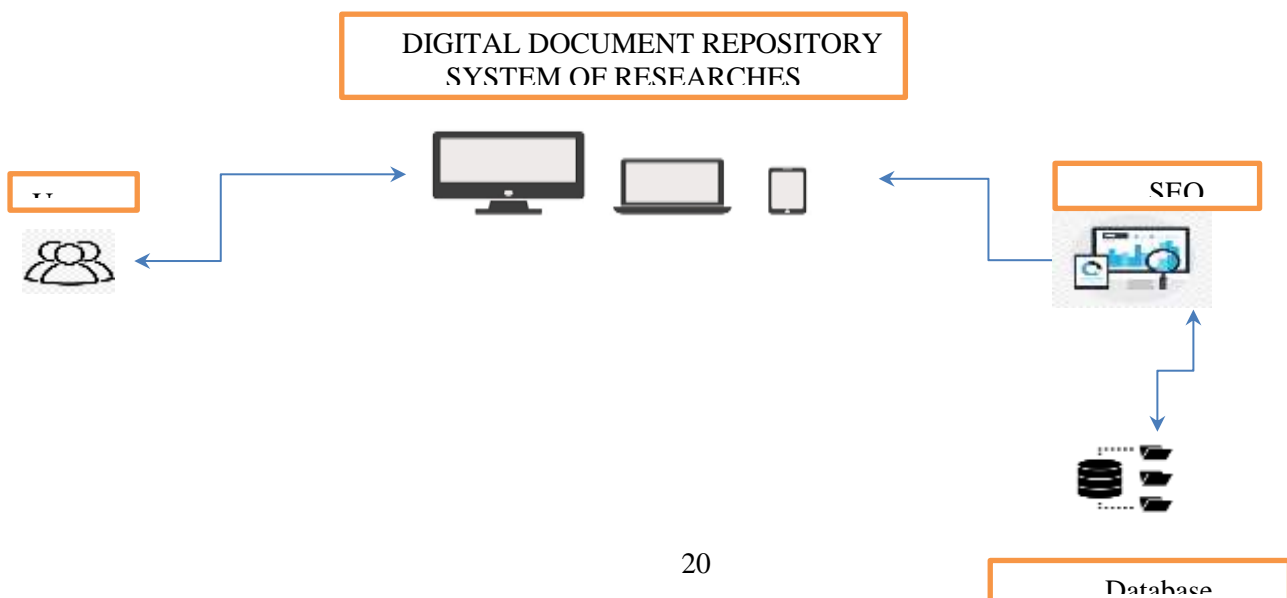


Diagram 1. Student and Thesis Adviser Flow Chart

System Architecture



IV. FINDINGS AND DISCUSSION

The table shows the evaluation of the three groups of respondents on the Digital Repository System of Researches Utilizing Search Engine Tools. The overall evaluation of the three groups of respondents is 3.79 with the verbal interpretation of highly acceptable. Furthermore, The IT practitioner obtained the highest evaluation among the three groups of respondents with an overall all weighted mean of 3.96, equivalent to highly acceptable. While students got the lowest evaluation of 3.50 but still interpreted as highly acceptable. The indicator “Functionality” got the highest evaluation of 3.84 followed by “Usability” with 3.81 while “Reliability” got the lowest rate of 3.72. Based on the evaluation, the proposed system is recommended for deployment

Evaluation Result

Table.1 Summary of Level of Software Quality Characteristics

	Students	VI	Faculty	VI	IT Practitioner	VI	Average Weighted Mean	VI
Functionality	3.53	HA	4.00	HA	4.00	HA	3.84	HA
Usability	3.47	HA	3.95	HA	4.00	HA	3.81	HA
Reliability	3.47	A	3.84	HA	3.85	HA	3.72	HA
Security	3.52	HA	3.85	HA	4.00	HA	3.79	HA

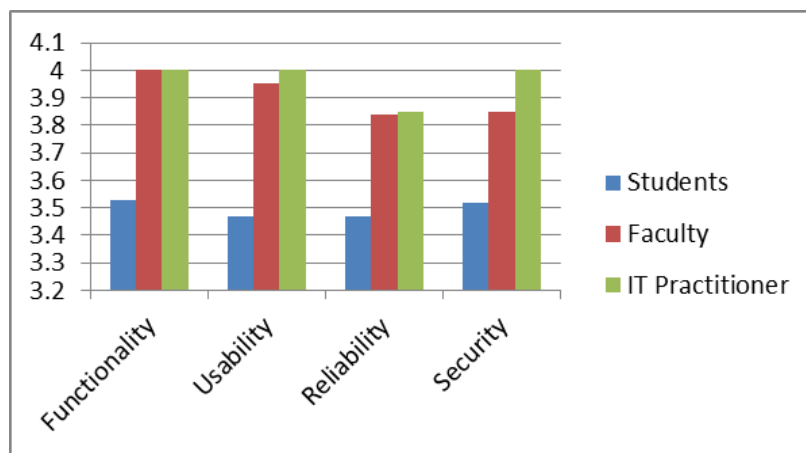


Figure 2. Summary Evaluation Graph

Findings

The Digital Document Repository System of Researches utilizing Search Engine Tools in terms of the variables were considered based on the ISO25010. The overall mean result for Students is 3.50 for the Faculty is 3.91 and lastly for IT Practitioners is 3.96. The three groups of respondents has same verbal interpretation as “Highly acceptable” in their evaluation in the functionality, usability, reliability and security and its serves as a purpose and greatly benefits to its end users.

Based on the figure 2 in the summary evaluation graph shows also that the IT Practitioners has a greater result as highly acceptable based on the software qualities of the system develop.

V. CONCLUSION AND FURTHER RESEARCH

On the account of the foregoing significant findings, the following conclusions were derived;

1. The developed Digital Document Repository System of Researches Utilizing Search Engine Tools utilized the Waterfall development method and have the following stages: Requirement gathering, Design, Development, Testing followed by Deployment and Maintenance. During the development, the system was divided into separate stages and compiled to come up with the final product
2. The developed Digital Document Repository System of Researches Utilizing Search Engine Tools was evaluated by the Students, Faculty, and IT Practitioners who were the respondents as an overall mean of highly acceptable in terms of functionality, usability, reliability, and security based on the result.
3. There is a significant difference between the evaluation of the Students, Faculty, and IT Practitioners on the Digital Document Repository System of Researches Utilizing Search Engine Tools. The non-acceptance of the null hypothesis is presented in the chapter discuss as a clear indication of the absence of consensus among respondents relative to their evaluation of the proposed development of Digital Document Repository System of Researches Utilizing Search Engine Tools.

RECOMMENDATIONS

Based on the significant findings and conclusions of this research, the following recommendations are offered:

1. The researcher encourages the school administrator to push through all implementation of the system for the enhancement of the process in the thesis repository and process.
2. Incorporate the functionalities in terms of the published and not published status of the graduate school theses and dissertations.
3. Future researchers may include other performance appraisals on the design of the system.

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