

Digital preservation activities across communities – benefits and problems

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Abstract

The problem of digital preservation is not limited to special communities. It concerns all institutions that are involved in the preservation of our cultural heritage. The German network of expertise in long-term preservation of digital resources – nestor brings together different communities to work on solutions for digital preservation. Museums, archives, libraries and scientific institutions are collaborating to create a durable infrastructure which focuses on a wide variety of skills in the area of digital preservation.

This presentation will give an overview of the benefits and the problems of cooperation among diverse communities. Which synergies can be leveraged and which differences have to be taken into account?

The nestor lessons learned show structural differences between the communities as well as common approaches and strategies concerning digital preservation.

Different cooperation models will be presented, as well as legal aspects.

Introduction

The German Network of Expertise in digital preservation is a collaborative project with seven partners. Involved are: The German National Library, the State and University Library Goettingen, the Bavarian State Library Munich, the Computer and Media Service of Humboldt University Berlin, the Institute for Museum Research Berlin, the Federal State Archives Koblenz and the University Hagen (FernUniversität).

Aside from these partners, many other people from different kinds of institutions are engaged in various nestor working groups. Although there are different priorities in relation to digital preservation within the communities, it is obvious that they have to solve a common challenge. Not only the communities represented in nestor are different but there are also differences within each sector, i.e. public and academic libraries, state archives and media archives etc.

Collaborative Working

In order to deal with the challenge of digital preservation, nestor is not only divided in several work packages (WP),

but has also established topic oriented working groups (WG). There are ten working packages in nestor and for each of them one or two of the seven nestor partners are responsible. Some of the WPs were built by reason of content, others are dealing with formal topics.

Project structure: Work Packages

WP 1 is engaged in the distribution of information via the nestor homepage. Three partners share the work on 1. the website itself, 2. the databases and the 3. internal communication (wiki).

The goal of **WP 2** is to promote activities within the archive and museum communities. Therefore special events and workshops are held.

WP 3 is engaged in national and international standardisation activities. The tasks are the development of requirements regarding standardisation, the representation of interests in different standardisation boards and the creation of recommendations. One result of WP 3 is the establishment of a subcommittee for the needs of long-term preservation within the DIN (German Institute for Standardisation). There are two main topics: the first is audit and certification of digital repositories and the second is the standardisation of the ingest process. WP 3 also provides catalogues of criteria for trusted repositories as well as for persistent identifiers.

Within **WP 4**, the activities of the nestor working groups are centralised. More on this later.

Further important parts are training and qualification, which are organised by **WP 5**. This includes the preparation and realisation of training events such as the summer/winter schools, partly organised in collaboration with DPE and DELOS. These are offered twice a year to practitioners as well as to students and others who are interested in learning about digital preservation in general. WP 5 is editor of the "nestor Handbook – An Encyclopaedia in digital Preservation". The authors are experts from different communities and institutions. It is freely available on the website and can be downloaded as a whole or in single files. An important key activity is the development of e-learning modules on digital preservation in collaboration with university partners.

WP 6 is dedicated to international activities concerning digital preservation. The goal is the creation and maintenance of contact to other persons, projects and networks in this field. Further down the line, a European infrastructure should be built and the collaboration i.e. in the field of education extended.

All concerns of PR are clustered in **WP 7**, which is supported by a PR agency.

The evolution of a sustainable infrastructure for digital preservation in Germany is the task of **WP 8**. For the near future, the goal is to continue the work of nestor in a durable organisational form when the current round of funding by the German Ministry of Research and Education expires. Therefore it is necessary to conclude cooperation agreements. A future nestor-organisation should support the institutions tasked with digital preservation, process the information, propose research projects, improve initial and further training and assume other coordination tasks. The goal has to be a permanent and durable organisation and it has to be located at a federal, state and local level.

WP 9 supervises the publication of four studies on different aspects of digital preservation. These studies focuses on raw data, Grid technology and multi-media objects, all in correlation to digital preservation. Additionally the WP wants to initialise a roadmapping process in order to combine ltp-infrastructure with Grid technology.

The project management is the task of **WP 10**.

Project structure: Working Groups

As mentioned before, there are additionally some Working Groups (WG) in nestor. Within these WGs nestor partners collaborate with persons from all institutions dealing with digital preservation. The leadership of the WGs is assumed by two of the project partners, other institutions are invited to collaborate.

The working group **Trusted Repository Certification** works on identifying relevant features and ranges to evaluate existing and emerging digital object repositories in order to form a web of trustworthiness. Those digital repositories can then function as long-term digital archives within various environments. The nestor working group consists of representatives from libraries, archives, museums, data centers, national libraries (Germany, Austria), publishers and certification experts. The working group has developed a catalogue of criteria for trusted digital repositories. Version 1 is published and available on the website, an updated version will be published soon.

The working group **Media** is aspiring to become a centre of knowledge and expertise on best-practice approaches to the problem of long-term accessibility of digital, non-text based media. With the participation of renowned experts on the topic, a virtual meeting point has been established and a handbook on long-term archiving of non-text based media will be published with special consideration of problems regarding file formats, hardware for the creation of archival backup copies and workflow.

One of the goals of the working group **Long-term Preservation Standards** is to achieve interoperability and trustworthiness. Guidelines for the ingest process will be published at the end of the year. The working group is engaged in national and international standardisation boards.

The working group **Grid/eScience and long-term preservation** focuses on synergies between grid computing and long-term preservation. eScience is based on managing tremendous data volumes with Grid technology. The technical dynamic generates a special need for long-term preservation. On the other hand this technology has a potential for the implementation of long-term archive systems. The task of the working group is to outline this new area with its opportunities and risks and to generate a roadmap for the development of long-term preservation.

The working group **Cooperative long-term preservation** promotes a co-operative approach and strengthens binding legal deposit directives. Furthermore, different types of co-operations have been evaluated and the results will be published in 2008. Based on this upcoming study, some topics of this paper will be presented later on. Technical and legal aspects as well as workflow issues related to cooperative long-term preservation are the main topics of the working group. A sub-working group works on recommendations concerning copyright act regarding long-term archiving.

Overview Work Packages

WP 1 – Maintenance of information and communication platform
WP 2 – Digital preservation for Archives and Museums
WP 3 – National and international standardisation
WP 4 – Working Groups <ul style="list-style-type: none"> 4.1 WG on trusted Repository Certification 4.2 WG Media 4.3 WG long-term Preservation Standards 4.4 WG Grid/eScience and long-term Preservation 4.5 WG Cooperative long-term Preservation
WP 5 – Education and Training
WP 6 – International Networking
WP 7 – Public Relations
WP 8 – Sustainable Organisation
WP 9 – Publication of studies
WP 10 – Project coordination

Types of cooperation

There are different kinds of cooperation in the field of digital preservation. As mentioned before, the WG

“Cooperative long-term preservation” have evaluated some existing cooperation projects in Germany.

Types of Archives

On the basis of the OAIS (Open Archival Information System) we can distinguish “independent archives”, “cooperating archives”, “federated archives” and “archives with shared functional areas”, whereas archive is used as a term within this model.

An “independent archive” relates to a single community and may choose its tools and classification systems by itself. This means that it need not conform to standards regarding formats, interfaces etc.

By contrast, “Cooperating archives” have agreements about the use of common standards.

“Federated archives” do not exchange their collections but uses common finding aids. There are two variants, the first one operates with one catalogue in a distributed system and in the other variant the finding aid as well as the object is located at the single archive. Requests were bundled and then sent to the archives.

“Archives with shared functional areas” have agreed to share functional areas and infrastructure.

Chances and Risks

Apart from this model the evaluated institutions state, that cooperation is not the one and only solution, but they consider, that they have to calculate the risks and chances of cooperation.

In the following, some recommendations resulting from the evaluation are listed. They reflect the experiences made by those interviewed and could be regarded as general guidelines.

Even if the cooperation is planned for a limited duration it is helpful to determine long term goals. These goals as well as their realisation should be checked periodically by the partners.

Chances and benefits of cooperation want each partner to benefit from this arrangement. The costs and risks could be shared while efficiency increases by a division of labour. Another important aspect is that collaborative work on special issues brings forward the development within the community.

Some aspects are seen as problematic, i.e. that only one partner might take advantage from the cooperation or that risks and costs are unequally distributed. Another problem mentioned is the danger that extensive approval processes will stifle productivity and innovation.

To prevent these disparities, it is advisable to make these apprehensions explicit and discuss possible strategies before signing an agreement.

There also different assessments regarding the project planning and how detailed it should be. On the one hand, a strongly regulated agreement can avoid misunderstandings. On the other hand, too much planning may lead to over-regulation and slow development.

However, potential conflicts should be discovered early on in the process of cooperation. If possible, all opportunities to deal with them should be taken.

It may also be helpful in the run-up to the cooperation to think about opportunities to terminate the cooperation during the term. First of all, a binding arrangement has to be agreed on, so that in every conceivable scenario, the disposition or the delivery of the data is regulated and assured.

The long-term preservation of digital objects has to be assured in every case. Depending on the form of archive/cooperation, standardised interfaces are necessary, particularly in case of independent archives. Furthermore, it is necessary to agree on common exchange formats.

All in all, as requirements for best practices are trustful relationships as well as an obligatory financial basis.

Further aspects are different legal mandates not only for different communities but also within particular areas. They will regulate what, for how long and in which manner objects will have to be stored. This means that there also might be a transfer from one to another archive after a certain period. Agreements on standards concerning formats, processes etc. are necessary to deal with this.

Conclusions

Despite some difficulties which are not only limited to cooperation in the area of digital preservation, the experience gained within nestor as well as in other cooperation models shows that especially in this field collaborative approaches are very useful and necessary. Even if there are very different initial situations for the communities involved, every institution dealing with the preservation of the digital cultural heritage has to be engaged in digital long-term preservation. Just these different approaches and strategies due to the requirements of the particular sector provide new and innovative perspectives. It is also the variety of strategies as well as research on a European and international level that will generate solutions to meet the challenges of digital preservation. nestor as a network of expertise from different communities shows that cross-sectoral cooperation is a viable approach and that it will build a basis for a future alliance dedicated to preserve our cultural heritage.

References

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<http://www.langzeitarchivierung.de/index.php?newlang=eng>