

**SKSU WEB-BASED ELECTRONIC DOCUMENT MANAGEMENT
SYSTEM WITH SMS NOTIFICATION**



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One of an organization's most valuable information resources is in the form of documents, that is why most of the business processes of the organizations deeply rely on, or driven by, document workflow. This is one of the most important challenges facing managers on how to harness the information technology in managing these documents. This study aimed to develop a Web-based Electronic Document Management System to automate the process of managing documents and improve the efficiency of the Documents Workflow. The developed system employs the used of internet technology to enable the access to authorized users anytime, anyplace where there is a connection to internet. The distinct feature of this system is its capability to send SMS notification on the information about the shared document to a recipient. Several issues about document management were addressed in this study which includes: Utilization of electronic documents that process paperless transaction; Provide easy access on the electronic documents online; Automation of the workflow of documents by formulating rules for the implementation of organizational hierarchy; Notification to the user about the document management transaction using SMS technology. This web application is designed and customized to be used by the Sultan Kudarat State University, but with minor changes, it can be used by any university.

Keywords: *EDMS, Workflow, SMS, Document, Notification*

I. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

One of an organization's most valuable information resources is in the form of documents such as business forms, reports, letters, memos, policy statements, contracts, proposals, and others. That is why most of the business processes of the organizations deeply rely on, or driven by, document workflows. This is one of the most important challenges facing managers on how to harness the information technology in managing these documents.

Advances in handling information in documents are driven by several forces in the business environment, and enabled by new technology developments. The business forces include the drive for increased quality on which to base global competitiveness and the need for increased productivity to conserve scarce resources. Technology developments enable these advances that include digital image processing, large capacity storage, hypertext, multi-media documents, high bandwidth communication channels, electronic printing, electronic mail and fax, and improved techniques for information and

text retrieval. These technologies are proving valuable for applications such as workflow management, communication between and within organizations, training and education, records management, and internal reporting.

With these scenarios of technological advancement, Electronic Document Management System (EDMS) promises major productivity and increases performance by applying new technology in processing documents. It is the application of new technology to save paper, speed up communications and increase the efficiency of business processes.

Electronic Document Management System (EDMS) in detailed description is a computer system used to track and store electronic documents. EDMSeS are designed from the ground up to assist the entire organization seeking to manage the creation, storage and retrieval of information stored as documents. A DMS revolves around a centralized repository that is used to manage the storage of any type of information that could be of value to an organization. In a world where only black and white information is available, there is always a physical limit to the amount of information that could be stored and retrieved. It could be argued that Microsoft with the introduction of MS-Office released users from this physical limit – and with the exponential increase in information that has resulted, document management software has become an intrinsic part of most organizations as they seek to manage the vast quantities of data they hold. (Steve Williams).

This study aimed to develop a system that is customized for Sultan Kudarat State University (SKSU) to manage and process documents especially for its internal transactions. The primary purpose of this study is to provide efficient document workflow processes that manage the entire life cycle of a document. SKSU is a multi-campus state university having ten (10) campuses strategically situated in different municipalities in the province of Sultan Kudarat and nearby provinces in South Cotabato and Sarangani, namely: SKSU-Isulan Campus, SKSU-Tacurong Campus, SKSU-Lutayan Campus, SKSU-Glan Campus, SKSU-Bagumbayan Campus, SKSU-Senator Ninoy Aquino Campus, SKSU-Kalamansig Campus, SKSU-Palimbang Campus, SKSU-SUNAS Campus, and SKSU-ACCESS Campus where its administration office is located. Considering its wide area of coverage, some document related concerns that need to be addressed to the respective personnel (Key officials, Faculty and Staff) cause inconvenience and time delay with regards to the dissemination and distribution.

The distinctiveness of the project is being web-based and for general-purpose. Being web-based makes this system available everywhere through the web which covers the storage, accession, sharing and distribution of electronic information anytime, anywhere through internet connection. Being general-purpose means, the system can be used for all types of document and includes uploading of these documents (specifically office incoming/outgoing communications and other related documents) in electronic format, and can be stored in a repository, particularly, in a database of a web server. This can be accessed with restriction using rights management control which will limit who can view, access, share and distribute the document. The value-added feature of the system is the use of Short Messaging System technology (SMS) in sending notifications to concerned

employees of the University for them to be aware that there is an online document needs to be accessed in the University's Electronic Document Management System.

1.2 TECHNOLOGY APPLICATION CONTEXT

There are several basic types of technology applications that are considered in this study. In most cases, they can improve the process of document management by harnessing the potential technology solutions they offer. The following are the identified aspects of document management where technology can be applied.

Media conversion – Scanning files into an (Optical Character Recognition) OCR format allows the conversion of hard copy files into an editable text format that can be used with applications such as Word, WordPad or NotePad.

Filing of documents - Instead of doing inefficient manual storage and document filing that take up substantial space and waste time, several technologies can be used to have a unique electronic filing system that puts all your documents in one easy-to-search vault – where you can find what you want if you need it.

Document Tracking and Control- records management software and/or bar coding systems can provide an excellent means of tracking documents once procedures are in place.

Document Workflow - Workflow software is used to automate business processes where electronic information or documents can be passed from person to person for action

Sharing and Distribution - Providing increased access to information is one place where technology offers a number of options. With the use of technology especially the Internet can dramatically cut the need for distribution by paper or diskette. Another useful technology for distribution is CD-ROM.

Electronic Document Management - An electronic document management system is a software that you can use to store and retrieve electronic documents. An "integrated" system may use one or more technologies like imaging and workflow.

1.3 OBJECTIVES OF THE STUDY

Generally, the study aimed to develop a Web-based Electronic Document Management System that is capable of storing, accessing and sharing electronic documents anytime, anywhere over the internet with SMS notification.

Specifically, this study aimed to:

- utilize electronic document format in the organization's document processing
- formulate rules for the implementation of organization's hierarchy for the workflow of electronic documents
- enable the delivery of notification through SMS technology

- evaluate the system in terms of its functionality, accessibility, user interface design, and security.

1.4 SIGNIFICANCE OF THE STUDY

This study on Web-based Electronic Document Management System will automate the way SKSU processes the workflow of its documents. This technology is significant because it is one of the better ways to improve the process and speed up the communication and dissemination of relevant information to the concerned personnel. With the value-added feature, which is the use of Short Messaging System (SMS) technology, the system is capable of sending notifications to the concerned employees of the University for them to be aware that there is an online document needs to be accessed.

This new structure of the university to systematize the process of document workflow provides value-added opportunities to the administration, personnel and stakeholders to facilitate official transactions in a more convenient way. It will also provide transformation on the usual way how the university manages the workflow of documents from the expensive reproduction of black and white to electronic form which is available anytime and anywhere. The new technology of electronic document management system introduced in the university is expected to increase personnel performance in the efficiency of processing documents in a more convenient, more accurate, timely, cost-effective manner and can give better access and sharing over geographic distances.

1.5 SCOPE AND LIMITATION

This study was limited to the development and implementation of Web-based Electronic Document Management System software which was based on the workflow of documents of Sultan Kudarat State University. The system does not include the conversion of paper-based documents into digital format; instead, it can only upload the readily available electronic documents. The electronic documents to be stored, accessed and shared to the personnel of the SKSU can be accessed online with restriction. This can manage internal documents that are being processed in the different campuses and offices of the Institution.

It will be tested in the Office of the President where most of the documents are being processed and eventually cascaded to the different campuses or major offices of the university.

1.6 DEFINITION OF TERMS

1.6.1 Document

a piece of written, printed, or electronic material that provides information or evidence and serves as an official record.

1.6.2 Document Management System

a computer system (or set of computer programs) used to track and store electronic documents.

- 1.6.3 Electronic Mail (E-mail)** a system for sending and receiving of messages electronically over a computer network, as between personal computers.
- 1.6.4 Notification** an act or instance of notifying, making known or giving notice. It can be in a form of written or printed notice, announcement or warning.
- 1.6.5 Official Document** refers to the organization's official documents such as communications, memorandum and others.
- 1.6.6 Personnel** refers to the employees working in the organization
- 1.6.7 Retrieve** the act of tracing and the recovery of specific information from stored data.
- 1.6.8 Short Messaging Service (SMS)** a system that enables cellular phone users to send and receive text messages.
- 1.6.9 Storage** the retention of retrievable data on a computer or other electronic system; memory.
- 1.7.0 Web-based System** a system which provides access to a single software system over the Internet for users whenever they are using a Web-browser.
- 1.7.1 Web Server** refers to either the hardware (the computer) or the software (the computer application) that helps to deliver web content that can be accessed through the Internet.