Knowledge Acquisition and Management
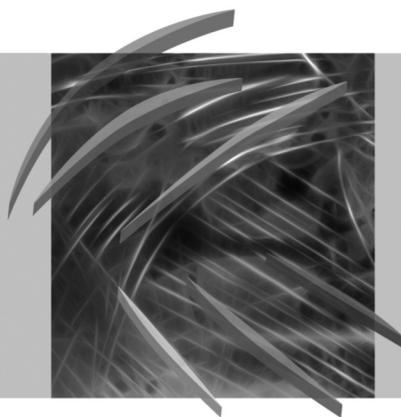
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OFFICE ONLINE SUITS AS TOOLS FOR SUPPORTING ELECTRONIC DOCUMENT MANAGEMENT

Summary: The article is a short introduction to the questions relating to the software which supports online document management. The main goal of the article is to present selected office online suits which can support electronic documents management, mainly in small and medium-sized organisations. Section 2 of the study concentrates on the key terminology. Section 3 describes a short profile of the most important office online suits and concerns some practical aspects of the implementation of such systems.

Keywords: document management, groupware, knowledge management.

1. Introduction

The main objective of the article is to introduce a few aspects concerning the use of modern information technologies, which certainly comprise office online suits in small and medium-sized firms. Modern technological possibilities referring to knowledge management support in an organization comprise mainly software which supports groupware, software used for workflow management, intranets and corporal portals, tools for remote learning, data warehouse, and electronic documents management systems. The latter of the mentioned information technologies currently seems to be one of the most crucial structural foundations of knowledge management systems, which have been developing rapidly over recent years.

The intention of the article was to limit the description to best known and characteristic office online suits on the market. It has to be highlighted that public and also private enterprises are increasingly interested in the subject of online electronic documents management, which results in the increased number of proposed IT solutions supporting the described area.

2. Key terminology

This part of the article presents some key terms in the electronic documents management area. Some of these definitions are based on the updated and extended Model Requirements for the Management of Electronic Records (MoReq2), which

was prepared for the European Commission by Serco Consulting in 2008 [*Model Requirements... 2008*].

Document is recorded information or an object which can be treated as a unit. A document may be on paper, microform, magnetic, or any other electronic medium. It may include any combination of text, data, graphics, sound, moving pictures, or any other forms of information. A single document may consist of one or several components. Documents differ from records in several important respects. MoReq2 uses the term "document" to mean information that has not been captured as a record, i.e., classified, registered, and locked against change.

Electronic document is a collection of data, as a separate significative entity, ordered in a defined internal structure and recorded on a data carrier [Act 2005].

Record is information created, received, and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business. A record may incorporate one or several documents (for instance, when one document has attachments), and may be on any medium, in any format. As a consequence, it may be made up of one or more components. In addition to the content of the document(s), a record should include contextual information and, if applicable, structural information (for instance, information which describes the components of a record). A key feature of a record is that it cannot be changed.

Metadata is data describing context, content, and structure of documents and records and their management overtime.

Computer supported cooperative work (CSCW) is the term which was first coined by I. Greif and P.M. Cashman in 1984 at a workshop attended by individuals interested in using technology to support people in their work [Grudin 1994, pp. 19--26]. On the one hand, many authors argue that CSCW and groupware are synonyms. On the other hand, different authors claim that while groupware refers to real computer-based systems, CSCW focuses on the study of tools and techniques of groupware as well as their psychological, social, and organisational effects. The definition of Wilson expresses the difference between these two concepts: "CSCW is a generic term, which combines the understanding of the way people work in groups with the enabling technologies of computer networking, and associated hardware, software, services and techniques" [Wilson 1991].

Othernames sometimes used for groupware include collaborative software (computing) or group support systems. **Collaborative software** is software designed to help people involved in a common task achieve their goals. Collaborative software is the basis for computer supported cooperative work.

CSCW systems can be divided into three basic categories: groupware, workflow management systems, and electronic document management systems [Wójtowicz 2008, p. 178].

Groupware is a wide variety of information technology products which is directed at supporting exchange of information between members of those groups. Within this category we can distinguish the following types of systems: mailing, shared

calendars, conference timetables, multi positional office packets, communicative and application platforms. Groupware is a tool that helps people work together more easily or more effectively. It typically allows them to communicate, coordinate, and collaborate. Communication helps people share information, coordination helps people coordinate their individual roles with each other, and collaboration helps people work together [Hills 1997, pp. 45-47].

The second category of CSCW systems is **workflow management systems**. These systems allow defining, creating, and managing workflow; therefore, they are directed at modelling and controlling economic processes.

Electronic document management system (EDMS) – systems are directed at both supporting exchange of information as well as automation of certain economic processes. Therefore, we can say that they establish a kind of bridge connecting systems for work groups and those which manage workflow.

Electronic records management system (ERMS) – primarily an application for managing electronic records, though it may also be used to manage physical records. An ERMS is often closely integrated with an Electronic Document Management System (EDMS) or a business application. Technically, an ERMS manages records, while an EDMS manages documents (which are not records).

Office suite, sometimes called an office software suite or productivity suite, is a collection of programmes intended to be used by knowledge workers. The components are generally distributed together, have a consistent user interface, and can usually interact with each other, sometimes in ways that the operating system would not normally allow [http://en.wikipedia.org/wiki/Office_suite].

An **online office suite** or online productivity suite is a type of office suite offered by websites in the form of software as a service. They can be accessed online from any Internet-enabled device running any operating system. This allows people to work together worldwide and at any time, thereby leading to international web-based collaboration and virtual teamwork. Usually the basic versions are offered for free and for more advanced versions one is required to pay a nominal subscription fee [http://en.wikipedia.org/wiki/Online_office_suite]. Next part of the article presents a profile of two selected online office suits.

3. Profile of the selected online office suits

Online office suits has become very popular lately. There are many such systems, but in this part of the article we concentrate only on two products, which have typical functions in this kind of IT solutions, namely: Google Docs and ZOHO.

Google Docs is one of the most popular online office suits. It is recommended for personal files, work in progress, and generally temporary usage. Users can create documents, spreadsheets, presentations, forms, and drawings online. It is also possible to upload existing files because Google Docs accepts most popular file formats, including DOC, XLS, ODT, ODS, RTF, CSV, PPT, etc. The main page of the Google Docs and types of the new files are presented in Figure 1.
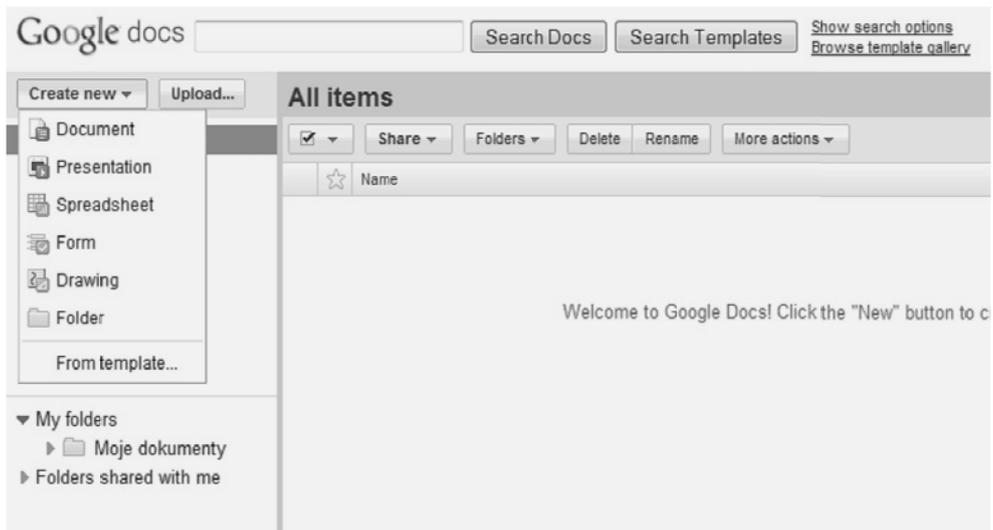
Figure 1. Types of the new files in Google Docs

Source: own study based on [http://docs.google.com].

One of the most important advantages of all online office suits is very easy documents sharing. If the persons with whom we want to share a given document have a Google Account, we just enter the email addresses and send them an invitation. Anyone we have invited to either edit or view our document, spreadsheet, or presentation can access it as soon as they sign in. Multiple people can view and make changes at the same time. There is an on-screen chat window for spreadsheets, and document revisions showing exactly who changed what, and when. The window for sharing document is presented in Figure 2.

There are also some disadvantages of the Google Docs. The most important is that Google Docs does not permit having a company folder structure; thus, it is not possible for all users to see documents in a specific folder structure. Another problem is sharing defined on a per user basis; thus, it will be cumbersome when dealing with changing team members and distributed teams.

ZOHO is a suite of online applications (services) that users can access from a website. The applications are free for individuals and some have a subscription fee for organizations. ZOHO Corporation's vision is to provide customers (individuals, students, educators, non-profits, small and medium-sized businesses) with the most comprehensive set of applications available anywhere.

ZOHO applications are divided into two sets: Productivity & Collaboration Apps and Business Apps. The most important office applications are Zoho Writer, Zoho Sheet, Zoho Show,and Zoho Docs. Like in Google Docs users can create documents, spreadsheets, presentations and upload their own files. The main page of the ZOHO suite is presented in Figure 3.
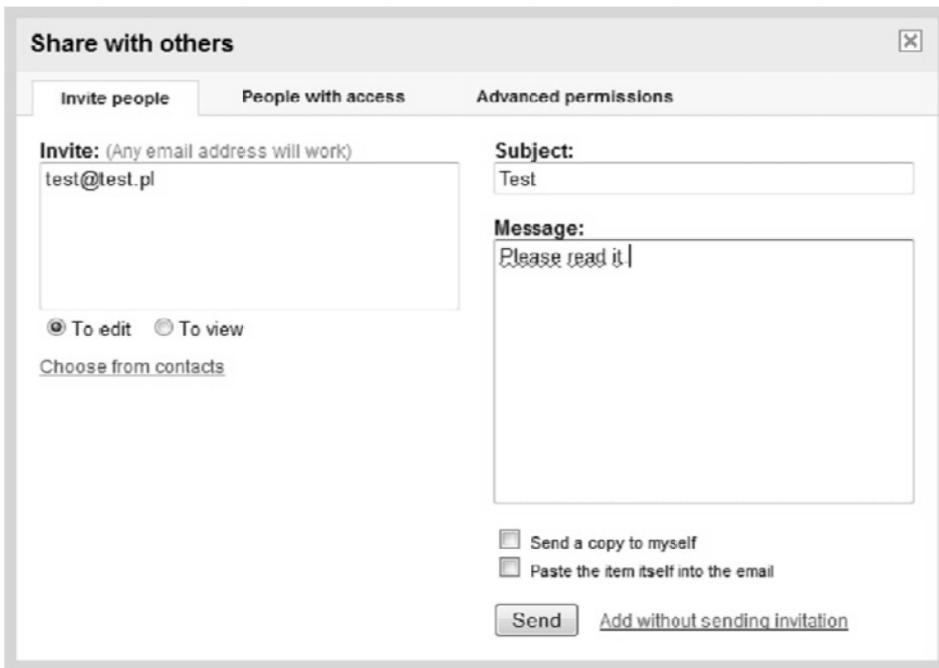
Figure 2. Window "share with others" in Google Docs

Source: own study based on [http://docs.google.com].
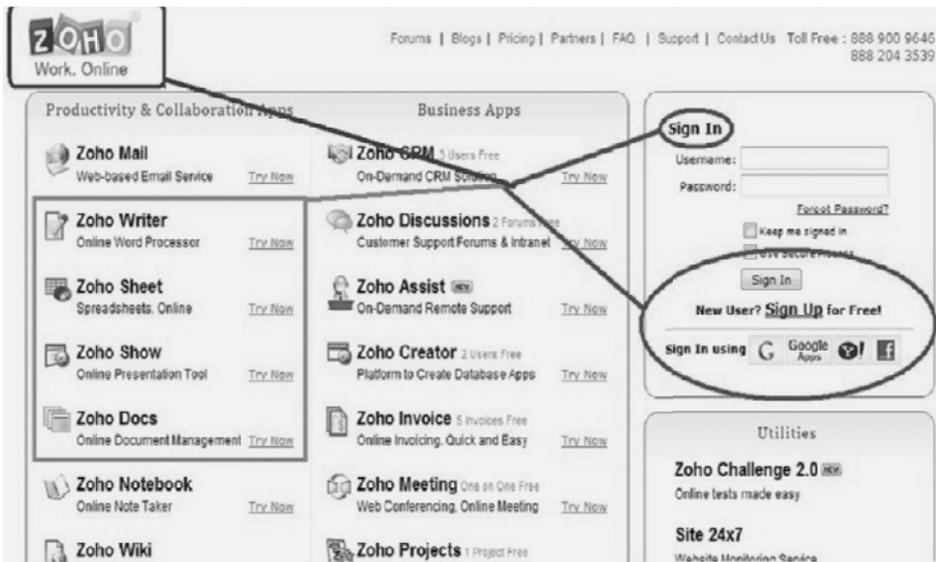
Figure 3. The main page of the ZOHO suite

Source: own study based on [http://www.zoho.com].

In Zoho Docs users can create a central repository of documents and share files with other people. This application is presented in Figure 4.
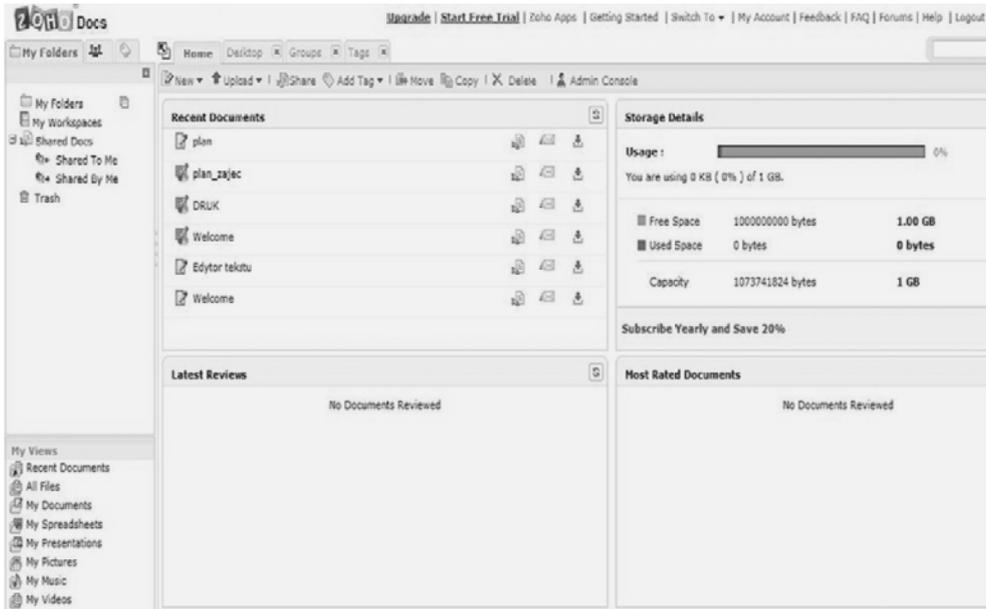
Figure 4. The Zoho Docs application from the ZOHO suite

Source: own study based on [http://www.zoho.com].

ZOHO suit brings together a wide range of online applications. Extra applications, which are not available in Google Docs, are for example project management, database, or CRM. On the other hand, the interface and usability of this suite may be complicated for inexperienced users.

To sum up, we introduce some advantages and disadvantages of the online office suits [http://en.wikipedia.org/wiki/Online_office_suite].

Advantages:
– The cost is low. In most cases, there is no specific charge for using the service for users who already have access to a computer with a web browser and a connection to the Internet.
– There is no need to download or install software outside of an office suite's web page.
– Online office suites can run out of thin clients with minimal hardware requirements.
– Online office suites provide opportunity for a group of people to share a document without the need to run their own server.
– There is no need to purchase or upgrade a software license. Instead, an online office suite is available as software as a service.

- Online office suites are portable. Users can access their documents from almost any computer with a connection to the Internet, regardless of which operating system they use.
- If user's computer fails, documents are still safely stored on aremote server. Disadvantages:
- Access requires connectivity. If a remote server or network is unavailable, content will also be unavailable.
- There are speed and accessibility issues. Most available online office suites require a high speed (broadband) Internet connection.
- The number of features available is an issue. Online office suites lack the more advanced features available on their offline counterparts.
- There may be a subscription charge to use aservice. In that case, in the long run, the ongoing subscription cost may be more expensive than purchasing offline software.

Finishing our considerations, we present in Figure 5 the general concept of the use of offline and online office suits for small and medium-sized enterprise as an important element of the knowledge management system. This concept will be the main object of our next research.

The implementation of a document management system often requires a staged approach, gradually increasing the functional range of the system operating in a given enterprise. In practice, in most cases, initially the range of system operation covers only selected documents.

In many enterprises most often filled in documents are **holiday requests** and **business trips** settlements. It is useful to implement, in the first place, a circulation system for this kind of documents, which can be integrated with other systems functioning in an enterprise.

Introducing a holiday request in the system will require its confirmation by a supervisor, and afterwards can result in an automatic creation of suitable records in the personnel module. If an enterprise calculates work time, the system can also be integrated with the ERP system, thanks to which work time calculation can be linked to the information about absences.

Filling in a business trip form in the system will require its confirmation by a supervisor, including the information about means of transport, and then inserting the information concerning an employee's absence in the personnel module of the ERP system. This application could also automatically settle allowances on the basis of inserted information about dates and times of a trip, and accept kilometrage settlement of a trip made with a private car. After inserting all data, it will be accepted as far as the merits and accounts of the case are concerned, and then the system will generate a document which will be the basis of realising the money due transfer.

Examples of other often automated processes, with which documents such as personnel forms are linked, are the following:
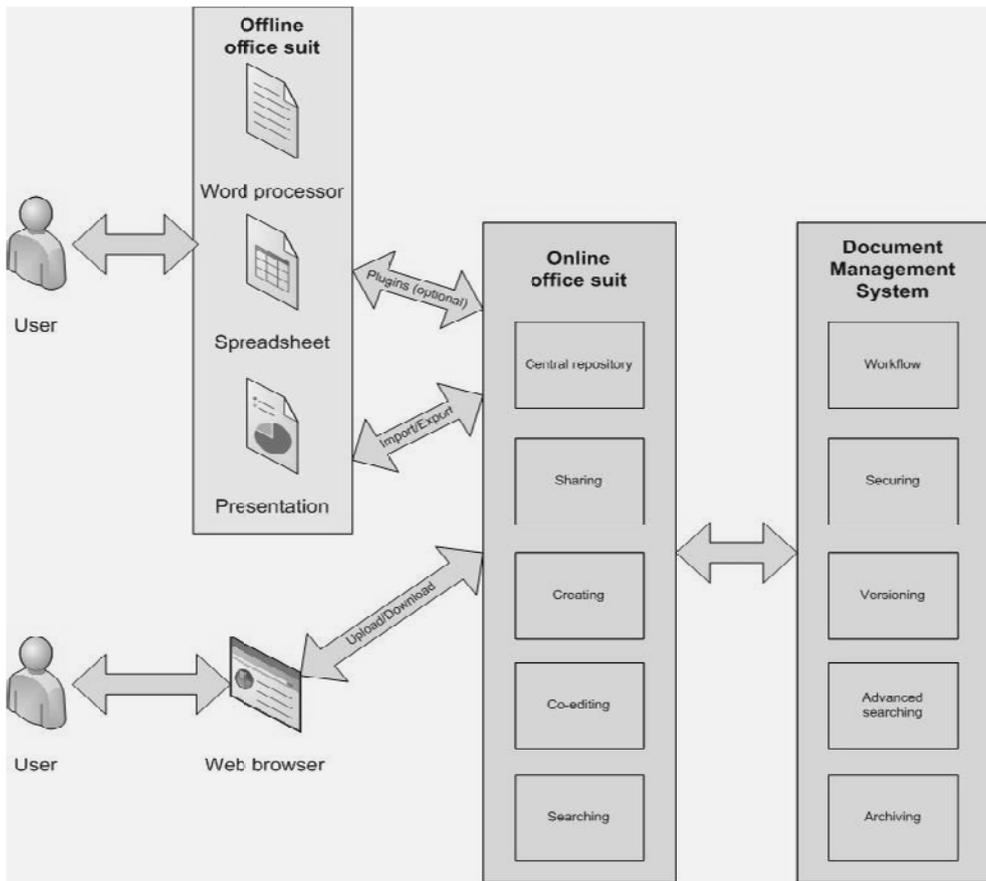
Figure 5. The general conception of the use of the offline and online office suits

Source: own study.

– registration and acceptance process of **a pay raise request**, **workplace change,** and **employment form change**;
– **employing** new employees and **workplace organisation**;
– **employee's dismissals** and handling **a new employee orientation checklist**;
– **accounting of company cars.**

Other documents subjected to workflow are most often documents including **inward and outward correspondence**. Inward correspondence function is linked to the following operations (actions): receiving and describing correspondence (describing the attributes of correspondence, number of attachments, etc.), scanning paper correspondence, attaching a picture of scanned correspondence (or e-mail attached file) to the description of correspondence, automatic registration in the

correspondence register (number, date, and hour of registration), decreeing (forwarding) correspondence, correspondence return, setting a reply date.

The function of outward correspondence handling covers such operations as: preparing an electronic document (in a suitable programme), describing correspondence in the system, attaching an electronic document to the description in the system, linking outward correspondence with appropriate enterprises, verifying and signing outward correspondence by people in charge, automatic registration in the correspondence register, printing the contents of letters sent by traditional mail (fax) or sending by e-mail.

A very important question during the implementation of the systems described in this article is appropriate **classification** of documents [http://iw-blog.contium. pl/2010/11/o-czym-musisz-pamietac-wdrazajac-system-zarzadzania-dokumentami-dms/]. It is most often realised by granting metadata to documents, which means additional attributes constituting so-called document metrics. In this case, it is possible to use two basic methods, which are taxonomy (categorising with the use of specified classification trees) and folksonomy (categorising with the use of any chosen key words). The application of the second method involves a few problems; for example, the user tagging a document follows his or her subjective impressions and needs, because there are no formal rules of description. However, a skilful combination of taxonomy and folksonomy can lead to receiving a more flexible tool to facilitate document classifying and tagging.

4. Summing-up

To sum up the described considerations, it should be highlighted that we can observe some new trends which are connected with very quick development of the online office suits. Presented solutions can be called the practical implementation of the cloud computing idea, especially for individual users and small enterprises which could not afford to buy a "traditional" system. In last three years we noticed a considerable fall of the prices of the office software. Even Microsoft, the monopolist on the offline office suits market, had to react by starting project called "Office Web Apps". Also all big IT developers started to emphasise the importance of the security of online IT systems because it is not easy to create the confidence among business users that they should transfer and store all of their documents in online environments.

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PAKIETY BIUROWE *ON-LINE* JAKO NARZĘDZIA WSPIERAJĄCE ZARZĄDZANIE DOKUMENTAMI ELEKTRONICZNYMI

Streszczenie: Artykuł stanowi krótkie wprowadzenie do problematyki oprogramowania wspierającego zarządzanie dokumentami *on-line*. Głównym celem artykułu jest zaprezento-wanie wybranych pakietów biurowych, które wspierają zarządzanie dokumentami elektro-nicznymi, głównie w małych i średnich organizacjach. Rozdział drugi koncentruje się na klu-czowej terminologii. Rozdział trzeci opisuje skrócony profil najważniejszych pakietów biurowych on-line oraz zawiera pewne praktyczne aspekty wdrażania tego typu systemów.

Słowa kluczowe: zarządzanie dokumentami, praca grupowa, zarządzanie wiedzą.