

Weblogs for Supporting Communities of Practice [Extended Abstract]

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Abstract: This paper presents weblogs as an innovative instrument for personal knowledge management and for (virtual) communities of practice. It then describes how weblog community functions have been integrated seamlessly in an industrial-strength enterprise knowledge management solution (infoAsset Broker).

The main contribution of this paper is to highlight how this integrated solution can provide benefits to both, the enterprise (with its need for well-defined, integrated processes and system solutions) and to individuals and to communities of practice (with their need for easy to use productivity tools and their rather spontaneous and informal forms of communication and collaboration). It thus addresses a major issue in today's knowledge management projects.

Keywords: Weblogs, Communities of Practice, K-Logs, Knowledge Management, Collaboration, Groupware, Enterprise Information Systems

Categories: H.3.5, H.5.3

1 Introduction

<to be written for full paper>

2 Weblogs

The term weblog, introduced by Jorn Barger in 1997, refers to a website that is published by a single person and updated frequently (e.g. daily). A weblog (also "blog") editor is called a weblogger ("blogger"). Weblogging is an easy way of updating a web page via a browser without having to launch an FTP client or HTML editor. A weblog consists of short posts that are presented in *reverse chronological order* and may be organized *thematically* (see Fig. 1). The weblogger is publishing his personal thoughts, beliefs, findings, opinions and materials on the weblog. Hypertext links may reference material outside the weblog. Since the weblog is updated on a regular basis a weblog is regularly revisited by its readers. The weblog is hosted by a weblog-community-server which features functionality for interaction with visitors of

the weblog and functionality for linking to other weblogs in order to build a weblog-community.

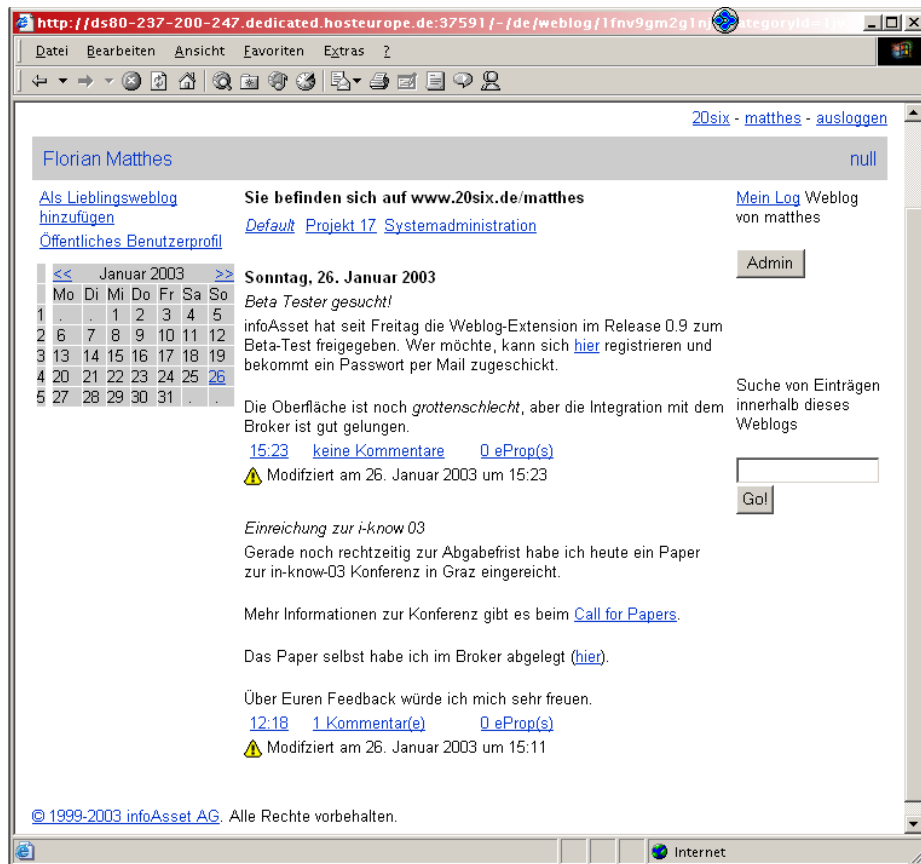


Figure 1: The visitor's view of a weblog [to be updated for final paper]

Weblogs have become a conversational medium. Many bloggers use their weblog to discuss specific topics. Today a growing number of knowledge workers use weblogs to reflect upon their work, to follow developments in their field and to publish ideas. The personal ownership of weblogs is the main reason for high quality content published making weblogging different from electronic forums like mailing lists or newsgroups. Applied to knowledge management weblogging is referred to as *k-logging* ("knowledge-logging").

In the U.S. there are already millions of bloggers who are publishing their online-diaries within highly networked communities. Increasingly weblogs are also used for commercial purposes: Companies exploit the advantages of weblogs for team-collaboration and for communication with customers and suppliers. Amongst these innovative firms are Adobe Systems and The New York Times.

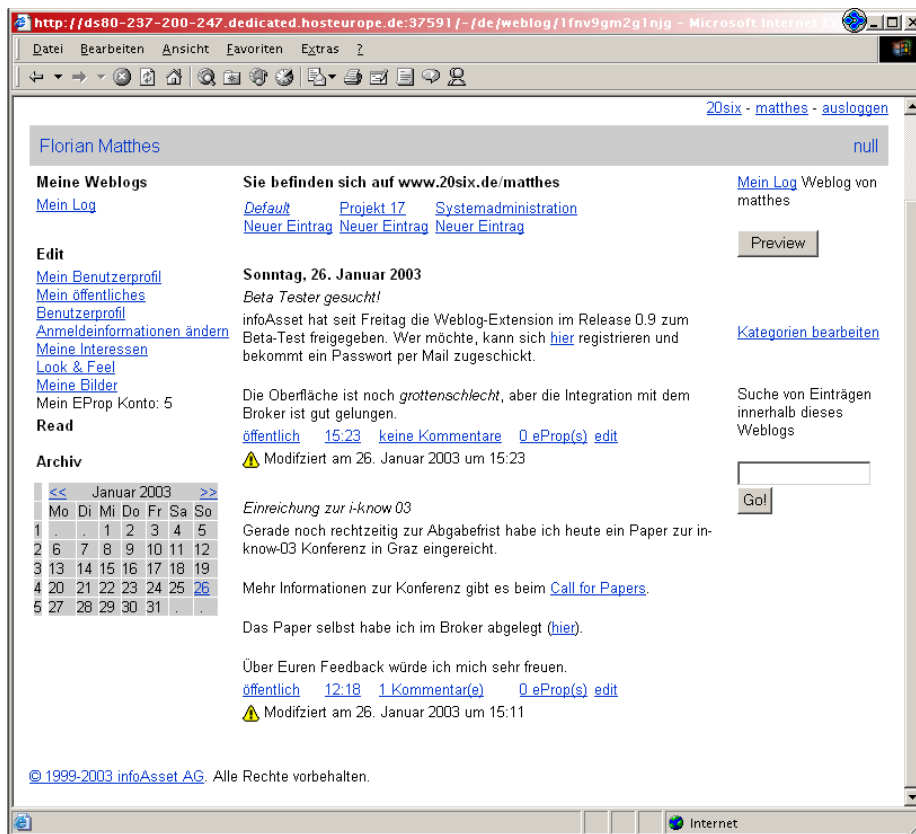


Figure 2: The author's view of a weblog [to be updated for final paper]

3 Utilizing Weblogs for Knowledge Management (K-Logs)

Locating expertise in an organization and getting employees to share their expertise with others, especially in a daily routine as part of their regular job are considered the most difficult tasks in knowledge management. Employees who have spent a career lifetime enhancing their value because they know something others do not are reluctant to give away their valuable expertise and, in that process, feel they would lose some of their value. In fact, plans to implement knowledge management often require exercises in changing corporate culture from a culture of information hiding to a culture of knowledge sharing.

Up to now, most knowledge management software has focused on dealing with existing documents rather than tapping the valuable experience of knowledge workers. A lot of attention has been spent on managing content to limited effect. The use of weblogs can not only access know-how of employees but also support the

informal processes of collaboration in an organization aiming to efficiently create, publish, distribute, share and use knowledge.

3.1 Weblogs for Personal Knowledge Publishing

So far intranets primarily have been a read-only medium. For the individual employee it is complicated and difficult to publish his thoughts, activities, opinions and knowledge resources. A weblog is a powerful tool making it as easy to publish on the intranet as it is to browse exiting content by simply using a web browser.

Personal knowledge publishing consists in an activity where a knowledge worker makes his observations, ideas, insights, questions, and reactions to others' writing publicly in the form of a weblog. Weblogs can also function as a personal tool for knowledge management giving the author a complete record of his thoughts, references and ideas in chronological order that could otherwise be lost or disorganized. They are used to catch and try out ideas or to keep notes and to keep track of material found on the web. Individual participants are free to experiment with their own weblog, modify its layout, work new features into it, etc.. Weblogs also eliminate the barriers that prevent many people from posting to a discussion group.

Once the knowledge is published on the intranet software can be used to browse, archive, search, annotate and mine the contents making weblogs an easy to use repository for people that need to find answers to specific questions or specific experts that can answer their questions.

Personal knowledge publishing is like a continuous interaction without limitations concerning time and space. People can read all posts long after they have been written, and have discussions about them for as long as they like, regardless where on the globe they are writing. Weblogged conversations can be picked up by anyone, at any time. Personal knowledge publishing fulfils many needs that are not adequately satisfied by other means of communication.

Sometimes it happens that one has an idea but doesn't know if someone could be interested in it. Personal knowledge publishing enables knowledge workers to obtain immediate feedback on their ideas. The idea may be picked up by a colleague and discussions may evolve in a short amount of time. Since people quote each other, the potential reach of a published idea is not restricted to immediate readers. Moreover, the public and immediate nature of the feedback makes it easy to discover connections with previously unknown people. Weblogging serves as a non-intrusive way of allowing experts to share the process by which they seek, analyze, and select information.

Examples for personal weblogs are: personal homepages, profiles of experts and thematically organized collections of digital material.

By a trivial generalization of existing weblogs, authors can restrict the visibility of their weblog as a whole (or of individual entries) from public to private and simply use their weblog as an ubiquitous personal notepad. At a later point in time, the author can decide to make selected entries readable for named user groups ("my friends", "customer A", team B") consisting of registered users managed by the weblog community.

3.2 Teamlogs

Teamlogs are defined as weblogs that deal with a specific topic and are edited by a team of users. According to the role of the team-member access rights to alter or delete selected posts or even the entire weblog can be restricted via the weblog-software.

Examples for teamlogs are: project-diaries including “lessons learned”, providing information for product support and participatory design of (software) products.

3.3 Teamlogs as a Tool for Communities of Practice

So far interaction between innovators has had a limited radius of visibility, and this has limited the accessibility of knowledge, giving a definite edge to people in their immediate social network.

Weblog-communities have the effect of letting information circulate more freely across communities. The reader and editor of a weblog often do not belong to the same organizational unit. Nevertheless they are linked by the weblog system according to their common interest. Thus weblogs foster *informal discourse* which Communities of Practice depend on. Using weblogs as technical infrastructure for Communities of Practice knowledge networks across organizational boundaries can be build.

3.4 Embedding Weblog-functionality into Knowledge Management Software

Since weblogs are only one aspect of knowledge management they need to be integrated in a company’s knowledge management system. With the infoAsset Broker the software vendor infoAsset supplies a knowledge management system that includes a wide range of functionality for managing documents, managing skills, building, maintaining and visualizing corporate taxonomies etc. Weblog-functionality is realized by the infoAsset Weblog Extension and will be available with release 1.9 of the infoAsset Broker.

Since the infoAsset Weblog Extension is integrated seamlessly into the infoAsset Broker advanced knowledge management technology for searching, text mining, summarizing, aggregating and automated classifying can be applied to weblogs. This includes the use of a corporate taxonomy enabling an organization to classify weblogs according to a hierarchy of topics and to link weblogs to content in the organizational memory as well as to dedicated experts. The main characteristics of the infoAsset Weblog Extension can be described as follows:

- The infoAsset Weblog Extension contains a *web-based WYSIWYG editor* enabling users to author weblogs without any knowledge of HTML or special web-authoring tools. Knowledge workers are given the opportunity to publish their content quickly and with high-quality layout on the intranet. Considering this key feature weblogging will have an enormous impact on content management for intranets. All types of multimedia information (e.g. technical drawings, documents, CAD-files) can be linked to (see Fig. 3).

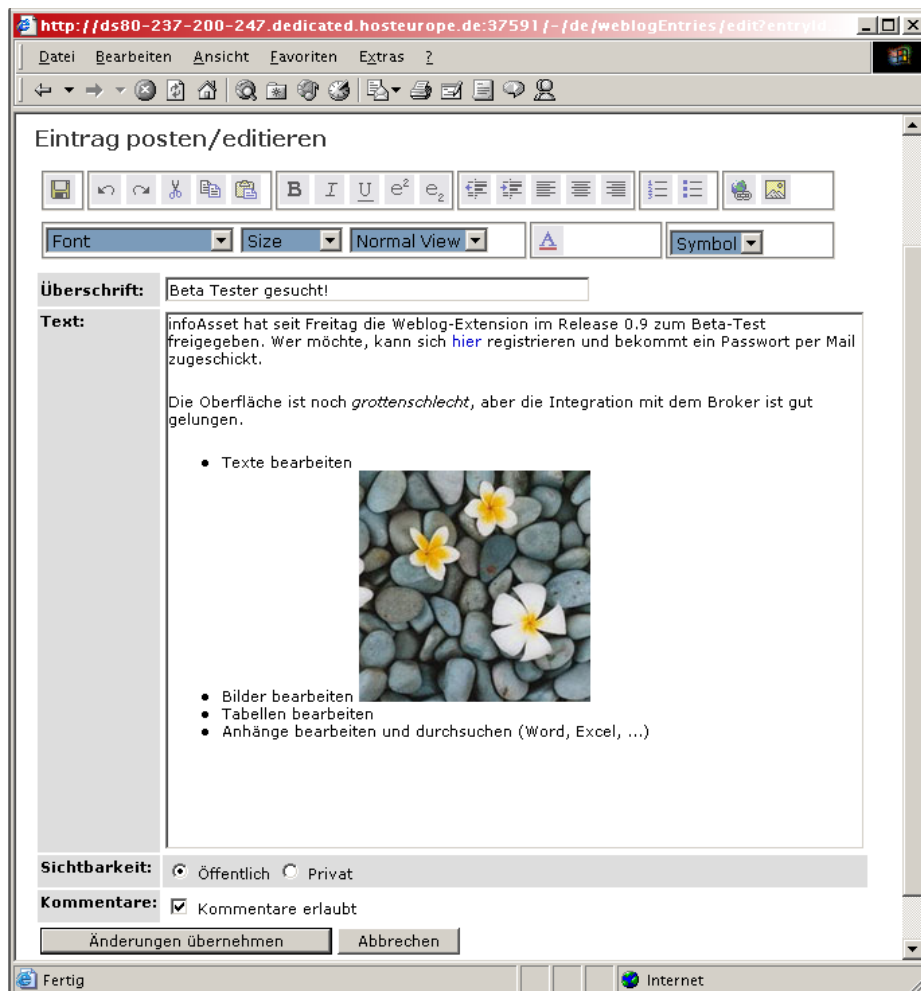


Figure 3: WYSIWYG-Editor for weblog entries [to be updated for final paper]

- The weblogs are hosted by the infoAsset Broker and indexed against an *organizational taxonomy*. There are extensive functions to comfortably build and maintain the taxonomy, which can be visualized and interactively navigated through by a graphical concept navigator.
- The infoAsset Broker offers powerful searching capabilities for searching weblogs, databases and documents simultaneously. Since weblogs can be enriched with metadata users can search not only in full-text, but also for metadata. All employees can search for weblogs by topic, by keywords or by editor. Moreover, the *similarity search* generates a list of weblogs with similar semantics to any given text. Using these integrated text mining

features a list of weblogs can be created which content is semantically related.

- According to the role of a user selective access rights can be granted to editors, readers, administrators, internal and external project members. These access rights correspond with the user-management of the underlying knowledge management software allowing single-sign-on functionality. E.g. a user registered as being member of project A is automatically granted access to weblogs, documents, multimedia content and discussion groups of project A.
- Weblogs can either be defined as “public” or limited to closed user-groups. This enables organizations to speed up innovation by establishing teamlogs for Communities of Practice and to utilize weblog technology for product support by opening access to specific weblogs to customers and re-sellers at the same time.
- Since knowledge workers suffer from information overload there is an increasing demand for reliable techniques for selecting material. The info-Asset Weblog Extension provides a wide range of *personalization* features in order to prevent information overload and to foster awareness and networked collaboration of the individual knowledge worker. Users can maintain their personal collection of “favorites” (favorite weblogs, documents, links, editors) and subscriptions.
- In order to validate information the infoAsset Broker offers rating of information and experts.
- The personalization features of the infoAsset Broker are supplemented by functions for communities. Lists of the most visited and mostly recommended weblogs are computed and available to all members of a weblog community. Additionally, community-building benefits from features for annotating, recommending and commenting on weblogs. The infoAsset Broker uses given recommendations to *compute clusters of users* according to their common interests. Using these findings knowledge workers can contact co-workers with similar interests and build a Community of Practice.

The infoAsset Broker combines the emerging technology of weblogging with proven functions for document management and skill management. It allows employees to easily annotate their visits to the web and enables their co-workers to use the weblogs as a source of expertise. The infoAsset Broker enables organizations not only to take advantage of document management and skill management, but also to utilize expertise of their knowledge workers.

4 Conclusions

Weblogs serve as an easy-to-use tool for personal knowledge publishing. Therefore they are a powerful instrument to grasp experiences and expertise of knowledge workers. Since weblogs reflect the rather informal communication and co-operation characteristics of Communities of Practice they perfectly support the collaborative processes within Communities of Practice.

Knowledge management software will not only have to manage existing content, but will also have to support knowledge workers with personal knowledge publishing and distributing. Embedding weblog-functionality in a knowledge management infrastructure helps to bridge the gap between informal communication of Communities of Practice and organizational approaches like document management and enterprise content management. With the infoAsset Weblog Extension a software system for the management of weblog-communities is commercially available.

5 Future Work

<to be written for full paper>

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