The NetAcademy – A New Concept for Online Publishing and Knowledge Management

Siegfried Handschuh, Ulrike Lechner, David-Michael Lincke, Beat Schmid, Petra Schubert, Dorian Selz, Katarina Stanoevska-Slabeva

Institute for Media and Communications Management, University of St. Gallen
Müller-Friedberg-Strasse 8, CH–9000 St. Gallen, Switzerland
EMail: Firstname.Lastname@mcm.unisg.ch

Abstract. Traditional media have concepts to ensure quality of information they carry, while new media make information ubiquitious. The NetAcademy project constitutes a new medium for knowledge accumulation and dissemination for scientific purposes. It provides by its underlying carrier, the Internet, access to information and by its management concepts quality of information.
We explore the NetAcademy with its open, distributed architecture, the NetAcademyNet and discuss, how such a medium as the NetAcademy will influence the process of publishing and scientific work.
Keywords: Online publishing, Knowledge Management, Multi-agent system.

1 Introduction

Traditional media and channels for dissemination of knowledge, like, e.g., libraries, journals and conferences have concepts and techniques to ensure quality of information they carry. In addition, they provide classification, retrieval and query mechanisms, which guarantee relevance and restrict hereby the quantity of search results.

New media and channels such as the Internet have advantages compared to traditional channels. Information can be published without delay and can be retrieved (nearly) instantly throughout the world at any time, independent of the physical location of the medium at which it is stored. In addition, related information can easily be linked and made available as a whole. E.g., references from a scientific publication available on the net, can be linked to the publication. Thus, information relevant for the publication is available on fingertips.

New media open up opportunities for scientific publishing. Scientific results can be made available instantly and worldwide and, moreover, publications can be narrowed down to the core statements and linked with related publications available on the medium [6].

The easiness with which information can be published on the Internet has given rise to publishing on this medium. But despite the above described potentials of the new medium the process of scientific publishing has not significantly

changed. The new medium is used like the conventional ones - linear text is made available without qualified links to related and referenced work. In some aspects the use of the new medium has even worsened the quality of scientific publication as it provides an easy way of publishing information which is neither reviewed nor accepted by a scientific community. In addition, there are no qualified and adequate classification and search mechanisms for scientific results. By searching for contributions related to a certain topic, the range of answers goes from abstracts presenting somebodies thoughts to papers submitted in a journal or conference proceedings and to copies of already reviewed and published papers. In general, information search and retrieval via the mechanisms provided on the Net is not satisfactory with respect to the quantity and, in particular, the quality of information; Filtering relevant, high quality information from the result of a query of a search engine is time-consuming and cumbersome.

The above described current state of publishing on the Internet is not acceptable especially for scientific publication. Quality, mutual reference and linkage of information as well as quality and relevance of search are necessary requirements for scientific publishing. Therefore, scientific communities need media and channels to accumulate and disseminate knowledge with the characteristics and advantages of traditional as well as new channels: quality and speed. The NetAcademy is designed to provide both. It is a platform for a scientific community providing through the technology of its medium, the Internet the speed for publishing and the accessibility of information (nearly) independent of space and time. It provides also the management facilities to ensure the quality of the information stored as well as the quality of the information retrieval mechanisms.

The medium and the applied process of information accumulation and dissemination influence themselves mutually. Thus, the NetAcademy as a medium has the potential to change and renew scientific publishing and knowledge management within scientific communities. Let us illustrate the influence of the medium NetAcademy. The Internet technology provides means to link information and the NetAcademy concept provides an organizational framework and an information space of qualified contributions together with classification and retrieval mechanisms. Small units of information can be published, comprising only essential information and pointers to existing information like, e.g., the basic definitions and the context. The NetAcademy as a platform fosters communication as well as inter-disciplinary research and facilitates by its underlying technology distributed cooperative authoring. It applies and adopts an electronic counterpart to well known and trustworthy conventional review processes for scientific publications. Thus, management processes of knowledge creation, approval and dissemination will change as well. They will speed up since all the communication can be done on the Internet and, moreover, they can be partly automated. The technology of the NetAcademy ensures, e.g., the origin and the truth of other data on the information stored in a NetAcademy, and thus, the information in a NetAcademy is trustworthy, which is an important quality criterion.

A NetAcademy is a platform for a single scientific community. The NetAcademy concept provides ways to relate different NetAcademies. Information can

be retrieved across different NetAcademies based on mechanisms to mediate between the different terminology employed by the single NetAcademies. Thus, the NetAcademies form—in analogy to their underlying medium—a NetAcademyNet. This fosters inter-disciplinary research as well as knowledge sharing.

We present in this paper the basic concept of the NetAcademy and the current state of its implementation. The focus of the paper lies on the concepts for organization and retrieval of knowledge.

This paper is organized as follows. Sect. 2 presents the concept of representing and organizing knowledge and introduces briefly the terminology of knowledge media. Sect. 3 describes the concept of a Net Academy Net. Sect. 4 contains a brief description of the already established NetAcademies and their contents. Sect. 5 gives an overview over the implementation of the NetAcademy platform, the user interface (Sect. 5.1) as well as the architecture and technology (Sect. 5.2). Related work is discussed in Sect. 6.

2 Knowledge Representation and Management

In this section, we explain the concept of the NetAcademy [16], define the basic terminology and describe the representation, organization and management of knowledge in a NetAcademy. In order to achieve this, first we explain the generic concept and terminology of knowledge media - the underlying theoretical concept of the NetAcademy. Based on this description, in a second step, we instantiate a general template for a NetAcademy and finish this section with a more precise description of an applied concept of the Net Academy.

2.1 Knowledge Media: Knowledge, Agents, Channels and Media

The NetAcademy concept draws from a generic concept on knowledge media that we briefly introduce in this section. For a more detailed explanation we refer to [17].

A *knowledge medium* is an information space, which supports knowledge exchange within a community of agents. A *knowledge medium* comprises beside *agents*, an organizational structure consisting of a collection of *locations for agents*, *roles*, *protocols* and *processes*, a collection of *channels*, a *logical framework*, and a class of *worlds*, to which the formal framework refers.

Agents are active, autonomous and communicating entities, with locations that differ in space and time. They are the basic source of information and knowledge in the medium. They manipulate knowledge and trigger changes in the knowledge medium.

Knowledge is an agent's subjective view of a world. It is the internal representation of the world, which an agent is part of. Agents gain knowledge either by observation, or by communication with other agents. Knowledge comprises data as well as behavior, a language to code it and a calculus for inference of conclusion. In order to express and communicate knowledge, agents externalize

knowledge in terms of coded information. To facilitate communication, externalized *knowledge* has to be represented by some code on a carrier, the *channel*. Channels are entities capable of carrying and transporting knowledge. They connect the locations of agents as a means for agents to communicate, i.e., to bridge differences in space and time. Knowledge is represented in channels by a *logical framework*, with some (formal) language for representation of information and a calculus for inference. The logical framework is agreed upon by agents and is the base for mutual understanding, i.e., for the appropriate communication of semantics of knowledge.

Knowledge generation, management and dissemination is performed within knowledge media in a defined *organizational structure*. Agents form or are grouped in communities striving towards a common goal or representing a common view, on a certain domain of discourse. Each community constitutes *roles*, which are taken over by agents and which determine the rights to access information as well as the behavior of agents. *Processes* are formalized *protocols* of the activities, which take place within the medium and can be defined over roles of agents. Core processes supported by a knowledge medium are the ones for submitting content to the medium, quality assurance of contributions, retrieval of content from the medium as well as management processes for knowledge as deletion, copy etc.

Knowledge Media can be structured hierarchically. A knowledge medium can be viewed as an agent that is part of a knowledge medium.

The basic components of a knowledge medium, the agents, channels, roles, protocols and the logical framework, have different features depending on the characteristics and requirements of the target communities and the possibilities of technologies used for their realization. In the next section, we describe the instantiation of this concept by the NetAcademy, a knowledge medium for scientific communities.

2.2 The NetAcademy as a Knowledge Medium

A NetAcademy is an instance of a knowledge medium for the scientific community. Taking into consideration the specific requirements of scientific communities and based on the concept knowledge medium we explore a general template for a knowledge medium and instantiate it with the NetAcademy. The core components of the template and their interrelationships are depicted in Fig. 1.

Agents of a scientific community are researches, which have a common domain of discourse and language, as well as all other people interested in the topic of a scientific community. Thus, agents in a NetAcademy are either representations of natural persons as, e.g., scientists participating in the NetAcademy or systems capable of performing functions related to knowledge generation and dissemination. Agents of a NetAcademy can take different roles, which are aligned on the currently prevailing scientific review and publishing processes. They can be reviewers, editors, chief editors, authors or just consumers of the offered content.

At its core, a NetAcademy contains a *knowledge base*. The knowledge base stores externalized knowledge in channels typical for a scientific community as,

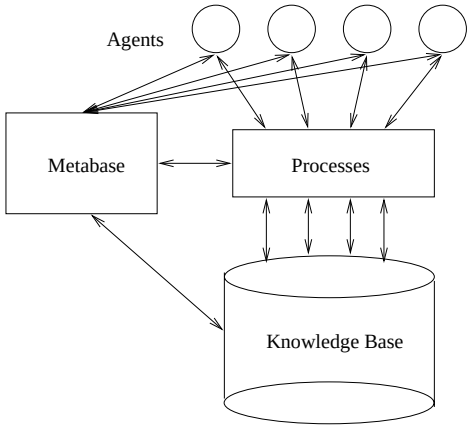

Fig. 1. NetAcademy-template

e.g., facts and procedural knowledge, discussions, research papers and other information relevant to the domain. It comprises research results concerning theoretical issues as well as practical applications.

Besides channels containing core results of scientific work another important part of externalized knowledge is its classification and meta-description. This task is performed in a NetAcademy by the metabase. The *metabase* includes the vocabulary of a NetAcademy. This *vocabulary* represents the terminology employed and represented in the knowledge base and establishes a meta-level by which the knowledge can be accessed and by which NetAcademies can communicate.

The *process* layer formalizes the protocol, i.e., the rules for the agents accessing the knowledge base. Processes implement the protocols, according to which the knowledge base may be accessed and manipulated, and they implement (partly) automated management tasks. In the case of the NetAcademy such processes are: submitting contributions to the knowledge base, review of submitted contributions and management processes of the content.

Based on the above described general template for a scientific knowledge medium a specific knowledge medium - The NetAcademy - was designed and implemented by using specific approaches for organization and retrieval of knowledge.

The information stored in the NetAcademy comprises typically a lot of publications, part of which have been published elsewhere, as well as publications exclusively published in a NetAcademy. It may contain a number of references to publications, as well as documents describing open problems or hypotheses and information on conferences, their deadlines and their programs and pointers to other information bases. There might be ongoing discussions, whose (agreed) results are archived in the knowledge base. Publications are papers—like in conferences or journals—as well as short notes and sketches. A knowledge base

typically contains meta information, like ratings of the pieces of information, e.g., whether they are basic knowledge or cover advanced topics, whether they have theoretical or practical flavor.

The content of a NetAcademy is classified in two major parts: a section of reviewed contributions, with a NetAcademy *stamp of quality* and a part containing contributions submitted for reviewing or being in the review process. The NetAcademy stamp of quality is an information set containing information about the author, date of submission as well as about the review process, which the publication has gone through.

The meta-description is provided in a predefined hierarchical structure [20]. It provides the interface by which semantic (inter-NetAcademy) query mechanisms access the knowledge base (See below and Sect. 3.2).

The NetAcademy provides two query mechanisms to access the information in the data base. A conventional syntax based one and a semantic one. The syntax based one employs the technology of typical Internet search engines. Let us explain the semantic query mechanism. It uses the vocabulary to access the database. The vocabulary is organized in a hierarchy, where terms upper in the hierarchy are more general than terms lower in the hierarchy. Let T be the term used in a query, and let $S_1, \ldots, S_n$ be specializations of T, such that $S_1, \ldots, S_n$ are lower in the vocabulary's hierarchy. A query for information concerning T yields all information concerning T plus all information concerning $S_1, \ldots, S_n$. Thus, the semantic query mechanism allows to abstract from the terminology.

Reviewing is a process of rating and ensuring the quality of information in academia. Currently, it mirrors the prevailing review process of scientific journals. Part of this process can be automated as, e.g., sending a paper submitted to the reviewers, collecting the reviews or reminding the reviewers. To ensure the quality of the query facilities, the scientific community may decide to lay out the process of publishing on the NetAcademy such that the author is obliged to provide the vocabulary for the publication, and–if necessary–to extend the vocabulary.

A lively NetAcademy earns the denotation "knowledge base", since it constitutes a representation of the universe of discourse of a scientific community and an image of the knowledge of its members. Like and with the knowledge of the members of that community, it will grow, change and evolve and it provides them with a means of communication that traditional carrier systems and organizations of information do not provide.

3 The NetAcademyNet

A single NetAcademy is a platform for organizing knowledge and management for a (scientific) community. According to the scientific community, whose knowledge it represents, it is not isolated, but embedded in a net of communicating NetAcademies, whose knowledge is related. Thus, NetAcademies are considered to be agents in the knowledge medium NetAcademyNet.

3.1 Relations between NetAcademies

There are three relations between NetAcademies, determined by the way, how the knowledge they contain is related.

- *Information sharing.* NetAcademies with similar theories represent non-disjoint worlds. Some of the knowledge they contain refers to the same domain. An example for such a sharing of knowledge are, e.g., knowledge bases on object-oriented programming and Pascal programming, sharing information about basic algorithms and programming techniques.
- *Inter-disciplinary.* NetAcademies provide different views on the same world, i.e., they represent knowledge about the same universe of discourse, but employ different theories, to model and represent it. An example are two NetAcademies dealing with media. One employs computer science to explain media by their implementation using computer science terminology, one using business science to explain the motivation, the process of making money on the Net, and one of media science, dealing with the look and feel, with the characteristics of media.
- *Generalization and specialization.* There might be a hierarchy of NetAcademies, on one topic, i.e., a NetAcademy on Computer Science, containing basic terminology, techniques and methods and several NetAcademies on special issues, like, e.g., concurrency, object orientation dealing with smaller worlds, employing specialized vocabulary.

These three relations are based on the world, i.e., the domain of discourse a NetAcademy deals with. To facilitate communication, i.e., exchange of information between NetAcademies, one has to abstract from the theory and its terminology. The vocabulary is here the interface. The vocabulary of a NetAcademy contains the terminology of a NetAcademy organized in a hierarchy allowing semantic access to the knowledge base. The abstraction of the vocabulary and the mediation between different vocabularies is explained in Sect. 3.2.

This Net of NetAcademies has a global root, called the *NetAcademy on NetAcademy*, which acts as a central entry point to the distributed NetAcademy knowledge medium and offers a global directory of all NetAcademies. As a meta-layer its contents present the theoretical foundation of the NetAcademy and the meta-information on knowledge.

3.2 Communication between NetAcademies

The vocabulary as part of the meta base is—with its hierarchical structure—the interface to the contents of the knowledge base. Accordingly, we abstract from the terminology and thus from the particular theory a NetAcademy and its scientific community employs.

We employ the Q-language as this abstract language, common to all the NetAcademies, and the Q-calculus for reasoning on this abstract level [18,20].

The language of the Q-calculus comprises sorts with attributes, whose values belong to scales, transitions and transition classes. It provides inheritance and constraints to define sub-sorts.

The abstraction from a vocabulary of a NetAcademy to a common vocabulary in the Q-language assigns an abstract sort with values of attributes to each term of the concrete language.

Let us describe, how the search across NetAcademies with their vocabularies works. Assume we have a query in NetAcademy *N*. N generalizes a collection of NetAcademies $A_1 \ldots A_m$ and provides a view of a world, for which the NetAcademies $B_1 \ldots B_n$ also provide views. We would like to to search for information in N (which includes by generalization $A_1 \ldots A_m$) as well as $B_1 \ldots B_n$.

A query S phrased in the vocabulary in one NetAcademy N is translated to the abstract level of the Q-calculus, mapped to a number of (concrete) queries $S_N, S_{A_1}, \ldots, S_{A_m}, S_{B_1}, \ldots, S_{B_n}$ for the NetAcademies $N, A_1, \ldots, B_n$ and their vocabulary. The concrete queries $S_N, S_{A_1}, \ldots, S_{A_m}, S_{B_1}, \ldots, S_{B_n}$ are conducted in the theories of the NetAcademies $N, A_1, \ldots, B_n$ and their results are each first abstracted to the level of the Q-calculus and, then, mapped to the concrete vocabulary of N to be presented in the (concrete) language of NetAcademy *N*.

An agent dealing with a NetAcadamy, say N, may phrase queries using terms of vocabulary of one NetAcademy and receives results relevant to her query independent of the vocabularies used in the construction of the information being queried.

Note, that this requires the abstraction and the concretion function to be a Galois connection. Similar techniques for relating different levels of abstraction have been developed in abstract interpretation [3,21].

Further note that this mapping has only to be done for a basic subset of the vocabulary. This basic set exported via an explicit "export" construct and establishes the interface for inter-NetAcademy communication.

4 Current State of the NetAcademies

In the initial phase of the NetAcademy project, the Institute for Media and Communications Management is currently establishing three different NetAcademies covering its main areas of research. These are:

Business Media (`www.businessmedia.org`) deals with research on electronic markets and commerce, including reference models and pilot projects in the field of electronic data interchange (EDI) and electronic commerce.

Knowledge Media (`www.knowledgemedia.org`) concerns in general innovative approaches, technologies and methodologies for knowledge management. A special emphasize is given on knowledge media, as an innovative approach for managing knowledge. Currently it deals with the representation of knowledge and information, with its semantics and inference mechanisms. The present application areas, which serve as a base for practical feedback are in the area of strategic corporate planning, electronic commerce and scientific publishing.

Since the NetAcademy is a knowledge medium as well, the knowledge media NetAcademy provides an inside of the fundamental theoretical work for the NetAcademy itself.

Media Management (`www.mediamanagement.org`) publishes research papers and hosts discussion forums on how to analyze, define and manage the effects of new media on the economy, society, politics, law and culture.

These three NetAcademies are collected in the root of the NetAcademyNet, the `NetAcademy on NetAcademy`:

NetAcademia (`www.netacademy.org`) is the root of the NetAcademyNet and features meta-level information about the NetAcademy project and the NetAcademy platform. This NetAcademy contains the common vocabulary and general facilities like registration and administration of users.

The generic concept of a knowledge medium, which the NetAcademy concept is based on, has already been prototypically implemented as a platform for management processes. Knowledge representation, formalization, accumulation and dissemination is—like in academia—an essential part of management processes [19].

Each NetAcademy has an editorial board, constituted in analogy to editorial boards of scientific journals. Its members are responsible for the review of incoming submissions as well the control of its meta-description. According to their research direction, members of the editorial board may coordinate the review process and select reviewers.

5 Implementation

In this section, we give a brief overview of the implementation of the NetAcademy project. We begin with the user interface and its facilities to browse the NetAcademyNet and to present information. Subsequently, we will present the current state of the implementation and the technology employed to implement the NetAcademy.

5.1 User Interface

Users of a NetAcademy are unrestricted in their choice of views on the knowledge medium. When browsing, a user can dynamically and flexibly expand or narrow down depth and breadth of the information presented (c.f. Fig. 2).

The horizontal navigational bar extending across the top of the browser window allows for the selection of a particular NetAcademy to visit. Links are offered to NetAcademies closely related to the domain covered by the currently selected NetAcademy. In order to access more remote fields of knowledge the NetAcademy Global Directory needs to be consulted, which is also available via the top horizontal navigational bar.

While the horizontal navigational bar symbolizes the breadth of knowledge accessible to the user, the vertical navigational bar offers entry points into the depths of a specific domain: the individual worlds, agent- and process-related services, content, search facilities and feedback facilities.

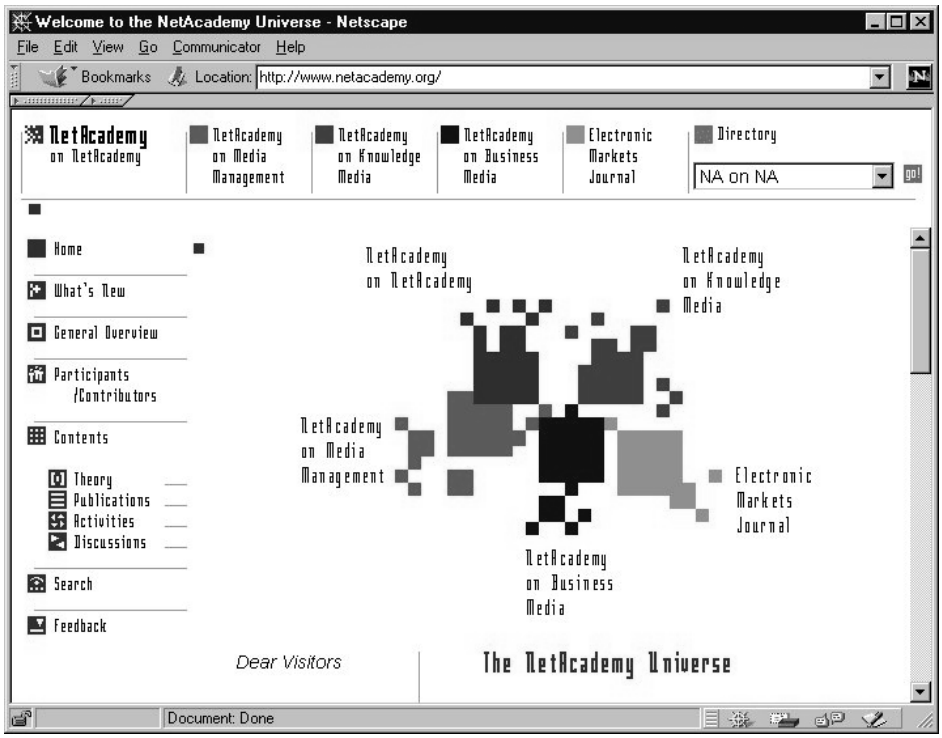

Fig. 2. Navigational interface

The meta-information presented with the information to a user is classified along three attribute classes. These are:

- The *domain of knowledge* which it forms part of, i.e., the NetAcademy it belongs to.
- The *specific world* which the knowledge refers to and deals with.
- The *process or agent* which generates or transforms specific knowledge, uses it or relates and links it to other pieces of knowledge. An agent can be the author of a publication, a participant in a discussion forum but also a software agent in charge of processing queries.

Knowledge can be provided in any of the following forms and qualities: (1) *Theory*: Basic terms, definitions and axioms generally accepted and agreed upon by the scientific community of the specific domain that is covered by that particular NetAcademy. (2) *Publications* (3) *Activities*: Descriptions and presentations of research issues and ongoing projects. (4) *Discussions*: with abstracts of new knowledge, the participants agree upon.

Note, that the agents representing the entities communicating in the knowledge base have different rights to access and manipulate the knowledge stored

in a NetAcademy. Each agent has a role, determining her rights to access the knowledge base.

5.2 Technology and Architecture

The technology employed to implement the NetAcademy platform has to deal with both unstructured information (e.g., papers, articles, discussions) as well as structured information (Q-vocabularies, publication attribute information and other meta-information associated with pieces of unstructured information). Therefore it was important to select components that would easily interoperate and—in combination—could accommodate structured as well as unstructured information and would allow to implement processes on top of it.

The implementation of the NetAcademy platform comprises a few pages for generic navigational structure and interface, a relational database for storing structured information and a groupware tool to deal with unstructured information and for implementing the processes.

For the storing and management of structured information a relational database management system, Oracle [15], was selected. Databases were integrated for storing publications, discussions, projects and data on participants into the NetAcademy.

The system is partly based on Lotus Notes groupware technology [12] for dealing with unstructured information and for implementing the processes defining the protocols for access to the knowledge. Moreover, Lotus Notes allows to enforce rules on the logical document structure as well as on layout policies and style guides. Thus, the necessary management effort to maintain the knowledge base—especially under substantial growth conditions—is reduced.

Lotus Domino technology is used for the publication of contents on the World Wide Web.

The semantic query interface is implemented as a Java applet. It offers the user the possibility to browse the vocabulary and look up vocabulary terms and construct queries from them. The interface follows a query-by-example paradigm.

Let us describe, how the vocabulary is linked to the underlying relational data model. The vocabulary is given in the Q-language. Queries to the knowledge base are phrased in the form of so called Q-tables [11,20]. A Q-table for a sort is constructed from the vocabulary as a multi-dimensional coordinate system, with its attributes and their scales represented by an axis of the coordinate system. A Q-table is translated to a SQL-query, which is processed in the underlying database. The result of a query is a Q-table with entries in the coordinate system.

In order to embed a NetAcademy to a NetAcademyNet, its vocabulary has to be embedded into the common vocabulary. During embedding the specific terminology of the NetAcademy is mapped to the terminology of the common vocabulary by resolving structure differences, synonyms and homonyms. Based on the mappings the Q-calculus allows to reason about knowledge at this abstract level and to combine information from different vocabularies. Thus, we have here a federated approach [20]. Each NetAcademy is independent w.r.t. information

retrieval. Together, NetAcademies provide more knowledge, than the collection of single NetAcademies.

6 Related work

Today a whole range of services can be found on the Internet that claim to be or hope to become a reference source for a certain area of scientific knowledge. An example for the field of information management with focus on telecommunications is the Virtual Institute of Information [14]. A theoretical foundation of the underlying concepts of knowledge organization, representation and management is not being made explicit. Furthermore, no organizational independence of the knowledge medium from the organization hosting it is attained, which tends to significantly lower the acceptance as a reference source by researchers from other institutions and might limit active contributions from users. In addition, most of those platforms are lacking sophisticated retrieval mechanisms which go beyond purely syntactic approaches.

The notion of a virtual university has gained a lot of popularity [8]. In some aspects this concept is closely related to the characteristics of a NetAcademy. Just like a virtual university, a NetAcademy also aims at supporting and directing research by enabling and facilitating scientific discourse, disseminating knowledge and qualification of scientific work through reviewing processes. Unlike a virtual university, however, which like its traditional physical counterpart still represents a corporate entity, a NetAcademy stresses the goal of building a virtual reference knowledge medium independent from the institution hosting it, for a certain domain of knowledge to which a large number of researchers contribute. Moreover, the concept of the virtual university focuses on dissemination or teaching purposes using established channels, while the NetAcademy aims at renewing the process of scientific publication and management of research for the new media.

Virtual libraries provide l–much alike traditional "real" libraries– information via the Internet [7,13]. The process of accumulation of information in such a library is not made explicit. Libraries provide information, media and search facilities based on normed data representation, but no flexible query facilities, appropriate for open, heterogeneous structure.

So called global ontologies, i.e., global schemata, are employed in [1] for mediation between databases. However, the disadvantage of global ontologies is that they become large and unmanageable. Thus, solutions based on them are not scalable, in contrast to federated knowledge bases.

The Knowledge Query and Manipulation Language (KQML) [4] allows not only to relate vocabularies, but also the programs implemented on the agents. This approach is based on a global ontology and schemata as well.

Multi-lingual information retrieval mechanisms are a special case of search mechanisms with translation as a sort of mediation between heterogeneous information bases. Context information is used in [10,5] to increase the effectiveness

of multi-lingual information retrieval. Context information is also used in [9] for search in digital catalogues.

7 Conclusions and Outlook

The NetAcademy is a medium for the accumulation, management and dissemination of information. It has the characteristics and advantages of both traditional and new media, the quality and accessibility of information and an open, distributed structure.

Still, the NetAcademy is in the early stages of implementation. The vocabulary with its query mechanisms is available as part of the NetAcademy. Currently, the process of finding appropriate editorial boards is on its way.

There are a couple of open problems due to the underlying Internet technology. The technology of the NetAcademy platform can guarantee—up to a certain point—for the authenticity of information and meta-information in a knowledge base. However, there are, up to now, no means to ensure that information and meta-information are copied and further disseminated unchanged. To make a platform like the NetAcademy useful in commercial applications copyright issues have to be resolved. Approaches to copyright issues can be found in [22], a concept for charging in a virtual library in [2].

A platform like the NetAcademy renews the process of publishing and with it the scientific work. A platform that is easy to set up and to maintain, that is able to communicate with other platforms of the same template is a new medium for researchers. We envision a growing NetAcademyNet with communicating, evolving communities organized as NetAcademies.

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