

## **Doctoral Program for the Society's Memory Functions, Memornet**

*Plan for activities 2012-2015* [translated by Ilkka Mäkinen/May 27, 2011]

[Part of the application document]

### *1. Research environment and the scientific quality of the research*

#### *1.1 The importance of the doctoral program for the research field and the mission of the program*

The Doctoral Program for the Society's Memory Functions, Memornet, strengthens the research and research education in the *society's memory functions* through the cooperation of universities and memory organizations. Memory functions are in operation throughout the society and the everyday activities in research and organizations could not be possible without them. Memory functions take care of the research infrastructures, the effective management and exploitation of the knowledge resources in organizations, as well as the access to and preservation of the cultural heritage for the benefit of research and the civil society. These functions cannot be developed without specialists, who have research training.

The need for research-based knowledge in the field of memory organizations was named already in 2004, when a working group on "Science and Society" proposed to the Ministry of Education that "special attention should be paid to information studies, archival science and museology, when positions of doctoral education are directed to doctoral schools assessed to be of high quality". Memornet integrates these fields of study with their neighboring fields into a common context.

Behind then growing need for research in the society's memory functions is the ubiquitous change on all levels of the society caused by the *digitization* of information environments. Larger and larger part of information is born and distributed in digital form, at the same time as existing analogous materials are transformed into digital form. Technological systems have developed faster than the organizational and conceptual abilities to manage the production, preservation and use of knowledge.

The volume, as well as need, for organizing digital research materials grows. The use of knowledge in the research process is transformed dramatically in the course of digitization even in the humanistic and social sciences. There is a great need for knowledge specialists, whose input is needed in the creation of the *research infrastructures*, in all phases of the research process and on all levels of the research system. Organizations in administration and business have become more and more dependent on the management of information, so that

it seamlessly supports the core activities of the organizations. The infiltration of the digital culture in all fields of life is challenging us to doubt, study and develop the principles, goals and methods of the ways to foster the *cultural heritage*. The technological development does not solve the problems by itself, but sustainable solutions must be based on research.

The digital change will be approached through three research areas in the doctoral program:

1. The infrastructures of research in culture and society.
2. The functional processes and the electronic usability of the knowledge production in organizations.
3. The digital cultural heritage.

Table 1. Examples of the research topics connected to research areas and research themes

Themes	Research areas		
	Knowledge management of cultural and social science research	Processes of knowledge production and electronic usability	Digital cultural heritage
Theoretical bases and methodology of memory functions	eScience in cultural and social science research. Methods of research in information practices.	Documents as tools in the documentation of an organization's activity. Socio-technic research in the virtual work community.	The past of the future as created by the present. Methods in the research on the future of the cultural heritage
Methods in the organization and implementation of knowledge	Methods in the management of research materials & data and publications.	Methods in producing metadata in the different phases of the lifecycle of the documents.	Methods in the description and retrieval of objects. Storage methods of personal memory materials.
Users, information practices and social networks	Collaborative information practices of researchers. User-based evaluation of	Practices in the production of metadata. Collaborative production of knowledge and the management	Citizens as producers and users of digital cultural services. Applications of the semantic and social

	knowledge resources.	of materials.	web.
Management of the document's lifecycle, appraisal and long-term preservation.	Appraisal and selection of the basic data of research	Appraisal in the production phase of knowledge	Appraisal and conservation. Computer technology of long-term preservation.

*Research area 1: Infrastructures of the cultural and social science research*

The importance of infrastructures for research is stressed in both domestic and international reports. The working group of the Ministry of Education stressed in its memorandum (2007: 36) that a determinate investment in the infrastructures is the next step in the development of the Finnish system for science and technology. Some of the most important EU development projects concerning infrastructures are the European Digital Library and CLARIN, the European project for common language resources and technology. The aim of CLARIN is to establish a European collaborative infrastructure for language resources and language technology that supports humanistic research exploiting digital materials (eHumanities). National CLARIN projects are organized coordinately under the umbrella of the EU's CLARIN project. The European Commission stresses the importance of common European infrastructures in the creation of top-level research environments and expects that the member states develop national strategies and structures of activities in a way that enhances possibilities to use, distribute and preserve scientific information in a digital form.

The construction of the common European portal for the digital materials in libraries, archives and museums, Europeana, started in 2007. In Finland, the activities of the National Audiovisual Archive have started. The National Library is developing the archiving of 5/26/11the web materials. Libraries, archives and museums are building a common long-term preservation system in the National Digital Library (KDK) project. A solution for the centralized long-term preservation system has already been accepted (KDK, the final report of the long-term preservation working group 22.6.2010). Among the changes in the information environment can also be counted the growing material and service production in the open Internet, the developing digital services of academic libraries as well as the development work in the management and reuse of research data. Digital knowledge resources form a central and growing asset in science and research. The development and exploitation of these resources cannot be left only to the technical personnel, but they presuppose a considerable number of experts with research education, who shall be educated in the doctoral program of Memornet.

The digital environment makes it possible to direct research into new areas, the use of new materials and methods, new work practices and the enhancement of the productivity of

research work. The positive development presupposes that the changes in the digital infrastructures, interaction between the information environment and research work as well as the development of the infrastructures are understood in a profound way. Based on pure research, cooperation and distribution of labor among different memory functions have to be developed. Experts with research education are needed in the development of memory functions serving research. In the fields of cultural and social sciences the development of eScience has been slower than in the natural sciences. The working group mapping national level research infrastructures (2009) stated that in social sciences and humanities the applications for infrastructure projects were in many cases incomplete and weakly organized as national level infrastructures. The working group recommended that “an effectivization of cooperation supported by the Ministry of Education has to be continued”. Memornet represents the research aspect in the cooperation of the memory organizations.

*Research area 2: The functional processes in the production of knowledge in organizations.*

The production and management of knowledge resources is from the point of view of most organizations an important success factor. The knowledge created in the activities is stored directly in digital form. The taking into account of the lifecycle of data and *data curation* are even more important than before. The technological development changes the operative environment and practices of organizations. In the ubiquitous society work is done, where people are, more and more often using groupwork tools and collaborative services of the web, which are not any more under the control of the organization. Basic research is needed on how these developments affect the organizations, their long-term working conditions, knowledge management and possibilities to take care of their memory functions in a planned way.

It is central for the organizations that memory functions can be taken care supporting at the same time the running of the tasks of the organization. There is a need to obtain information of the activities both for the organization’s own use and because of the external juridical, ecological and ethical demands of corroboration. The documentation connected to these aspects presupposes production of metadata and other measures increasing the workload, which is in contradiction with the demands of efficiency. Electronic document systems have been used in the public administration to increase the efficiency. The implementation of these systems has often failed, e.g., because of the difficulties in producing metadata. Actors connected to the functional processes of knowledge production have partly contradictory needs, and research is needed to adjust these needs.

The administrative systems raise questions, how democracy and the citizen control of administration can be secured. The transparency of the activities of the organizations and access to information are basic requirements of democracy. The more the electronic organizational culture is implemented without a systematic planning of memory functions, the more there are activities that are not documented and do not come into the reach of critical assessment of the citizens. The volume of digital information is vast, which makes it

important to be able to select the relevant information in the mass. E.g., the identification of e-mail messages relevant for the organizations and the society demands new methods.

### *Research area 3: Digital cultural heritage*

National digital knowledge resources are in a key position in the preservation of the national identity and the cultural heritage and give new kind of possibilities to exploit the cultural heritage. The nation, communities and the citizens build with the help of the cultural heritage an image of themselves and their past. It is important, in what way the development of Finland, the Finns and the minorities is reflected in the digital cultural heritage. Collaborative web services make it possible for the citizens to participate in the production of knowledge.

In the *born digital* cultural heritage the contents, the form and the mode of transmission do not any more support each other. The technical and intellectual usability of historical data using the newest technology available at a given time may be problematic. It is not clear, e.g., what kind of metadata the transmission of digital materials from a context to another presupposes. The distribution of materials via the web to the citizens creates new demands for the services.

There are threats caused by the changing technology attached to digitization. The long-term preservation of materials is still an unsolved problem. The most widespread strategy of preservation, the migration of data, is not, according to newest estimations, a feasible solution, because the systems are not scalable enough and successive migrations make the process complicated and risky. This strategy is, however, already chosen as the principal solution for long-term preservation in Finland, which means considerable economic investments. The matter requires, however, more research. The report of the working group on long-term preservation of the Ministry of Education (2008) has stated that a multidiscipline doctoral education of the society's memory functions is needed to strengthen the national competency in order to answer to the challenges caused by the long-term preservation and use of materials.

### *Estimation of the need for research education in the research on the society's memory functions*

We have described above the large development projects in the field of national and international infrastructures and digital cultural heritage, as well as master and doctoral education programs in archival science, records management and other memory sciences. They create a considerable need for doctoral level experts and teachers. With great probability at least some professor's chairs will be established in the field (especially the education in archival science and records management demand this). The fundamental

changes in the scientific research process and the digitization of the society cause directly and indirectly a need for expertise. Academic libraries and other support organization of research must have specialists, who personally know all phases of the research process. National level memory organizations need specialists with research education besides on the top level, also on the departmental level, where the strategic development projects are designed, and in more limited expert positions. Memory organizations along with ministries are responsible of the development of infrastructures on the national and international level. Those who take part in the development work should have at least the same educational level as those of their colleagues from other countries. In this light, the goal of 20 doctoral students' positions for the Memornet Doctoral Program is not an overestimation. [In the end the doctoral program got 6 doctoral students positions.]

### *1.2 The research environment, the research community and research infrastructure supporting the doctoral program*

The doctoral program continues the work of the *Research Education Network of the Society's Memory Functions, Memornet*, which was established by the applicant partners in 2007. The network has arranged annually a summer school and other seminar activities. The network is applying funds for a doctoral program coordinated by the Department of Information Studies and Interactive Media of the University of Tampere [now part of the School of Information Sciences of the University of Tampere]. The director of the program is *professor Pertti Vakkari*.

Partner universities, research centers and other organizations participating in the doctoral program are:

- The Finnish Archives System.
- The National Library.
- University of Jyväskylä. Department of Art and Cultural Research.
- National Board of Antiquities.
- University of Oulu. Faculty of Humanities.
- The Finnish Literature Society.
- University of Tampere. School of Information Sciences.
- University of Turku. Department of History.
- Finnish Social Science Data Archive.

- Åbo Academy University. School of Economics. Information Studies.
- Åbo Academy University. Nordic History.

The even internationally new concept of Memornet brings together the research done in the field of memory functions as well as the knowhow and research needs of the organizations responsible for the concrete work in the field. The memory institutions offer their personnel with research education as support for the doctoral program. The cooperative network exists already, which makes it easy to continue establishing the doctoral education. Digitization is a fresh social phenomenon, so the research traditions in the field are young and need a growing input. The doctoral program enhances fields of research where the availability of education is scarce and often is limited to graduate level (museology, archival science, conservation). Offering positions of doctoral education for these fields is a natural step forward. Information Studies as an established field of study a context, where the new fields can emerge.

The Department of Information Studies is internationally known for its research. A group led by prof. Kalervo Järvelin has reached 2010 the second round in the application process for national units of excellence of the Finnish Academy (final decision in June 2011). Järvelin is member in the pool of doctoral supervisors of Memornet. The Department is a central actor in research education and research in its field and it is also an inviting target for international doctoral students. It offers as the only university level unit doctoral education in records management and archival science. The Department has in cooperation with the University of Jyväskylä the only national masters program in archival management (bachelor level programs exist in the Universities of Turku and Eastern Finland).

The masters programs have grown and integrated since the 1990s. Education in archival science and records management was started at the University of Tampere in 1997 as part of the information studies program. University of Jyväskylä got a chair in museology in 1998. Masters program in archival management started in 2007 and the European Masters program "European Heritage, Digital Media and the Information Society" is going on. Different masters programs guarantee together with the education given by the Memornet departments that there are enough promising students for the doctoral program.

Libraries, archives and museums are traditionally seen as parallel actors, but the institutions, education and research in these fields have developed without contact with the other fields. The technological development has led to a merging of the horizons, which makes a common perspective necessary. The most obvious points of contact are questions of organizing, preservation and use of the collections. The cooperative projects of libraries, archives and museums in digitization (KAMUT, eKAMUT) and the National Digital Library are examples of the cooperation of memory organizations. Basic research enhances the emergence of integrating perspectives by lifting the level of abstraction.

### *1.3 The doctoral program as part of the research and profile of partner universities*

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### *2 Education and supervision in the doctoral program*

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### *3. Cooperation (national and international)*

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### *4 Functional quality*

#### *4.1. Management of the doctoral program*

Memornet has

- 1) A director
- 2) Board with
  - one representative from each partner university and memory organization
  - student member elected by the doctoral students
  - part-time secretary
- 3) assembly of the doctoral students and
- 4) follow-up groups that support the doctoral students.

[.....]

#### *4.5 Financial matters*

Chief responsibility of the scientific activities lies on the university departments, but memory organizations support the activities. Memory organizations allow their personnel to participate in the activities of the doctoral school. ...

The funds for the coordination of the doctoral program shall be gathered from the partners of the program. Partners shall pay a 300-1000 euros annual fee. Furthermore those university departments, whose doctoral student gets a funded position in the doctoral program, shall pay 3000-5000 euros per doctoral student annually. The National Archives System and the National Board of Antiquities promise to pay the same amount for any of their employee that is on leave of absence in order to take part in the program. The exact amount of the payments depends on the number of positions of doctoral students.