

## ABOUT DOCUMENT MANAGEMENT SYSTEMS

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***Abstract.** Today's companies and organizations are struggling with the large amount of documents that needs to be administered. Documents must be stored and organized effectively to allow easy retrieval. Moreover, the security, destruction or loss of documents, as well as the amount of space occupied by the numerous documents are problems faced by companies.*

*To solve the problems described above, the DMS appeared (Document Management System), which consists in managing documents in electronic format. DMSs increase productivity, reduce operating costs and transmit information effectively and quickly to an organization or company.*

***Keywords:** Cloud Computing, Document Management System, Enterprise Content, Management*

### **1. Introduction**

Document management is an information system that creates, stores, manages and retrieves electronic documents. This system is called Document Management System, abbreviated DMS.

#### **Document Management in physical format**

For companies, organizing and archiving documents is essential. Thus, storing and managing documents is very important. Prior to the release of software that allow electronic documents management, they were administrated in physical form (on paper).

The inefficiency of using the classic methods of managing documents in physical form occurs for the following reasons:

- ✓ Time required for storing, organizing and retrieving documents;
- ✓ Documents security;
- ✓ Destruction or loss of documents;
- ✓ The large amount of space occupied by papers.

#### **Document Management in electronic format**

Electronic Document Management (DMS) optimizes work processes and helps streamline business operations.

The use of electronic document management by organizations has the effect of:

- ✓ Perfecting the workflow;
- ✓ Accelerating and improving administrative activity;
- ✓ Optimizing work processes.

Among the advantages of the electronic format of documents are the following:

- *Document Security* - Users view online documents on a server by accessing only a virtual address. The physical address is only accessible to people who have been granted permissions / rights for this operation. Thus, document security is high and security issues that can occur with physical documents are avoided.
- *Quick searching and accessing documents* - Retrieving documents in physical form is a problem when the amount of documents is high. The software allows us to save and organize documents very easily with indexing.
- *Economical and ecological benefits* - Documents in physical form consume precious resources such as ink, paper and energy of employees. The electronic system does not require the resources presented above, so the economic and environmental benefits are noticed.
- *Social Responsibility* - By storing information and electronic data, the consumption of paper, toner and ink that poses a threat to the environment is reduced. Thus, companies make a big step towards protecting the environment and planet Earth.

There are several Enterprise Content Management applications. Among these we can mention Ymens and Charisma Document Management.

### **Cloud Computing**

Cloud Computing involves storing resources and information on a different computer than the personal one, called server. Through a client application, users can access data using the Internet.

For companies, cloud computing ensures transparency of document management, accessibility of documents and invoices for employees from other command units, and the integrity and security of documents.

## 2. Examples of useful Document Management Systems

Each company has to analyze its business requirements in order to choose the perfect DMS. Bigger companies often require bigger ECS solutions that cover DMS, RMS, e-mail management and other sectors. Some examples are detailed below.

### Ymens

Ymens is an Enterprise Content Management tool that uses cloud computing. It helps to improve the processes of data collection, storage, management and use of data in companies.

Among the advantages offered by Ymens are:

- ✓ Effective management of a large amount of information;
- ✓ Protecting documents, minimizing the risk of damage, destruction or loss of data;
- ✓ Accessing data from any device anywhere using the Internet;
- ✓ Reduction of data search time;
- ✓ Reduction of operational costs related to creating, storing, managing and accessing information.

### Charisma Document Management

Charisma Document Management is an Enterprise Content Management application that helps streamline work with electronic documents and business processes.

The benefits of using Charisma Document Management are:

- Protect confidential data;
- Reducing paper and maintenance costs;
- Reducing the effort needed to manage documents in physical form;
- Quick and easy access to documents;
- Advanced searches using configurable filters;
- Scanning features: converting scanned documents into PDFs, scanning and saving documents in PDF, PNG, GIF, BMP, TIFF, JPG.

Most DMSs (Document Management System) have the ability to record multiple versions of documents created and modified by users in a history. This functionality allows to return and review previous versions of documents and is a powerful asset for organizations.

DMSs have more functionality; we will list some of these:

- ✓ *Advanced search* - allows users to search and find files in a simple and fast way. Documents can be searched by name, user, document type or other attributes and metadata.
- ✓ *Versioning* - allows you to access and view / edit multiple versions of documents. You can see who modified the file, what was changed to the file, and when the document was modified.
- ✓ *Indexing* - By indexing, documents are associated with tags that are used to search and retrieve files. Examples of indexing are the invoice number, buyer ID (CNP) or its name, etc. Thus, if the user forgets where the document was saved, it can be retrieved based on the search by the set tags.
- ✓ *Metadata* - contains file information, including the name and size of the file, the date it was created, the name of the author, the changes, and the dates at which the changes, tags, or other comments occurred. Metadata is used to index and helps to find and retrieve documents quickly and efficiently.
- ✓ *Security* - Security is vital to document management. Access rights to view, modify, and delete documents and / or folders are different for users. Thus, some users only have the right to view, others can modify / delete the files, and the rest of the users can not access it at all. This right is granted by a supreme user who is named Administrator.
- ✓ *Scanning and Archiving OCR* - involves the conversion of handwritten or printed documents in electronic format. Thus, documents are scanned and subsequently converted to files saved in DMS.

Productivity inefficiency of companies that do not yet use DMS is supported by the following studies by PwC and Gartner (<http://www.infrasoft.ro/ro/documenta.php>):

- ✓ A document is, on average, copied 19 times;
- ✓ 80% of the information is contained in documents;
- ✓ 60% of employees spend more than one hour recreating documents that already exist;
- ✓ 7.5% of documents are lost;
- ✓ 3% of documents are filed wrong;

- ✓ Professionals spend up to 15% of their time reading the information and up to 50% of their time searching for it.

### 3. State of the Art

Document management is the IT-supported creation, capture, saving, and management of electronic documents of every type and format<sup>1</sup>.

These systems offers powerful document management solutions that can fit the needs and budget of any organization<sup>2</sup>.

Without any form of electronic or digital document management system, we'll have mountains of paper files and probably run out of filing cabinets to store them<sup>3</sup>.

The benefits of document digitization is huge; it's imperative to understand what more document digitizing does, especially for the business world so the decision theymake is fool proof and well within their scope<sup>4</sup>.

Document/version creation, implies uploading the file to the repository and creating a new entry inside the metadata registry. Document/version deletion: Deleting one version and all its subversions, includ-ing both physical files and database<sup>5</sup> entries [1].

Abstract Document Management Systems (DMSs) are a key component in modern enterprises. For successful document search and retrieval, an adequate metadata set should be defined in order to describe documents with sufficient detail <sup>6</sup>. [2]

The study can be outlined as follows: (1) A literature review was con- ducted in order to investigate transformation, adoption, and acceptance studies about EDMS as an ICT system in the literature. The review method for the acceptance literature was specifically constructed upon a review protocol.<sup>7</sup> [3]

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2 <http://www.southwestcopy.com/documentmanagement>

3 <https://financesonline.com/top-15-document-management-systems/>

4 [https://www.academia.edu/37955098/Benefits\\_of\\_Document\\_Digitization](https://www.academia.edu/37955098/Benefits_of_Document_Digitization)

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6 [https://www.academia.edu/35241077/Enabling\\_ontology-based\\_document\\_classification\\_and\\_management\\_in\\_ebXML\\_registries](https://www.academia.edu/35241077/Enabling_ontology-based_document_classification_and_management_in_ebXML_registries)

7 [https://www.academia.edu/33077070/The\\_Perception\\_of\\_Electronic\\_Document\\_Management\\_Systems\\_EDMS\\_as\\_a\\_Transformational\\_Information\\_and\\_Communication\\_Technology\\_ICT\\_for\\_Public\\_Institutions\\_in\\_Turkey](https://www.academia.edu/33077070/The_Perception_of_Electronic_Document_Management_Systems_EDMS_as_a_Transformational_Information_and_Communication_Technology_ICT_for_Public_Institutions_in_Turkey)

#### **4.The proposal**

The aim of this paper is to propose a new architecture of DMS which 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.

The start point of this paper is an analysis of some applications in DMS field, the documents involved in the processes, to get a general idea of the working methodologies and deficiencies of these systems.

Finally, an architecture is created and the programmers will then further design and implement this system for an effective Document Management System.

We propose a new sistem, based on a general model. The central model has some new elements that ments for each module in system-independent terms: software.

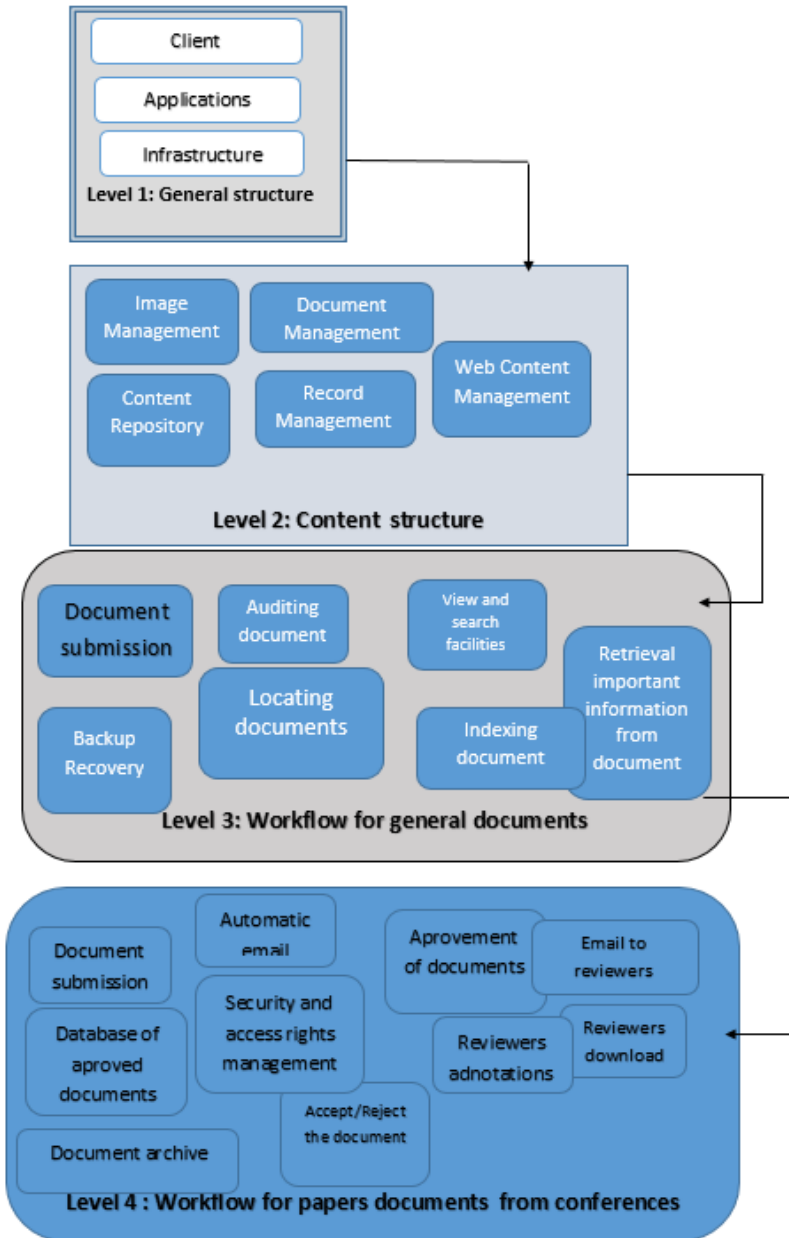
Level 1 contains the general structure, divided into three main parts: client, applications, infrastructure.

Level 2 is focused on the management of content structure and has modules of information structured as follow: documents, records, web content, databases and repositories, images.

The workflow imlemented at level 3 represents the series of work practices in a chronological manner and is often used to be able to map out the practices in a visual way in our system.

The last level will describe a quick outline of a typical conference workflow. It is intended to highlight the main stages of the conference lifecycle and how other modules integrate with each one.

The architecture is presented below (see figure 1 ).



**Figure 1.** General architecture for a new document management system

### Conclusions

It is noted that using the Document Management System leads to increased productivity, lower operating costs, and the transmission of information in a useful and very short time in an organization or company.

Using DMS systems effectively in a company or teaching organization ensures that data and knowledge is safe, accurate, and accessible. With that comfort, student, clients or employees feel more apt to reduce paper and rely on the DMS system. It is one important step for efficiency the work in organisation.

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