An Intranet-Based Project Life-Cycle Management

Sharanya Shrivathsa K S, Sushma S, Sushmitha M, Swapna B

UG Student,Dept of CS & Engineering, CBIT- Kolar
UG Student,Dept of CS & Engineering, CBIT-Kolar
UG Student, Dept of CS & Engineering CBIT-Kolar
UG student, Dept of CS & Engineering CBIT- Kolar

Abstract

The project is about Life-cycle Management activities and Relative data storage. It's stores data at particular stage and retrieval process of data through client-server Architecture. It is implemented in java platform using MySQL as back end database. Main idea of the project is to develop a software application which can handle file sharing in a organization for providing best service for users and completing work in less time. The project basically will have three parts. First part is associated with data storage and retrieval from the server using a predefined path or format. Second part is about secured client-server communication. Third part is about front end/GUI in client-server system. This application is implemented in four modules: Admin module, Department module, Client module and Report module. In Existing system in DRDO office manual work is preferred which is a time taking process and cannot provide best service for users in less time and in manual work there is no preference time of completion of work which is burden for people. In order to solve this problem we implement a software application through which application process is done through online and status of application can be known from time to time. And the basic idea of this project is, all related artifacts will be stored on the server in a secured manner and any authorized client or person will be allowed to access that data from a client computer sitting across the intranet. The communication protocol used will be TCP. The storage mechanism will be implemented using MySQL. The GUI will be developed using Java language.

A digital signature is also included for signatories which can be tracked and monitored. Additionally, it provides a framework where the development of an Intranet-based documents Management System can be based.

Keywords — *Records Management; Document Digitization; Digital Signature;*

I.   INTRODUCTION

Most of the universities are responsible for keeping the documents safe and organize. These are files which contain information such as text, pictures, graphs portraying information and idea. It was made to sum-up different information for the requirements needed in a specific company or data gathered for future use. Hence, the documents are very important in every organization that serves as a simple communication through memos, agreements, instruction manuals, brochures and even annual reports. one of those organizations which creates and maintains various ISO documents that are needed to be kept and organized. For business organizations, ISO (International Standard Organization) serves as a strategic tools which assures that products and services are safe, reliable and good of quality. An ISO documents contains specifications, guidelines that can be used for ensuring materials, products and services are capable for its purpose. Thus, may also leads to reduction of costs by minimizing waste, errors and increase productivity. They leverage companies to access new markets, level the playing field for developing countries and facilitate free and fair global trade.

In addition, QMO(Quality Management Organisation) is also in charge for planning the institutional accreditation activities of all different departments in the university. Policies, procedures, forms, job descriptions, quality manuals, work instruction, and syllabi are included to the documents related in maintaining of the quality services of the university. These documents are arranged, classified based on its categories dependent on its distribution lists and stored in a central repository inside the office.

Based on some studies, it was proven that documents are capable in helping organization to remain competitive and help increase their accountability, transparency and integrity. Perhaps the QMO handled documents going in and out which is manually sent and received or distributed via mail yet undergo first in proper signing by the signatories. However, due in the stage of signing became problematic for the office because documents are not monitored whether it is signed or just piled up in the office. For the office to secure the copy of documents it makes a duplicate copy of it for the retrieval whenever ones' copy gets lost. Sometimes office produces a digital copy and store it in a local hard drive of a computer, thus proves to be ineffective as it adds additional work for the office and cost for the University. A paperless documents management system however helps streamlines document processes throughout a department and provides a central repository of the documents. In

addition, this helps the office see the newest version of the documents in any time for retrieval in such easy way. Due to the different departments involved and different classification of documents, the office is having a difficult time to arrange it in its order through ISO manuals that includes policies, procedures, syllabi and other forms. And for these problems arising, developing an intranet based website for QMO as its document management and monitoring system with the inclusion of digital signature can be beneficial for the office and the institution as a whole as it provides easy storage, management, and monitoring of documents that go in and out in the office. This solution improves the efficiency of the work process of the Quality Management Office whose work focuses on ISO related documents. This study aims to 1) Provide a needs analysis and 2) Framework for the development of an Intranet-based Document Management and Monitoring System.

II. REVIEW OF RELATED LITERATURE

Managing data and documents is a tedious task especially when handling large amount of data. The institution itself must have no room for mistake when it comes to managing important documents. Through the help of equipped and standardized computer devices, this now allows users to conveniently manipulate virtual copy of the document with the same ease without any hassle to handle papers and manages it as well. Through converting physical copies into digital copies this electronic way helps mechanize the flow of work and also offers a way to unify the location of information. In possibility of handling important documents by unauthorized person the system provides a feature that restricts unauthorized person in accessing any confidential records. In additional feature it may offer tags that represent a document's categories that helps to easily retrieve of electronic copy. The method of tagging helps to organize paper or electronic records which can do sorting, filtering and editing of the documents and can do shuffle the documents depending on the preferred order of the end user. This also permits a focus review of the records for purposes as trend-spotting.

Keeping tracked and well monitored documents are one of the important features in a Documents Management System. With this, it could help QMO in monitoring the processes of signing the documents to the different signatories in real time. Since automatic classification of documents is another feature that the document management is proposing, the Optical Character Recognition (OCR) is being considered to be integrated in the system. This utilizes complex computer algorithms and high speed scanners to increase the speed and accuracy of data conversion. It is even capable of outputting formatted text that closely approximates the printed page. OCR software will be used to read both scanned and soft copy

documents for identification purposes. Using this process will automatically classify the documents based on a given criterion and uploaded in the central repository which in turn increases productivity and efficiency in the office.

Documents are being forwarded to different offices which require signature. For a signature is a legal proof whether a certain document was processed, checked, approved, received or not. This is an affirmation to know whether the person involved were informed about the details included in the document. In the traditional way of assessing the documents in the QMO, seems to be inefficient since the signing of the documents are not properly monitored, thus take too long to be signed. And for the consistent notification to prioritized the documents that need to be reviewed and signed, the digital copies is included in the system and via digital signature the signatories will use this to counter this problem.

However, the built-in notification and classification of prioritized documents for signature in the website will allow faster and efficient work process without compromising security at one end. Digital signature is a building blocks of modern communication that aids forgery from any other recipients and prevents masquerading by any unauthorized person. Moreover, digital signatures even prevent possible pirates from easily removing the signature.

III. METHODOLOGY

The study aims to provide an Intranet Based Document Management System to aid to the problems seen inside the office in regards of handling physical documents. The Review of Related Literature and the result of the preliminary survey for the needs assessment served as the foundation for the conceptualization of the framework that will serve as the system's blueprint. A total of 40 respondents which include the faculty members of the University, Deans of the different Colleges and the staff o the Quality Management Office answered the survey.

A. Questionnaires

Questionnaires were distributed among the different offices of the organization to determine the problems, weaknesses observed with the current process flow of document creation and management of ISO documents The questionnaires include the respondent's: 1) Level of difficulty in terms of collecting, monitoring and storing the documents from the QMO; 2) Level of awareness in receiving and disseminating documents in and out the QMO; and 3) Assess how secured are the Documents distributed among the offices in the University from being breached by unauthorized personnel. The result of the survey is discussed in the succeeding section.

IV. SYSTEM FRAMEWOK
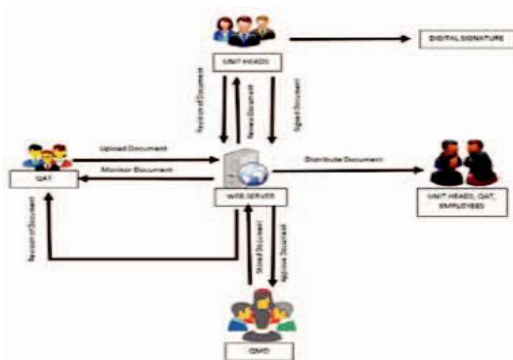
A. System Paradigm

Fig. 1. System Diagram

The system paradigm depicts the different functionalities and transactions among the different offices of the Institution. All users will be given an account for logging in the system, the Document Controller who works under the Quality Management Office has the rights to distribute the documents based from the receiving copy approved documents from the unit heads. The distribution of the documents is based on the distribution indicated in the document. Document Controller has the access to view the summary of records in the office. Unit heads or heads of offices receive documents from their respective (Quality Assurance Team (QAT). Each office has its own QAT which are directly connected to the Quality Management Office. Unit's heads approve these documents by means of a digital signature. The QAT of each office is also responsible for creating new forms, such as policies, procedures and other documents which in turn are submitted for validation and approval to their respective head. Once it is approved, the document is sent to the Quality Management Office

central repository/database. They also have the consent to monitor the documents whether what office a certain document is being processed. Moreover, they also receive documents from the QMO (Document Controller) whenever they are included in its distribution list

B. Use Case Model

Figure 2.0 explains the roles of each user in the system. All users need to log-in for them to access their respective module. The Document Controller manages and distributes documents to different offices in the University. Distribution of documents is based on the distribution list indicated in the documents to be submitted. Units Heads reviews, approves and signs documents forwarded to them both from their respective QAT and the QMO. The QAT is responsible for creating new forms, policy and other documents. They also have the consent to monitor the documents whether what office a certain document is being processed.

V. SYSTEM FEATURES

The proposed system for the intranet-based website will allow the institution/office for storing, managing, updating and monitoring of documents that go in and out in the office securely. The proposed system aims to 1) provide an organize storage of documents by categorizing or classifying documents, provide an accurate and complete archive of documents, monitor documents that are needed to be signed by the signatories and lastly to provide an access to the documents that are permissible outside its restrictions.

The proposed system will be composed of 6 modules that are fit to deliver the objectives and solution under this project. These are: A) Admin Module B) Department Module C) Client Module D) Notification Module E) Settings Module. F) Messaging Module.

Fig. 2. The Use Case Model
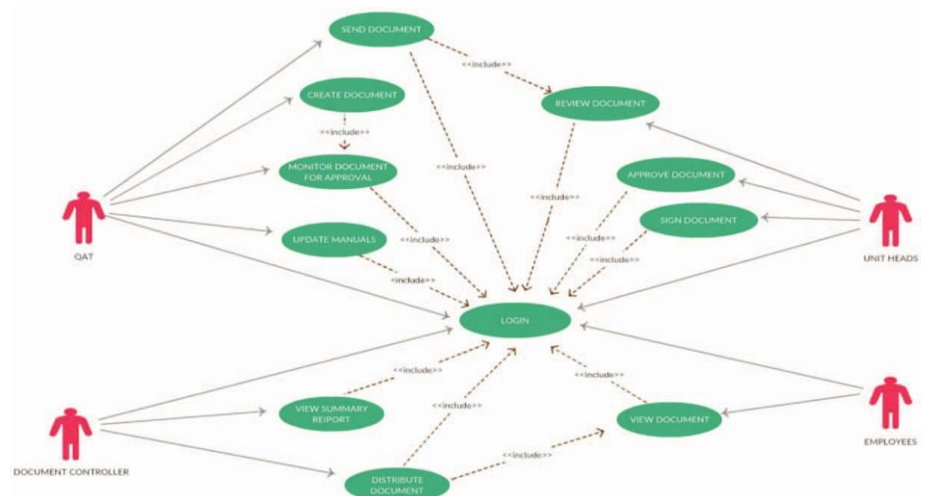
A. Admin Module

This module has the input fields provided for the users and admin access the webpage. All users and admin will be given a default username and password for each and one of them. No signing-up for an account is presented. However, the user can subsequently change his/her default password upon logging in the system.

B. Department Module

This module is used to store and manage documents. Document Management will be automated or computerized from the manual filling cabinet. The documents will be stored based on what type of document it is depending on the file name where proper naming convention takes place. This module contains different document management tools such as printing, deleting, refreshing, adding and sending of documents which is based on the accessibility of the users seen in the distribution list. Adding of the documents can be done in two ways; it's either by uploading a file which is already in the computer or scanning a new document to have a soft copy and is then to be uploaded document management module which can be done by the QMO only.

This module contains different monitoring tools such as saving the signed document and sending the documents to the signatories from one to another. The module also contains a document number that is randomly given to a particular will document that is needed to be monitored once it already undergo the process.

C. Notification Module

This module will notify the users and admin whether a document has been added or changed. It also appears for the monitoring of QAT and signature for the unit heads. Notification can be filtered by read and unread.

D. Client module

This module will be used under the QAT (Quality Assurance Team) per office unit/department that identifies to which particular a document belongs. It also monitors document that are forwarded to the head of a department for approval through affixing his signature to the document. This module visibly provides detail to which office the document is currently in. By looking at its properties, the sender of the document would know there the document has been sitting and has not given attention for approval. With this, monitoring of documents become more efficient.

Fig. 3. Document Management Module

Fig. 4. Document Monitoring Module

E. Settings Module

This module is used for accounts for the admin only for it holds all the accounts of the offices and list of users. In this module, the admin can add an account with the respective username and password that will be given to the user and could also add and update offices' accounts.

F. Messaging Module

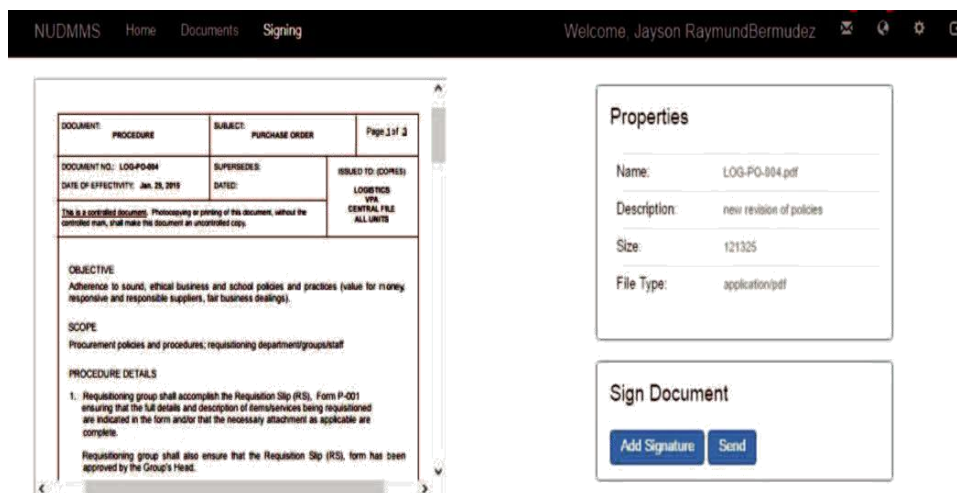This module is used for messaging all the people involved in the system. This module works only with the

Fig. 5. Document Monitoring Module - Signing

Document Controller or the Quality Management Office, Unit Heads and QAT. This allows the users to leave a message to anyone who has the same access to the module and has active documents between or among the offices involved. If no documents are active between two offices, no communication will take place.

VI. RESULTS AND DISCUSSION

Based from the questionnaires given to the respondents, the following information were obtained: 1) The respondents have difficulty in managing, monitoring, storing and collecting documents. The resulted Mean for their response is 3.0 which has a descriptive value of difficult. 2) The respondents are somewhat aware of the documents that the office need to send or receive.

The summary of results is presented in the table below.

Table 1. Summary of Result Assesment

Criteria	Mean Response	Interpretation
Level of difficulty in terms of collecting, monitoring and storing the documents from the QMO	3.00	Difficult
Level of awareness in receiving and disseminating documents in and out the QMO; and 3.)	3.10	Somewhat Aware
How secured are the Documents distributed among the offices in the University from being breached by unauthoirzed pesonnel.	2.75	Somewhat secured

The study has provided a system framework comprising of the System Paradigm and Use Case Model. Both served as the framework for the development of an Intranet Based Records and Management System. The result of the Survey revealed that there is a gap among the different offices of National University in terms of handling documents

that go and out of each office. There is a currently a lack in technology innovation. The literature has also provided us the significance of utilizing current technology to increase productivity and work efficiency in a given organization.

VII.RECOMMENDATION

Computer-based Document Management System provides different capabilities which greatly out performs paper-based document management. Importing, searching, retrieving, manipulating, archiving and managing different electronic documents regardless of the format of the documents can easily be achieved.

A digital or soft copy can easily be obtained and managed as described in the review of related literature. Since the documents are now kept as a digital/ soft copy, retrieving, classifying and archiving documents can now be done conveniently. The notification feature also provides a reminded to an office there is an active document that needs attention.

The researchers recommend the adoption of the proposed framework for the development of the documents management system for the Quality Management Office of National University. Future works include longitudinal study of the proposed system once it has been implemented.

REFERENCES

[1] Project Management Institute, USA via internet.
[2] The Infamous Coopers & Lybrand Document Management Study. 2012.
[3] Yusof, Z. and Mokhtar, U. (2015) Records and Information Management: The Requirement for Functional Classification. Open Journal of Social Sciences, 3, 215-218. doi: 10.4236/jss.2015.33032.
[4] Practical tools, techniques & MS project scheduling and Best project management practices – Dick Billows
[5] Cloud and HTML based document management and creation system.
[6] N. Y., H. K. Document conversion system including data monitoring means that adds tag information to hyperlink information and translates a document when such tag information is included in a document retrieval request.US 6073143 A. Sanyo Electric Co., Ltd.
[7] Records management system (2015). [Online] Available: https://www.google.com/patents/US2015031000