EDMS: Electronic Document System to Improve Process Performance

Adsavakulchai S.
School of Engineering, University of the Thai Chamber of Commerce
126/1 Vibhavadee Rangsit Rd., Bangkok 10400
e-mail: suwannee_ads@utcc.ac.th

Abstract— **To develop an electronic document system (EDMS) as a computer system designed to store and track electronic documents and other media. The main objective of this study is to develop the web application using PHP and MySQL as a tool for National Defense College. The system consists of a variety of technologies including digital imaging, document management, workflow, computer output to disc, document input, groupware, records management, and search and retrieval. Various combinations of the technologies can be integrated to create systems for information management. Combining multiple software applications and providing a common interface to through the desktop is an excellent solution for record-keeping problems. Paperless is to reduce the carbon footprint and save money in the environmentally-aware office. The result from this program is to improve working process performance 50%. It can be concluded that an electronic document system reduce paper used 86.2%. The less paper the less energy and carbon emission used with printers and copiers. On-going research is to integrate this program for others office in the college and tend to be the paperless school.**

> *Keywords*— *electronic documents, software development, process performance, paperless*

I. INTRODUCTION

Software Development for the document management is likely tackled by organizations due to the volume of documents they were required to manage. A well-designed document management system is flexible enough to support rigid workflows around document and other record creation, retention and destruction, thus ensuring that you meet your legal obligations, as well as a more loosely structured environment that may better support collaboration. The document management system will not only store your documents but will also importantly provide you with easy access to your documents, whether this be via a powerful search mechanism, tagging and tag clouds, or an easy to use document browse.

Document Management systems enable the automation of routine tasks. For example, if you scan in a paper invoice for a merchant or customer, the system should automatically associate fields from its database, such as customer number and job number, without the need to reenter them. You should also have the ability to establish rules that can be applied to specific documents.

Document Management Software was also increasingly requiring better control of their document lifecycle to utilize needs to fit your organization's goals, culture, technology capabilities, and budget. The system will also provide you with a powerful but easy to use mechanism to control that access which documents, whether they are allowed to edit the documents and whether the documents may be emailed out of the document repository. The system will also provide your organization with access to your documents via familiar interfaces, be they web-based or from within common office productivity applications.

The main objective of this study is to develop the electronic document management system (EDMS) to fit your organization's goals, culture, technology capabilities, and budget.

II. METHODOLOGY

A. To review exist document system as shown in Figure 1 and comparing with proposed system as shown in Figure 2. When store documents in a management system, you should be able to assign workflow rules.

B. To create metadata associations between information; for example, a document number can be automatically associated with an order. Metadata makes it easy to standardize and automate filing methods, reducing filing time and keying on errors.

C. To design database model using ER diagram as shown in Figure 3. Document management provides a means for indexing information, so you can easily retrieve it using a wide array of structured terms.

D. To develop web application using PHP and MySQL
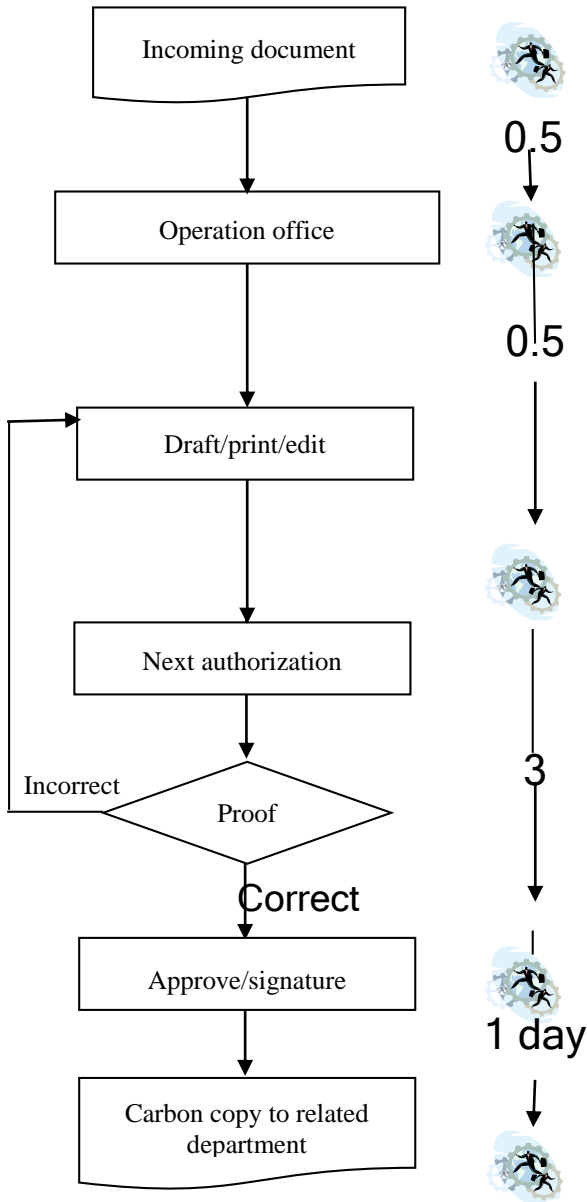
E. To implement with National Defense College.

Figure 1. Existing Document System

Figure 2. Proposed Document System

From Figure 1, the system started with the incoming document from several sources then send to the Operation office before printing and send to the next authorizer to proof. After the document already proof then send to the final approval for signature and send it out to the related department. The total operation time is 5 days. The exiting process is very time-consuming especially from place to place that required the person-in-charge to pick-up the document. Therefore, in this study to make it easy to standardize and automate filing methods, reducing filing time and keying on errors. The proposed system is shown in Figure 2.
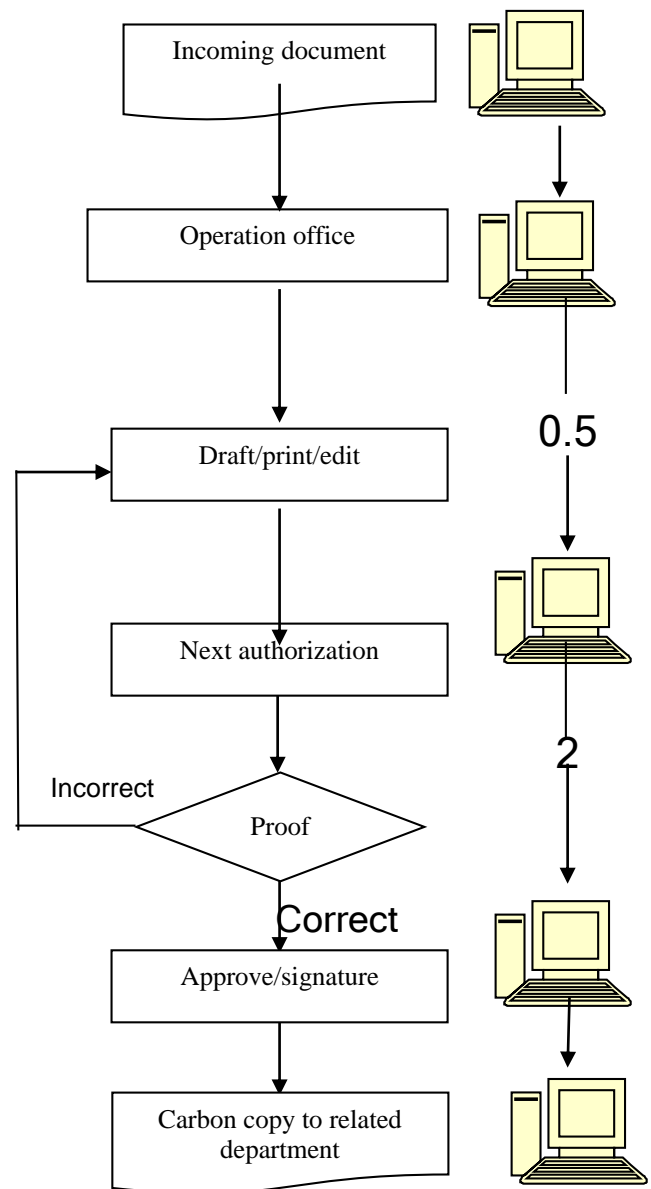
From Figure 2, the business process to work with the document still the same. However, the proposed document system just changed from manual to computerized system. The operation time from the incoming document from several sources then send to the Operation office is turned to zero that the document sent directly via computer system without waiting for the person-in-charge to pick-up and send from place to place. The total operation time is 2.5 days. It seemed that improved the performance 50%. To design database model using ER diagram as shown in Figure 3.
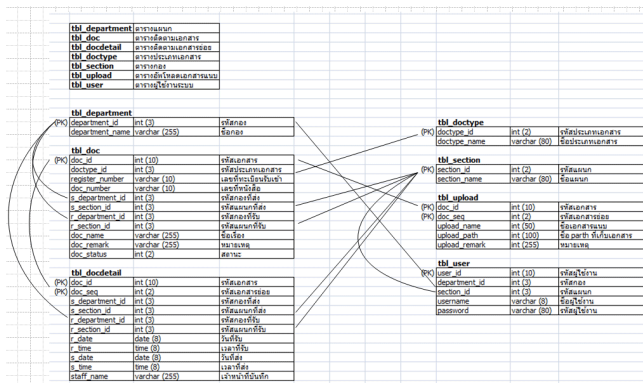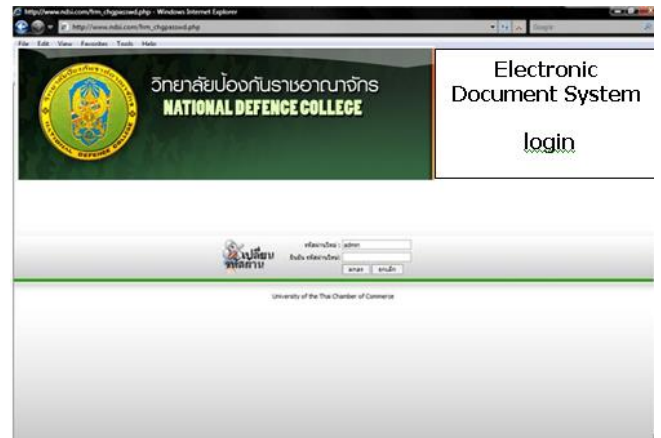
Figure 3. Database model using ER diagram

III. RESULTS AND DISCUSSION

Comparing with exist and proposed system in term of performance resources and operation cost as shown in Table 1 and 2.

Table 1 Resource management

Operation time	Quantity of job	Quantity of resources (pages)		Performance (%)
		existing	proposed	
Dec. 2008	203	3,650	495	86.4
Jan. 2009	210	3,705	520	85.9
Total	413	7,355	1,015	86.2

Table 2 Cost management

Operation time	Operation cost (baht(		Performance (%)
	existing	proposed	
Dec. 2008	10,950	1,485	86.4
Jan. 2009	11,115	1,560	85.9
Total	22,065	3,045	86.2

The web application using PHP and MySQL is a tool for National Defense College as shown in Figure 4. The result from this study is to improve working process performance 50% from 5 days to 2.5 days. Also an electronic document system reduce paper used 86.2%.

Figure 4: Electronic Document System of National Defense College

IV. CONCLUSIONS AND RECOMMENDATION

The benefits associated with EDMS often because overblown expectations. EDMS, in and of itself, is just another way to format and transfer data. The real use of EDMS and the amount of value to be gained from its implementation depend upon whether or not EDMS is integrated into the overall data processing effort of the organization. The effects of EDMS depend greatly on the level of automation within an organization. If the organization is only using EDMS to send data in a format required by a college partner, the effect is much more limited than if EDMS is integrated into the back-end processes of the organization. EDMS applications that are fed by back-end processes and the databases that support these processes and then, in turn, feed the EDMS data received back into the databases and back-end processes have a huge impact on the total level of automation within the organization.

EDMS is well established as effective technology got reducing costs and increasing efficiency. EDMS technologies are approximately the same age as Internet technologies. In the past, the technologies have been mutually exclusive, but this is rapidly changing. As the two technological communities begin to merge and as the business community sees the advantages of this merger, EDMS and the Internet will eventually become ubiquitous. Once that standard is in place, real-time EDMS over the Internet will replace normal time-delayed, batch-style interactions. Likewise, EDMS software is not inexpensive. These services allow entering the EDMS arena at minimal cost and maximum efficiency.

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