

Classifications as Tools

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Introduction

Scientific work is based on work with literature and other sources. Libraries provided these sources together with general classification schemes to support an easy retrieval. Within a virtual (web-based) environment for supporting groups in scientific work, there has to be a means of source work. Librarians have a long tradition in creating ontologies to offer hierarchical orders over the huge amount of publications. These ontologies are used to structure library content as well as to access it. Though, the access to libraries is from the perspective of the librarian free of context. They cannot determine in advance, what may be the best suiting ontology for a certain person. In contrast, they have to deal with the fact, that their ontology has to fit all kinds of access.

On the other hand, categorizations of literature and other material helps us to orient if the amount of texts we work with exceeds what we can cope with. Scientists often used card indexes with individual classifications to keep track of references and citations used in their work. These classifications are individual working tools that are developed and maintained while acquiring an overview over a specific area of interest. In teaching, they are a means to communicate that overview to students, for example by providing a set of reference works for them on a shelf in the library.

Supporting intellectual work with computer based tools should also contain a possibility to work with references and sources in a similar way. In this position paper, we present a project environment that, in a recent version, supports work-oriented classifications of the shared sources. We describe what motivated this improvement and the solution we chose. We finally outline future plans of empirical research to observe the use of this feature in order to understand the use of classifications and better support it.

The Community System Tool: CommSy

In spring 1999 a group of researches implemented a web based tool, to support project work at the University of Hamburg (<http://www.commsy.de>) called CommSy. The project environment has been used within more than 12 different projects (<http://swt5.informatik.uni-hamburg.de>), in teaching as well as in industrial cooperation. It offers a common space for participants to share coordinating information and content.

The idea for this community system rooted in the observation that knowledge management (Nonaka 1995) has its limits. Schultze (1998) has outlined the different perspectives on knowledge management and that it has to be embedded in a social system. Coming from an action oriented direction (Baumgartner 1999) we want to address joined actions of participants on a common objective.

One design rationale that guided the development are the ‘gestaltbildenden project techniques’ (Floyd 1996) principles of group work that aim at the cooperative design of the project as such, the design of the organizational structure, project planning, mutual information and the sharing of documents and so on. That means the project environment provides tools to structure the project work without prescribing a specific structure. A feature allows for negotiating these structures even virtually. Nearly every entry in the system can be annotated and the annotations can be answered. The project environment is build out of independent modules; the project group can announce news and dates; sources can be shared; an on-line discussion forum allows to negotiate important themes. Everybody can establish a group to which members of the project can subscribe individually. A basic co-authoring feature is implemented as well.

In the following we concentrate on the source module, that allows to share references to literature and other media products including hyperlinks and allows to upload them as files, if available. In the former version the only available navigational means in this list was the alphabetic order. This turned out to be not sufficient. The project member lost overview over their list of sources, novelties were not easily retrieved and tasks were not adequately supported therefore. The possibility to define keywords and using them as a search criteria to find references were not used at all. Sometimes annotations were used to inform each other about type and content of the references.

Use at ifu (international women's university)

Summer 2000, the project environment was offered as a support the project area information of the international women’s university in Hamburg. The international women’s university was a postgraduate program that attracted women from all over the world. In the project area information, 12 projects were designed focussing around themes like for example ‘spreading health care information’ and ‘virtual communities’ (<http://www.ifu.uni-hamburg.de>). The projects were prepared by project directors who provided an out-line of the project containing an initial project plan and basic literature. A facilitator supported the project group regarding co-operation, organization and planning.

For each project a virtual project environment ‘CommSy’ was provided. The directors and facilitators had access to it prior to the students and were eager to prepare especially the literature list. As the projects were designed to center around themes or problems rather than products, one important contribution to the project work was the preparation of an annotated literature list. Such shared classifications – a set of reference works related to for example a course and situated on a library shelf – are an important means of teaching. Recognizing that they could not structure the sources thematically the project directors rather kept to their written versions of their literature lists.

Beside other difficulties this turned out to be a hinder for using the project environment during the program at all. Many of the features offered do not make sense when project members meet nearly everyday. News can be shared orally, discussions don’t have to take place on the web and commenting each other’s text and co-authoring is easier on paper when people are co-located.

During the second half of the ifu, we introduced the enhancements we describe below. Offering a better support for the projects even for their possible co-operation after finishing their stay in Hamburg.

The Shelf Metaphor

We wanted to address the problems with a new sources-module; Sources were only presented in alphabetical order. A source could only be assigned to one sub-group. People could have entered keywords (free comma separated text), but there was no guideline for choosing them, so in result nobody used them for searching.

The new sources-module offers a different approach. We took the shelf metaphor from the library context to communicate the structuring of references. We designed for different systems of shelves that allow independent categorizations to exist in parallel. In the first system, we have different shelves for books, media, etc. The novelty-shelf takes advantage of the corresponding shelf in libraries where readers find new publications.

In addition to these standard-shelves, a shelf for each subgroup of the project is generated as soon as the group is established. Members of the group can now place publications on their shelf as needed. As the sources are represented as references there is no problem with ‘placing’ books on multiple shelves at the same time. In a third system of shelves, each user has the possibility to create personal shelves. As there is no restriction regarding the names of these shelves, they can be used for very different purposes. For example, a teacher could use them to provide a categorization of literature for her students.

These three new ways of structuring literature in a virtual environment, made it possible to have a work related categorization. People can rely on established categories as known from the library. Keeping the metaphor, they can lend their books and place them on a group shelf to work with them and communicate their importance to other members. For topics that run across groups, users are enabled to create shelves as needed. With this means we feel confident to have established a work-related way of working with sources.

Future Work

As mentioned in the introduction, individual categorizations have been used in individual work and in teaching situations. Using networked computers the communication and sharing of categorizations can be supported in a new way. It allows even a co-operative development of a categorization. In a community of practice such a shared classification of sources can become a tool to develop and maintain a common perspective and therefore support the common practice.

The International Women’s University has closed on October 15th. Many projects want to continue their work in the next months independently. Because of the international nature of this university the project members are now spread all over world. The virtual project environment becomes important at this point. We are interested in the use of the CommSy in the next few months, especially we want to observe the use of the sources-module.

Does the given categorization feature help the projects? Will the individual or group shelves be used? And what kind of individual categories will be created? More general; how do groups establish common own categorization?

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