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Record Management System for Office Memoranda

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Abstract: **The Iloilo Science and Technology University Miagao Campus (ISAT U MC) currently employs a manual filing system for office memoranda, resulting in missing documents and an inefficient filing system. This study aims to develop a Record Management System that will facilitate the sorting of office memoranda by department, individual, subject, date, and office memorandum number. The aim is to create a Record Management System that will enable the free flow of records containing information related to the activities of the university. To achieve this, the researchers used the evolutionary prototyping methodology to develop the system based on client feedback until it was accepted. The system was also evaluated in accordance with the ISO 25010 software quality model. The survey results showed that the current record management practices at ISAT U MC are a more effective system needed, especially for important documents such as memoranda. The study recommends the establishment of a record management system that can file, find, and store documents quickly and effectively. The evaluation of the system by ten (10) IT experts and five (5) end-users found that it was very effective in meeting the specified requirements for creating a memoranda database storage system. In conclusion, this study demonstrates the importance of record management practices for universities such as ISAT U MC. The Record Management System developed in this study can improve the efficiency and effectiveness of managing office memoranda, ensuring that important documents are filed and stored properly, and can be easily retrieved when needed.**

Keywords: **Office Memoranda, Record Management System, ISO 25010 software quality model, Evolutionary Prototyping Methodology, IT Expert.**

I. INTRODUCTION

A memorandum is a note or a record for future use [1]. It is a very important intra-office tool for every organization for it promotes an efficient way of communication. A memorandum, more commonly known as a "memo" has several purposes. It is used to inform, and inquire, one can use it to report, give suggestions, remind, instruct, and communicate ideas.

Any organization established, public or private need to document its activities and this can only be done by creating records. Records contain information relating to the organization's activities. Records display and confirm the decision taken, the action carried out and the results of such actions. They support policy formulation and management decision-making, protects the interest of the organization, and the right of the employers, and clients, and help the organization conduct its business and deliver its services consistently and equitably [2].

The primary function of record management is to facilitate the free flow of records through an organization to ensure that information is available rapidly where and when it is needed [3]. To carry out this function needs an efficient and effective record management program.

The past twenty years have revolutionized how information is generated and stored [4]. The rate at which records are supplied to the end-user has therefore increased drastically as a result of technological advancement.

Most organization does not have a good record management system. Iloilo Science and Technology University-Miagao Campus (ISAT U MC) faces the same problem. Presently, ISAT U MC has a manual filing of all office memoranda. This academic institution kept records in whatever form it felt appropriate without the benefit of retention schedules, disposition guidelines, or other formal information life-cycle procedures. This resulted in missing documents and an improper filing system.

But as the university grows big, manual filing can become a very cumbersome practice. In a busy organization, it is important that one can file, find, and store documents quickly and effectively especially when it involves important documents such as memoranda. There are more efficient and effective ways in today's growing technological world that can help keep ISAT U MC organized with a higher productivity level and one of these is through archiving. These challenges motivated the researchers to develop a record management system specifically for office memoranda.

Archiving is vital for information management and can give ISAT U Miagao Campus greater control over its information processes. As the university progress it will create more data that needs to be meticulously managed and monitored for it to be utilized properly. Data that is not archived is harder to locate, secure and appropriately disseminate if stored in an environment that is not safe such as the cabinet or employee's laptop and this will result in inaccessibility to other users. This will eventually have a negative effect on the school and employee productivity.

Today, which we called the information age as much technological advancement has been introduced, the biggest risk that an organization could face is to stay unresponsive to change, thus record management systems or archiving is highly recommended.

A. Objectives of the study

This study aims to develop a Record Management System for Office Memoranda of the ISAT U Miagao Campus

Specifically, it aims to:

1. Create a memoranda database storage system.

a. Facilitate the fast viewing of office memoranda

b. Sort the list of the memoranda by Department, Individual, subject, date, and Office Memorandum Number.

2. Evaluate the systems' quality model based on ISO 25010 criteria

B. Conceptual Framework

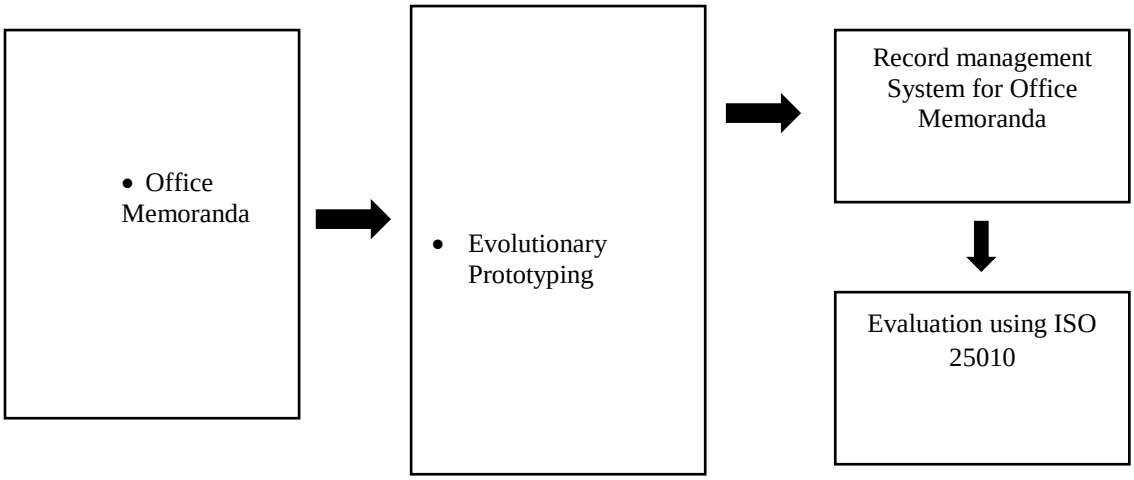

Figure 1: Theoretical Framework

C. Theoretical Framework

This research endeavor, which aims to develop a record management system for properly filing and storing all ISAT U Miagao Campus office memoranda, is anchored on the systems model. This will guide the overall framework and analysis of the study.

The schematic diagram consists of three (3) major variables: input, process, and output. Consistent with systems thinking, the input is transformed into outputs through conversion processes taking place. The inputs consist of the existing data which contains all ISAT U Miagao Campus office memoranda, while the process involves data consisting of office memoranda which are sorted in terms of department or office of the concerned faculty and staff, individuals, keywords, date, and office memorandum number. The output variables depend on the nature of the inputs and the capacity of the conversion process.

The output variables point to the creation of a record management system designed for a quick and effective way of filing and storing the said documents.

More importantly, the system is to be evaluated using the ISO 25010 criteria for feedback which constitute the critical output in the challenge to further improve the ISAT U Miagao Campus Office Memoranda Record Management System.

II. METHODOLOGY

This study will employ the Evolutionary Prototyping model used in the software development life cycle.

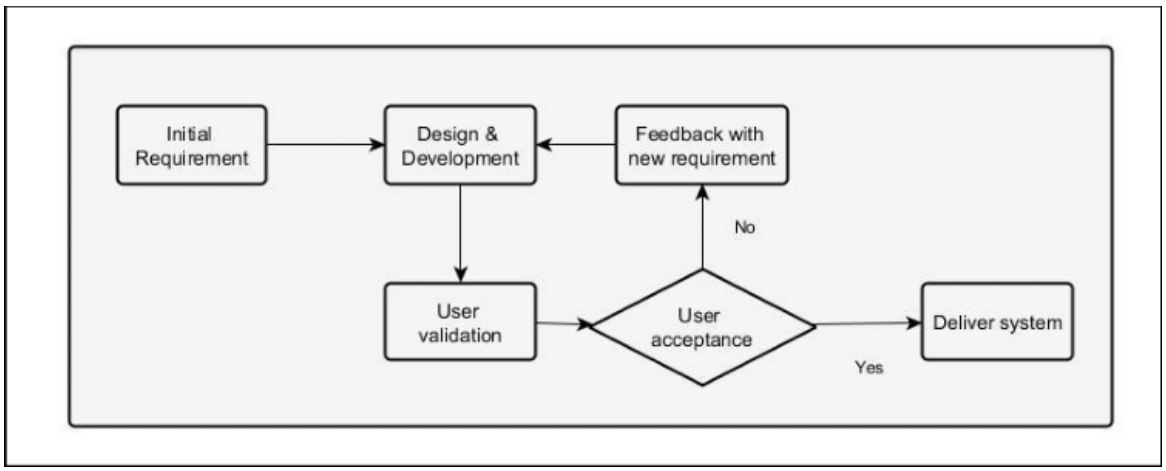

Figure 2: Evolutionary prototyping model uploaded by Shahnita Shaharin [5]

Evolutionary prototyping is a technique for creating prototypes that are initially built and then gradually improved based on client feedback until they are finally accepted. It offers a better strategy that is more efficient than Rapid Throwaway Prototyping and saves time and effort. This is due to the fact that the developers may occasionally find it quite frustrating to create a prototype from scratch for each iteration of the process.

Figure 2 shows the phases of the Evolutionary Prototyping Model which are as follows

Step 1: Initial Requirement

The Planning, and Requirements Specification is the first step in a prototyping model. The system's requirements and planning are defined during this phase. Users of the system are interviewed as part of the process to learn about their expectations for the system.

In this phase, the researcher interviewed the personnel of the Office of the Administration of ISAT U Miagao on how they handle and keep track of the Office Memorandum.

Step 2: Design and Development

In this phase the researcher created an Activity diagram and Use Case Diagram However, it just provides a general idea of how to design a system based on the needs of the end-user. It is the user's brief concept or idea. This stage aids in the development of the prototype.

During this stage, the researchers created a prototype that is designed according to the need of the office based on the information collected and developed an operational system. It includes the software development, design, and testing of the algorithm that is being implemented.

Step 3: User Validation and Acceptance

In this phase, the ten (10) Information Technology experts and five (5) End users Validated the system using ISO 25010 a software quality model, and evaluate the system using the Likert Scale Rating.

The IT Expert assists in determining the working model's strengths and weaknesses. End-User feedback and suggestions are gathered and integrated into their suggestion

Step 4: Feedback on new Requirements

In this phase, the researcher needs to develop and improve the system based on the recommendation of the IT Expert and the system prototype according to the user's feedback and suggestions. This phase would not be completed until the user's needs have been met. After the user approves the developed prototype, a final system was created based on it.

Step 5: Deliver System

The final system was thoroughly tested and deployed to the ISAT U Miagao Campus Administrator Office after being developed based on the final prototype.

In this phase, the routine monthly maintenance of the system was done to prevent errors.

III. RESULT AND DISCUSSION

The ISO 25010 criteria for software evaluation were adopted to evaluate the system. Ten (10) IT Experts and Five (5) End Users from the Staff of the Office of Campus Administrator were identified to evaluate the system using the Likert Scale Rating shown below:

TABLE 1: LIKERT SCALE RATING SHOWN BELOW

Scale	Description
4.50 – 5.00	Very Effective
3.50 – 4.49	Effective
2.50 – 3.49	Moderately Effective
1.50 – 2.49	In effective
1.0 – 1.49	Very Ineffective

TABLE 2: RESULT USING ISO/IEC 25010 EVALUATED BY THE TEN (10) IT EXPERT

Variables	N	Sd	Mean	Description
Functional Suitability	10	0	5.00	very effective
Performance Efficiency	10	0.33	4.81	very effective
Compatibility	10	0.38	4.86	very effective
Usability	10	0.23	4.91	very effective
Reliability	10	0.09	4.96	very effective
Security	10	0.16	4.91	very effective
Maintainability	10	0.34	4.74	very effective
Portability	10	0.12	4.95	very effective
Over All Result	10	0.12	4.9	very effective

Table 2 shows the result of the evaluation of the system by Ten (10) IT experts. The results revealed that the system is "very effective" as shown in the overall all results (M= 4.9, SD= 0.12) and in terms of Functional Suitability (M=5.0, SD= 0), Performance Efficiency (M= 4.81, SD= 0.33), Compatibility (M= 4.86, SD= 0.38), Usability (M= 4.91, SD= 0.23), Reliability (M= 4.96, SD= 0.09), Security (M= 4.91, SD= 0.16), Maintainability (M= 4.74, SD= 0.34), and Portability (M=4.95, SD= 0.12). This meant that the system requires less effort for the modification of its service and would not be affected by any change during the maintenance period. Also, it conforms to the standard and could easily adapt to changes within a specified environment without affecting its operation.

The SD further implies that the system could meet the software quality characteristics set by ISO/IEC 25010 standards. This implies that the software is of good quality and could provide quality service to the End User

TABLE 3: RESULT OF EVALUATION FOR FIVE (5) END USERS FROM THE STAFF OF OFFICE OF CAMPUS ADMINISTRATOR

Variables	N	Sd	Mean	Description
Effectiveness	5	0.45	4.80	very effective
Efficiency	5	0.45	4.80	very effective
Satisfaction	5	0.11	4.95	very effective
Freedom From Risk	5	0.15	4.93	very effective
Context Coverage	5	0	5	very effective
Over All Result	5	0.08	4.96	very effective

Table 3 shows the result of the evaluation of the system by five (5) End Users from the Staff of the Office of Campus Administrator. As revealed in the data, the overall result signifies that the system is "very effective" (M= 4.96, SD= 0.08). The same result is shown as to the system's Effectiveness (M= 4.80, SD= 0.45), Efficiency (M=4.80, SD= 0.45), Satisfaction (M= 4.95, SD=0.11), Freedom From Risk (M= 4.93, SD= 0.15), Context Coverage (M= 5, SD= 0).

These findings imply that the system has been designed to be simple to operate and use. Furthermore, with its features, it could provide quality service to the staff of the Office of the Campus Administrator at ISAT U Miagao.

IV. CONCLUSION

Based on the results presented, the following conclusions were drafted:

1. The system meets the specified requirements for creating a memoranda database storage system. The system can facilitate the fast viewing of office memoranda Sort the list of the memoranda by Department, Individual, subject, date, Office Memorandum Number

2. Based on the evaluation of the IT Expert the overall mean has a rating of 4.9 and a standard deviation of 0.12. And the end users have an overall average of 4.96 and a standard deviation of 0.08, indicating that the system is very effective and the rating of both the IT Expert and end-user did not deviate.

3. Based on the findings, the creation of a record management system specifically for office memoranda provides insights into the contribution of record management on the performance of ISAT U MC and creates new methods and principles of records management to aid the administration in decision-making.

4. Based on the perception of respondents from the potential end users and Information and Communication Technology experts, the system is very effective in all the qualities it requires.

V. RECOMMENDATION

Based on the preceding findings and conclusions, the following series of actions are recommended:

1. The system must be fully implemented by the ISAT U Miagao Campus.

2. It is recommended for future researchers make further enhancements to the system specifically to develop a Web-based Memoranda which is not only intended for the Office Staff to retrieve the memorandum as well it is useful also to the Faculty and Staff to view and retrieved Memorandum Online to address work from the home scheme in this time of COVID 19 – Pandemic.

3. The future researcher may consider conducting a similar study and also expanding the scope of the system

REFERENCES

[1] R. Nordquist, "Memorandum (note or record)," ThoughtCo, Aug. 26, 2020. [Online]. Available: https://www.thoughtco.com/memorandum-note-or-record-1689169. [Accessed: May 15, 2023].

[2] E. Adzido, "The Role of Accounting Information in Decision-Making Process," Journal of Economics and Business, vol. 2, no. 1, pp. 89-95, 2015.

[3] Tagbator, R. A. (2015). Effective Record Management and Organizational Performance in Public and Private Organizations in Nigeria. Journal of Education and Practice, vol. 6, no. 33, pp. 1-5.

[4] Beastall, L. (2000). Electronic record management: a UK survey. Records Management Journal, vol. 10, no. 3, pp. 145-151.

[5] Shaharin, S. (2021). Evolutionary Prototyping Model [Online image]. Retrieved from https://www.researchgate.net/figure/The-evolutionary-prototyping-model_fig1_348312970.

[6] ISO/IEC. (2011). Systems and software engineering -- Systems and software Quality Requirements and Evaluation (SQuaRE) -- System and software quality models. ISO/IEC 25010:2011.

[7] C. J. M. Abe, C. E. T. Ong, and J. L. Palma, "Student offense management system of the office of student affairs and discipline," ITE Students' Compendium of Undergraduate Research Abstracts (2008-2011), https://ejournals.ph/article.php?id=6106#:~:text=The%20Student%20Offense%20Management%20System%20definitely%20a%20great,bring%20efficiency%20and%20convenience%20for%20students%20and%20stakeholders, 2008.

[8] "Powerful Tools for Tracking and Reporting Student Behavior," retrieved from https://www.rediker.com/solutions/student-information-system/discipline.

[9] Undergraduate Student Handbook of Iloilo Science and Technology University (2018 Revised Edition).

[10] M. Martin, "Prototyping model in software engineering: Methodology, process, approach," retrieved from https://www.guru99.com/software-engineering-prototyping-model.html, 2021.

[11] E. Cherkashin et.al, "Digital Archives Supporting Document Content Inference," 2019.

[12] S. Yacoub and J. A. Peiro, "Identification of Document Structure and Table of Content in Magazine Archives."

[13] L. J. T. Montalban and C. V. Antiquera, "ISAT U Miagao Campus Students Thesis Archiving and Profiling System," International Journal of Computer Science and Information Technology Research, vol. 11, no. 2, pp. 50-54, Apr. - Jun. 2023. [Online]. Available: www.researchpublish.com. DOI: https://doi.org/10.5281/zenodo.7890382.