



ELECTRONIC DOCUMENT MANAGEMENT SYSTEM

Maha Taha Aserri, Elham Ahmed AL-Ahmari
Department of Information System,
College of Arts and Science for Girls, Khamis Mushayt
King Khalid University, Abha
Kingdom of Saudi Arabia

Abstract: *The documentation process at the university departments, has many shortcomings. This fact has led to many problems since all the mail in and mail out letters are kept manually which leads to time wasting and make the process very work intensive. The fact that the documentation process has many shortcomings is therefore a crucial problem, because it has contributed to many documents not being created or documents gone missing. In this proposed document we are introduce the document management system which is requires the ability to manage, store and share the documents acquired between departments in a fast and reliable way. This can be achieved by using an information system, more specifically an Electronic Document Management System (EDMS). Such a system should allow users to store, access and modify information quickly and easily. In this project we are going to select an EDMS for the university departments which is implemented through the Microsoft .NET framework using the C#.NET. This EDMS should allow users to store, access and modify information quickly and easily. It should also thoroughly remove the problem of missing documents or documents not being created and make the retrieving of the documents more flexible*

I. INTRODUCTION

EDMS - electronic document management system is a software program that manages the creation, storage and control of documents electronically. The primary function of an EDMS is to manage electronic information within an organization workflow. A basic EDMS should include document management, workflow, text retrieval, and imaging. An EDMS must be capable of providing secure access, maintaining the context, and executing disposition instructions for all records in the system.

Document management systems exist first and foremost to organize, store, and retrieve files accurately and efficiently. Once documents and company data reside in a structured system, more sophisticated file-handling procedures become possible.

For example, because most document management systems log information about the history of document creation and modification (i.e. a digital —paper trail), managers can query the system to assess the status of employee progress or trace the history of past versions.

Document management systems and enterprise content management (ECM) put the volumes of unstructured information your business generates at your fingertips. What's more, those documents remain archived safely and securely.[1]

II. EXISTING SYSTEM

The current system which is applied at the university to save the mail-in and mail-out letters and the other documents and from this information a clear problem definition, including the many problems all departments seem to have concerning document management was made:

- Efficiency: It takes a long time (if possible at all) to find a document in the present situation, especially for new employees.
- Knowledge Sharing: It is not clear which documents have been created in the past. Because of this, new documents are regularly created from scratch, while

these could have been based on existing documents. As a result of this a lot of time is wasted.

- Document flow: The business process cycles (creation – verification – modification – approval – etc.) related to all sorts of documents, are currently not enforced through a system.

III. PROPOSED EDMS SYSTEM

In this project, we aim a new proposed system and make an analysis of the business needs and processes of university departments to manage their documents, and to develop an EDMS tool that will support these needs.

The objective of our project as follows:

- Analyze and develop a document management system for the mail-in and mail-out letters. Focused on managing documents, though they are often capable of managing other —electronic information! such as images, movie files etc.
- Focused primarily on storage and archiving and document life-cycle management including document expiry

IV. ADVANTAGES of EDMS SYSTEM

The advantages of EDMS are:

- Flexible Retrieval
- Flexible Indexing
- Improved, faster and more flexible search
- Improved Security
- No Lost Files
- Digital Archiving
- Reduced Storage
- Improved Internal Operations

The reduced time to complete processes provided by the tangible advantages, improves the day to day operations of all functions within an organization, leading to an improved flow of information, an increased perception of staff in their ability to solve questions and tasks and a general —feel good! factor.[2]

V. BACKGROUND

Beginning in the 1980s, a number of vendors began to develop software systems to manage paper-based documents. These systems dealt with paper documents, which included not only printed and published documents, but also photographs, prints, etc...

Later developers began to write a second type of system which could manage electronic documents, i.e., all those documents, or files, created on computers, and often stored on users' local file-systems. The earliest electronic document management (EDM) systems managed either proprietary file types, or a limited number of file formats. Many of these systems later[when?] became known as document imaging systems, because they focused on the capture, storage, indexing and retrieval of image file formats. EDM systems evolved to a point where systems could manage any type of file format that could be stored on the network. The applications grew to encompass electronic documents, collaboration tools, security, workflow, and auditing capabilities

These systems enabled an organization to capture faxes and forms, to save copies of the documents as images, and to store the image files in the repository for security and quick retrieval (retrieval made possible because the system handled the extraction of the text from the document in the process of capture, and the text-indexer function provided text-retrieval capabilities).

While many EDM systems store documents in their native file format (Microsoft Word or Excel, PDF), some web-based document management systems are beginning to store content in the form of html. These policy management systems require content to be imported into the system. However, once content is imported, the software (ex. Corona Document Management System) acts like a search engine so users can find what they are looking for faster. The html format allows for better application of search capabilities such as full-text searching and stemming. [4]

VI. SYSTEM REQUIREMENT

(a) Hardware Requirements

- Personal computer (4GB RAM, CORE i5, 120G Hard Disk).

(b) Software requirements

- MS SQL server database
- C# with Dot Net platform

VII. SYSTEM DESIGN

Systems design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements of users. The logical design of a system pertains to an abstract representation of the data flows, ER diagrams, inputs and outputs of the system.

DATA MODELING

Based on the requirements in our system, we will need to build the below data in the database: Years, User Information, Master Control, Groups, File System, File Store, Security Information, Control Values, Wared Information, Sader Information, Employee Books



Fig 1: Context diagram for EDMS

UML is a general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system. UML offers a way to visualize a system's architectural blueprints in a diagram. A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved.

USE CASE DIAGRAM

A use case is a set of scenarios that describing an interaction between a user and a system. A use case diagram displays the relationship among actors and use cases. As shown in figure 2 in the use case diagram there are two actors administrator and employee, the diagram shows how each actor will interact with the system, the administrator can manage the application lookup tables data and the main data as the employee can manage his/her profile as well as the documents related to mail-in and mail-out letters.

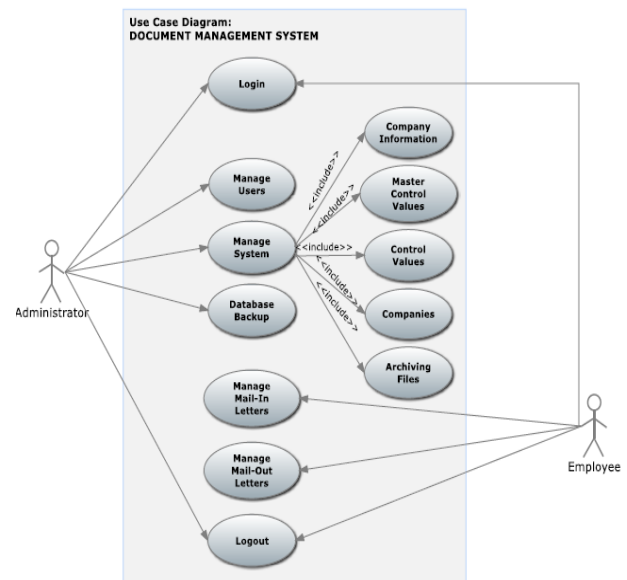


Fig 2: Use case diagram of EDMS

The other Structural and Behavioral UML diagrams are also made for the EDMS before final implementation step

VIII. SYSTEM IMPLEMENTATION

System Implementation uses the structure created during system design and the results of system analysis to construct system elements that meet the stakeholder requirements and system requirements developed in the early life cycle phases. These system elements are then integrated to form

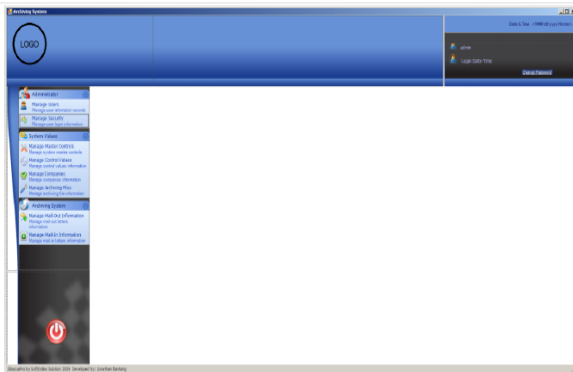
intermediate aggregates and finally the complete system. The design steps are implemented with C# code in dot NET frame work and system is build.

IX. SYSTEM TESTING AND RESULTS

Software testing techniques include the process of executing a program or application with the intent of finding software bugs (errors or other defects). Once the source code has been generated the software must be tested to uncover an many error as possible before delivery to customer. Unit testing and integration testing is comprehensively done for EDMS. The Black box testing and white box testing approach is used in testing process. The system build is run after all errors are corrected. Some output screen results are shown in the figures below.



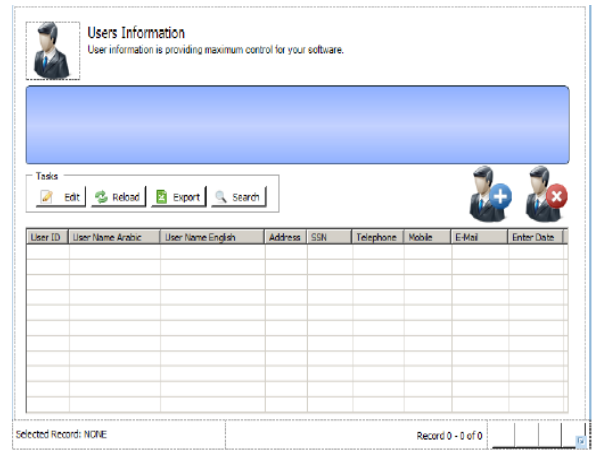
Login screen



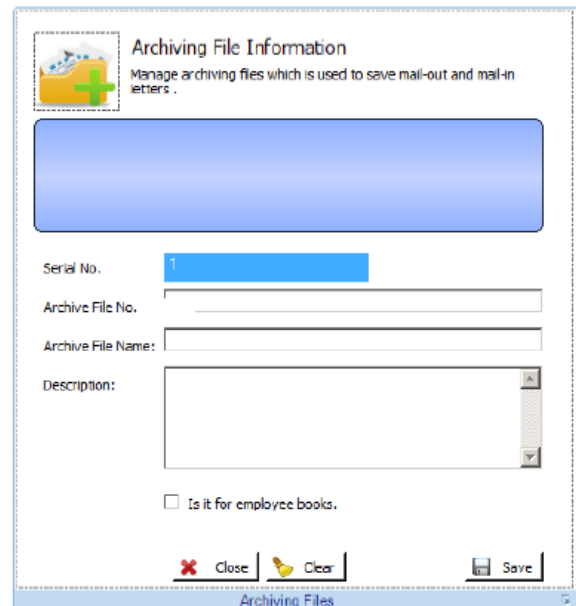
Main screen



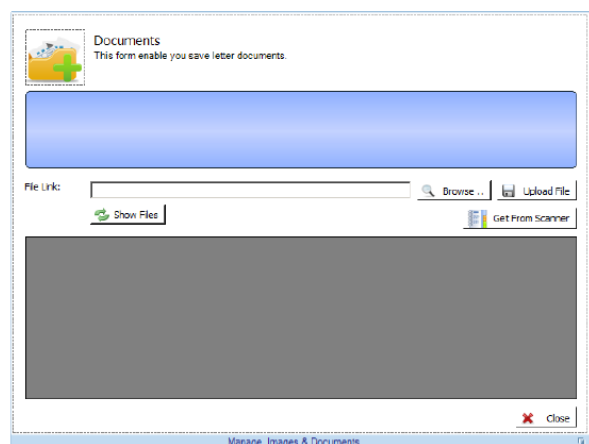
Change password screen



User information list screen



Add/Edit archiving files screen



Add/Edit documents screen

XI. REFERENCES

- [1] <https://www.lbmctech.com/blog/an-introduction-to-document-management>
- [2] <http://www.itinfo.am/eng/document-management-system/>
- [3] <http://www.tdx.cat/bitstream/handle/10803/6160/04Nfm04de12.pdf;sequence=4>
- [4] https://en.wikipedia.org/wiki/Document_management_system
- [5] https://en.wikipedia.org/wiki/Feasibility_study
- [6] <https://msdn.microsoft.com/en-us/library/4w3ex9c2.aspx>

Add/Edit Mail-in letter

Add/Edit Mail-out letter

Fig 3 : EDMS Output screens

X. CONCLUSIONS

The project summarized in Implement a sight seeing database for recording all information related to university documents which is related to the mail-in and mail-out letters. Design and implement document management system, the system will work as a tool to record all the information of all internal and external letters

The system will be implemented finally, we start by designing the windows application by connecting the database and windows forms to the designed interface. Then directly we will start programming using Visual Studio. After that we will do the testing of the windows application, to see if there are any corresponding modifications required