

Library Cloud Storage Of Published Thesis And Research Paper With Laravel Security In Taguig City University

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Abstract

This study is conducted to create a better platform for Taguig City University Library where students can access it in just a few clicks using their mobile phones, desktop, or any smart devices. Innovation is inevitable, as the world progress to advancements school services like libraries should also innovate to provide accessible and better learning experiences to students. Library Cloud Storage of Published Thesis and Research Paper with Laravel Security in Taguig City University is created to provide Taguig City University its own online library that will benefit not just the students but also the library staff and faculty members. The ANOVA F-TEST was used in this study to see if there was a significant difference between the three groups of respondents' perceptions of the system's efficiency and effectiveness. The generated result of ANOVA computation to get the significant difference at 0.05 level of significance of the assessment of the three groups of respondents for the criteria set by ISO 25010 namely functional suitability, compatibility, usability, security, and maintainability of the system. The computed value is F and the F crit is the tabulated value. The F value is less than the F critical value that leads to the acceptance of the null hypothesis that is "There is no significant difference between the assessment of the three groups", which means that the three groups of respondents have almost the same assessment on the feature of the system.

I. INTRODUCTION

Library automation may have existed before, but that doesn't mean we can't do it today with the appropriate level of security to ensure the safety of data in our libraries. In this regard, the need to automate library management remains critical. It provides convenience and accuracy to both the users and the admin. Under the big data in computer science, cloud computing is one of the relevant types of data storing online. The term is generally used to describe data centers available to many users over the internet. The adoption of cloud computing by businesses has sparked a surge of interest during the last decade. Cloud computing can transform how companies buy and manage computing resources cost-effectively and efficiently.

The aim of automating the availability of thesis and research publications ranks highest in our goal of giving convenience to our fellow students. Seeing students during these trying times of pandemic, having easy access to these publications pushed us to automate and put these publications online. Cloud computing has given numerous definitions since its advent. ASP stands for application service provision, an IT sourcing paradigm for renting business applications via the internet. As Internet-based IT service offerings expanded to include storage, hosting infrastructure, and network, "net sour" was coined.

II. LITERATURE REVIEW

Educational Libraries

According to Mate (2017), academic libraries use new and emerging technologies to expand services, including cloud computing, social media, and others. Most of them are using cloud computing to enhance services, thereby adding more value to their services and making them attractive to the users, and focusing on maximizing the effectiveness of shared resources for libraries to deliver the services effectively.

Benefits of Cloud Computing Adoption

According to Adegbilero-Iwari & Hamzat (2017), despite the advantages, benefits of cloud computing adoption, the preliminary investigation of the researcher based on observation revealed that several academic libraries have not been exploring the advantages of cloud computing adoption, particularly those academic libraries in Kwara State, Nigeria.

Cloud Storage Problems and its role to Educational Libraries

According to Chang et al. (2019), in the study "End-User Cloud Data Storage Experiences, and Security Perceptions of the Emerging Technologies Security Tools Among Small Businesses." The use of the cloud data storage measure of complexity is the perceived difficulty of understanding and use. Organizations interact with the cloud data storage provider depending on the reputation and image of the cloud data storage provider.

According to Sivarajah et al. (2017), cloud storage is hypersensitive data such as medical procedures, financial transactions, insurance claims, personal data, and diagnosis codes. Privacy concerns are also a challenge for cloud data providers.

What Cloud offers to Users

According to Mark and Lozano (2017), cloud storage is on-demand access to virtualized IT resources outside the organization. Cloud allows their users to think of computing as limitless, having lower cost, and trustworthy.

Benefits of Cloud Storage Libraries to Librarians

Sosa & Ramirez (2017) emphasized that cloud computing as a recent operational model allows information technology resources on-demand, lowering management complexity. In emphasizing the implementation of cloud computing exclusively for resource sharing in academic library systems, cloud computing would help us bridge the gap between digital libraries and IT by facilitating huger sharing of data, among others, reducing the overall cost incurred by the individual libraries.

Present Strategic Planning Library Management Compare to the Traditional Libraries

According to Fe Angela M. Verzosa in her study about Library Automation and its Impact on Strategic Planning Impact on Strategic Planning for Academic Libraries: A Case Study of De La Salle University Library, Strategic planning usually departs from the traditional emphasis on the quantitative and monetary use of resources to the qualitative and use of human resources. Traditional library planning methods are generally reactive, focusing only on incremental evaluation with goal setting based on operational needs.

On the other hand, strategic planning presents a different view: instead of thinking forward from action to consequence, the planner focuses on the desired outcomes and analyzes backward to the immediate requirements to achieve the desired results. Philippine

libraries are now looking forward to digitalization as a major objective in their strategic plans for the 20th century.

III. RESEARCH METHODOLOGY

Method of Research

Developmental research has been defined as the systematic study of designing, developing, and evaluating instructional programs, processes, and products that must meet the criteria of internal consistency and effectiveness. A situation in which someone is performing instructional design, development, or evaluation activities and studying the process simultaneously. It is a broad concept or relevant, development-oriented, to provide answers to development problems. A research project may include several distinct stages involving reporting and analyzing a data set.

The researchers used descriptive and development research. Developmental research because the researcher studied how the system must be designed, followed the systematic study of how the system is being developed, the system's process, and analyzed and evaluated the process of developing the system. Descriptive research will describe the system development model, user guide, assessment of the respondents, and the difference in the assessment of the respondents.

Population of Respondents

Sixteen (16) respondents are coming from the students, five (5) from the faculty, and five (5) from the library staff.

Data Gathering Procedure

The researcher will collect the results from the proponent using the online survey questionnaires.

1. The evaluation procedures are as follows:
2. The researchers will gather all the respondents to demonstrate the system and experience.
3. Respondents will have a chance to use the website to test and evaluate its performance.

After the demonstration and testing of the website, the researcher will send the link to the survey questionnaire to the respondents to turn in their responses.

All the responses will be tabulated, use the SPSS to generate the statistical result, and interpret the data in narrative form.

Statistical treatment of data

The statistical tool used to determine the system's acceptability is the Weighted Arithmetic Mean of the responses. Responses by the respondents will be statistically analyzed.

The researcher will use weighted mean and Analysis of Variance, commonly known as ANOVA. The weighted mean uses a Likert scale to understand how the study participants assess the system.

System Design

RAD is a development model that prioritizes rapid prototyping and quick feedback over long-drawn-out development and testing cycles. With rapid application development, developers can make multiple iterations and updates to software rapidly without needing to start a development schedule from scratch each time. With a short amount of time that has been given to the researcher, RAD will be used in developing the system as it has features that are easy to create and develop systems with such functions.

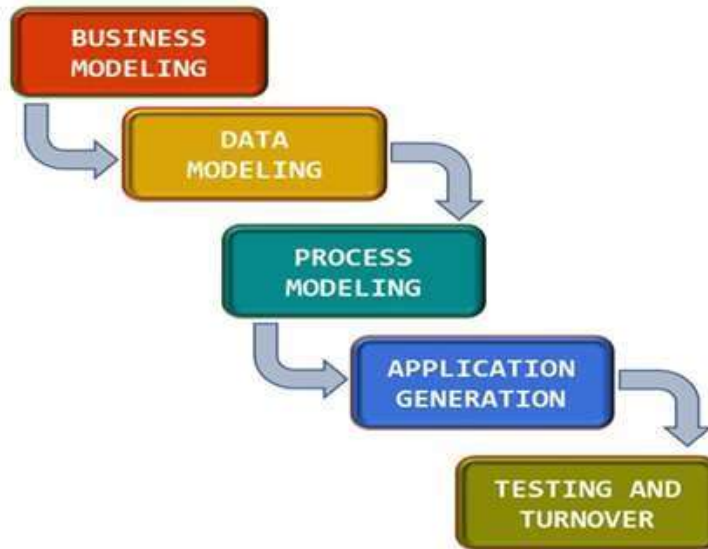


Figure 1. RAD Diagram

System Architecture

This diagram shows the detailed flow of the system from its User Interface to Admin Interface, the log-ins of users both the students, librarians the developer first analyzed the area of study that all requirements needed must be present and available to build the prototype.

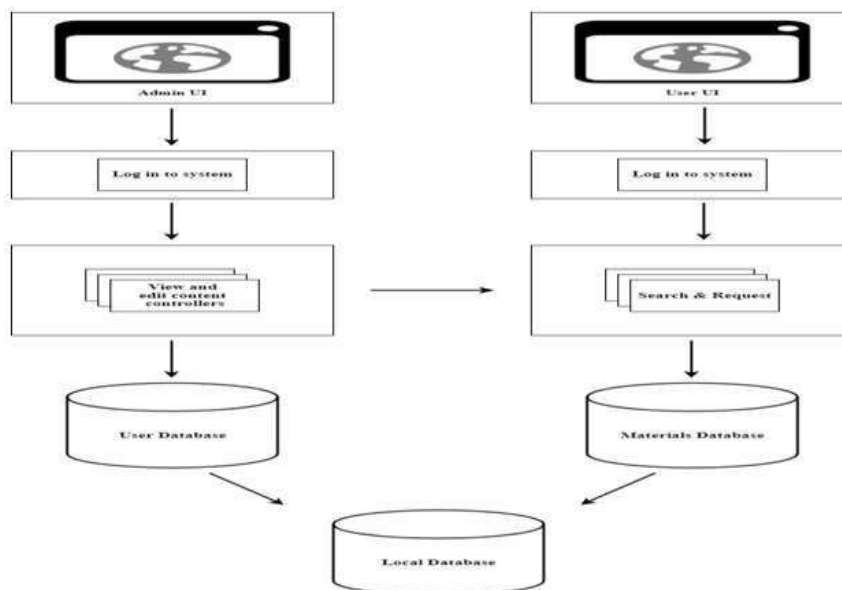


Figure 2. System's Architecture**IV. FINDING AND DISCUSSION**

The researcher displays the contents of data to be analyzed and interpreted to know and determine the perception of the participants from three different groups namely, students, faculty, and library staff. It also contains the stages involved in the development of the system and the summarized suggestions for future improvement of the system. The presentations of data are in sequence according to the objectives.

1	Functional Suitability		Students		Faculty Members		Library Staff		Summary	
			Mean	VI	Mean	VI	Mean	VI	Mean	VI
	1.1	Functional completeness	4.44	VS	4.2	VS	4.8	E	4.48	VS
	1.2	Functional Correctness	4.34	VS	4.4	VS	4.4	VS	4.38	VS
	1.3	Functional Appropriateness	4.45	VS	4.6	E	4.8	E	4.62	E
2	Compatibility		Students		Faculty Members		Library Staff		Summary	
			Mean	VI	Mean	VI	Mean	VI	Mean	VI
	2.1	Co-existence.	4.5	E	4.4	VS	4.8	E	4.57	E
3	Usability		Students		Faculty Members		Library Staff		Summary	
			Mean	VI	Mean	VI	Mean	VI	Mean	VI
	3.1	Appropriateness recognizable	4.5	E	3.6	VS	4.	VS	4.03	VS
	3.2	Learnability	4.44	VS	4.4	VS	4	VS	4.28	VS
	3.3	Operability	4.56	E	3.6	VS	4	VS	4.05	VS
	3.4	User Error protection	4.31	VS	4	VS	4	VS	4.10	VS
	3.5	User Interface Aesthetics	4.5	E	3.6	VS	3.8	VS	3.97	VS
	3.6	Accessibility	4.44	VS	3.8	VS	4	VS	4.08	VS
4	Security		Student		Faculty Members		Library Staff		Summary	
			Mean	VI	Mean	VI	Mean	VI	Mean	VI
	4.1	Confidentiality	4.19	VS	4.6	E	4.4	VS	4.40	VS
	4.2	Integrity	4.25	VS	3.8	VS	4.2	VS	4.08	VS
	4.3	Accountability	4.38	VS	3.8	VS	4	VS	4.06	VS
	4.4	Authenticity	4.38	VS	4	VS	4.2	VS	4.19	VS
5	Maintainability		Student		Faculty Members		Library Staff		Summary	
			Mean	VI	Mean	VI	Mean	VI	Mean	VI

5.1	Reusability	4.44	VS	4	S	3.8	VS	4.41	VS
5.2	Analysability	4.38	VS	4	S	4.2	VS	4.19	VS
5.3	Modifiability	4.5	E	4.2	S	4.6	E	4.43	VS

Table 1: Shows the result of the evaluation of conducted among Students, Faculty Members and Library Staff in Taguig City University.

Findings

Table 2
General Average of the Assessment Using ISO 25010 Criteria as Perceived by the Respondents

No	Categories	Group		
		Students	Faculty Members	Library Staffs
1	Functional Suitability	4.43	4.4	4.67
2	Compatibility	4.5	4.4	4.8
3	Usability	4.46	4.83	3.97
4	Security	4.3	4.05	4.2
5	Maintainability	4.44	4.07	4.2

The table was used for determining the difference of the group perception by the means of evaluating them using the statistical treatment ANOVA for the analysis of the variable based on the assessment of the group.

V. CONCLUSION AND FURTHER RESEARCH

Conclusions

Based on the findings, the researchers has the following conclusions.

1. The participants were satisfied with the functional suitability of the system to the Library of Taguig City University being stored and used online.
2. The group of respondents was excellent on the compatibility of the system with regards to co-existence.
3. The group of respondents was very satisfied with the usability of the system with regards to the appropriateness recognizable, learnability, operability, user error protection, user interface, aesthetics, and accessibility.
4. The confidentiality, integrity of information, accountability, and authenticity to know that the document was rated and reviewed by admin and prevention of unauthorized accessed information were determined by the three groups of participants.
5. The website can be maintained by the admin and library staff with average knowledge of the system.

Recommendations

The following recommendations are based on this study:

1. Even if the three groups of the respondents are satisfied with the security feature it is still necessary to set a date where the admins are maintaining the security of the website in preparation for any future attacks.
2. The system should offer more features that enable users to upload and search published materials.
3. The system offers an eye-catching interface that does not confuse users when browsing.
4. The system must comply with basic design principles and proofread your system labels and others.

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