Combining Personal and Organisational Information

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ABSTRACT
A large amount of people's personal information can be used in collaboration with others. Our results from two field studies show that people often keep personal information that is of interest to others, e.g., notes about components used in different projects and who the component suppliers are. In our work, we are interested in how personal information can be managed to be shared with others in the organisation when applicable. We are also interested in how it is possible to delimit what is strictly personal information from personal information that also is of interest to others, and how to minimise the effort of documenting information for collaborative use. To deal with these questions we have focused on using Wiki technology.

1. INTRODUCTION
Today information is considered to be an important resource in most people's everyday work. We take notes of things that we later look up if needed, we need to find documents in databases or file systems, we need to find people with specific knowledge, and in order to get home in time we might need to find out when the next train leaves. We are constantly in need of finding the right information at the right moment and the information is both of a personal and an organisational character.

Much of the information we manage is available locally on our computers, as notes on the desk, or in binders on a bookshelf, etc. It is typically personal information that we have created, downloaded and/or stored in our surroundings to have it available. Other information can be found in shared facilities such as servers, web pages, etc. This is typically organisational information or information stored by other persons. Where the information is stored often depends on the context in which it was stored, i.e., whether it has been stored as part of a project work, or for what purpose it was stored, e.g., as a note.

In everyday work we usually act in a context with other people. Information produced during the work may often be of interest not only for the individual him- or herself, but also for other persons or even the organisation as a whole. Therefore, personal information may not only be of personal interest. We may, therefore, benefit from co-ordinating the personal and the organisational information management to create better availability and accessibility of the information for everybody. Still, when we store information for our own use, we seldom consider if it may be of use for others, or if it could be part of a larger information structure for the organisation. We seldom have the tools to support us in making personal information a sharable resource within the organisation.

In our research, we are interested in questions involving how personal information is related to collaborative information, e.g., how personal information can be managed to be shared with others in the organisation when applicable. How can we support people in making suitable parts of their personal information a shared resource with as little extra effort as possible (cf. [3])? We are especially interested in how it is possible to delimit what is strictly personal information from personal information that is also of interest to others, i.e., implementing different levels of availability depending on the information content.

2. BACKGROUND
To illustrate the need for coordinating personal and organisational information management we first present findings from a field study of information sharing, and then present the ideas behind our intranet that was developed ten years ago.

2.1 Studies of information sharing
Five years ago we did a longer field study at a medium sized consultancy firm [2]. Our research interest was to find out how knowledge and information were shared within the organisation, and if and how such processes could be supported by computer applications. Three major areas were identified as being important: communication with others, awareness of others' activities and availability, and managing already existing information [1]. Within all three of these areas, different aspects concerning personal information can be discussed.

First, concerning communication with others, information about how to contact a person may be important. Using a phone or e-mail is often straightforward. All e-mail applications are transparent in their usage, i.e., there are no requirements of using the same application for writing and reading the same e-mail. Using chat, on the other hand, requires that the same application is used by all people taking part in the communication session. What kinds of chat systems (or instant messaging systems) an individual uses is part of his or her collection of personal information. A personal home page often includes contact information such as an e-mail address, a phone number and an address. Why not include a chat address as well?

Second, concerning awareness about others' activities and availability, personal information plays an important role. Information about activities can be collected from electronic calendars, but also from project information, which is more of the character of organisational information. Information about people's availability can be collected from, for example, electronic calendars, sensor systems detecting presence by movements in rooms or entrance cards, phone messages, etc. The more information that can be collected automatically, without too much privacy issues raised, the better in order to reduce the amount of work on the individuals (cf. [3]). Some of this awareness information, e.g., calendar information, is of both a personal and an organisational character.

Third, concerning the management of already existing information, both personal and organisational information play an important role. In our study, as well as in an evaluation study made a couple of years later in another similar organisation [1], we could see that there were pieces of personal information that were of interest to share with others, e.g., which component suppliers that has been used, what components that has been used for what purpose, what customers other persons have been in contact with in other projects, etc. Several of the project managers interviewed in the study found this kind of information particularly useful to share with others.

Information stored in documents, e.g., project archives, is more of an organisational character, but is often used in combination with personal information about the context in which the information was stored. In our study we could see that people used information in project archives to solve problems, but they were able to do this because they had the relevant information needed to find what they sought for. They had been active in the project and, therefore, knew the context around the information stored, e.g., what kind of document they would be looking for, and who would have written such a document. In other words, searching in an organisational information space works in conjunction with the person's skills and experience [2, 4].

It is obvious that a mix of personal and organisational information is of importance in everyday work, but how can we support people in managing this kind of personal information that is to be shared with others?

2.2 Intranet with personal and organisational views

Being part of a research group as ourselves, many researchers are interested in publishing their own home page on the web. It is a kind of advertisement about themselves. Still, much of the personal information is also of interest for the organisation to publish, but on other pages than the individuals'. In other words, the same information should be published in more than one place, which calls for co-ordination because we only want to enter the information once. None the less important, we also only want to manage the information once, i.e., if we change our personal information then the changes should also automatically be made in the organisational view.

Within our research group we have an intranet (which is currently under re-development) where "formal" personal home pages for the staff are automatically generated based on information entered about their projects, publications, and courses. When the intranet was developed ten years ago, it was organised to present information about people, projects and publications in a structured and uniform way. People enter the information, e.g., new publications, new projects, and personal information that they want to add, into the intranet, and the system automatically generates pages with the requested information. For example, a "formal" personal home page lists current projects, previous projects, publications, as well as contact information, a picture, and a voluntarily added text by the person. In many cases people have included a link to their "private" personal home page, as a complement to the "formal" personal home page. To a large extent, many of the "private" personal home pages consist of the same information as the "formal" personal home pages, but they may also contain additional information or the information may be structured in another way.

On the intranet, all publications can be listed separately, as well as the projects, seminars and teaching activities. The advantage is that the information about one item, for example, publications, only needs to be entered once, but is presented in several places. Thus, the information entered by individuals about individual issues is also available in an organisational view of the information.

During the last years we have noticed some changes in how people use the pages. For example, some people have only entered the relevant information on their "private" personal home page, which means that the organisational web pages cannot access the information. Reasons for this may be that the intranet system is old and includes complicated procedures to enter information, and that the information on the intranet can not automatically appear on the "private" personal home page, i.e., the person needs to enter the information twice if they want it on their "private" personal home page as well. This change indicates that people primarily want focus on their personal information, and that the organisational information should be built by re-using the personal information entered.

3. SHARING PERSONAL INFORMATION

We have described two examples of where managing personal and organisational information needs to be co-ordinated in order to achieve an information structure that supports information sharing in an organisation. First, personal information represented by, for example, notes about practical matters, may be of benefit for others in the organisation. Second, personal and organisational information to be presented on the web, needs to be co-ordinated in order to avoid extra work by entering the information twice.

Personal information appears to be the source of what motivates people to document "things". For example, researchers want others to reach their publications and to know about their research interests. Also, in the consultancy firm studied people were encouraged to share their knowledge with others, i.e., no reciprocity of favours existed as far as we could see. We therefore suggest that organisational information, to some extent, should be built using the personal information that individuals enter. However, there needs to be different levels of availability of the personal information entered, i.e., access rights by different people or groups of people. Personal information about, for example, customers, may only be of interest for project managers, while other personal information items may only be of interest for project members, and so forth.

Let us give an example of our ideas:

> *Steve has his own personal home page where he presents his publications, the projects he is and has been involved in, the courses he is and has been teaching, contact information, hobbies, and his family. When he works he keeps stickies on his desktop with information about what to do in the projects he is involved in. He also has some stickies with information about how to manage the server one of the prototypes he is working with are running on, and one with information about a paper he is planning to write, including relevant references, an idea of the content, and a disposition.*

Some of the information Steve presents on his personal home page is also of interest for the organisation to publish on the intranet/internet, but in a different format. The organisation is, for example, interested in listing all publications, not only Steve's. The stickies Steve keeps on his desktop are of a different character, but the one about the paper he is planning to write should at least be of interest to his co-authors, and maybe to the participants of the project in which the article originates. As discussed above, contact information usually does not include a mobile number or a chat address. However, for some people this kind of information could be available, but not for everybody. In other words, Steve's personal information could be available in the following way:

External organisational level: List of publications, title of the projects he is involved in, title of courses he teaches, contact information such as phone number, e-mail and address.

Internal organisational level: Same as the external level, but with more detailed descriptions of the information, e.g., links to an electronic version of the publication.

Project level: More detailed information about the projects, including links to internal project pages if the individual is a member of the project, contact information as above but also mobile phone and chat address, some of the stickies he keeps such as the article he is planning and how to manage the server.

Individual level: More stickies, maybe of a more personal character.

The ideas in our project focus on individuals providing personal information that they are interested in having access to and/or publish for others, and that can be used to generate web pages for the organisation that the individual is part of. Depending on the information it should be possible to make it available on different levels, e.g., organisational, project, and individual. It is also necessary that people can contribute with information in both a formal and an informal way, i.e., some information needs to follow specific formats because they are presented outside the organisation, e.g., publications that need the title, authors, date and where it was published, while others are more the character of informal notes.

Thus, in our project we focus on personal information management that can provide the same information for collaborative use. We have started to explore how Wikis can be used to support sharing of personal information. There are a number of different Wikis available, some of them offering a semantic structure for the information. Name spaces can be used to make information on one page appear on another, making it possible to re-use the personal information entered to present it on organisational pages. Tagging, connecting one or several keywords to a page or part of a text in a document, can be used to provide the information with a simple context. For example, while searching for people within the lab users would be able to filter people (or projects, events, courses, etc.) presented based on different tags, e.g., all people who are involved with communities. Hence, the possibilities offered by Wikis and semantic tagging are highly interesting regarding sharing personal information.

4. ACKNOWLEDGMENTS

Thanks to P.J. Adler for the work on the Wikis, to all respondents in our studies, to professor John Bowers for the support during the studies, and to the Swedish Research Council for financing our project.

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