

15 years of nedor, German network of expertise in Digital Preservation

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ABSTRACT

nedor is the German network of expertise in Digital Preservation. Like iPRES, nedor looks back on a history of 15 years in 2018. On the occasion of the 15th iPRES conference, this paper will trace back those lines to look into early motivations of the nedor founding partners, and into the successes and lessons learned while establishing the network. It will give an overview of some recent developments and current work in nedor and close with the prospects of the challenges ahead.

Keywords

Digital Preservation, Network, Cooperation, Collaboration, and Capacity-Building.

INTRODUCTION

Both nedor and iPRES have their beginnings shortly after the turn of the millennium. Digital publishing was getting off the ground and, as a consequence, collecting and preserving digital contents was beginning to become an area of activity for the first memory institutions like libraries, archives and museums, and, soon, a field of research for academia. The urge to network and to exchange information about the new challenge and about solution approaches was strong.

nedor was set up in 2003, one year after the British Digital Preservation Coalition, which was clearly a model for nedor. The first iPRES conference was held in Beijing, China, in 2004. The second iPRES conference, held in Göttingen, Germany, in October 2005, was even organized together with nedor [1].

LOOKING BACK

nedor was initially set up in two project phases as a BMBF (German Federal Ministry for Education and Research) sponsored project. With partners from the libraries, archives, and museum sector, the consortium represented three key domains affected by digital preservation, and was set up as a cross-domain collaboration from the beginning. The goal of the first project phase from 2003-2006 was to build a network of expertise in digital long term preservation to secure the preservation of digital resources in Germany. The intention of the communication and information structures created in nedor was to foster interdisciplinary knowledge exchange between the partners and other relevant stakeholders, facilitate the distribution of best practices, and help to avoid isolated solutions.

During the second project phase from 2006-2009, the results of the first phase were systematically extended. A new aspect was added with the development of training offers in the field of digital preservation together with other existing higher education institutions [2]. In addition, a sustainable organization model for the network's services was to be found.

When the second project phase came to an end in 2009, it had become clear that nedor with its focus on information and

communication cannot on its own “secure the preservation of digital resources in Germany” but, with its network structures has been successful in bringing stakeholders together, and in fostering the exchange of information, the distribution of tasks, the development of standards and the exploitation of synergy effects [3]. Six of the seven original project partners and two additional organizations entered into a consortium agreement in June 2009, and continued nedor. The consortium now represented libraries, archives, museums, and one research institution.

NESTOR TODAY

Since then, nedor has positioned itself as an essential player in the field of Digital Preservation, nationally and internationally. The network does not receive any third-party funding, but is maintained by in-kind contribution of its partners. The largest single contribution is the 1 FTE position of the head of the nedor office at the German National Library in Frankfurt. The nedor office works together with the nedor coordinating committee (composed of one representative per partner) in developing and delivering of the operational work programme, with the nedor steering committee and the nedor speakers.

nedor has grown from 7 partners in 2009 to 20 partners in 2017, representing libraries, archives, museums, research institutions, and data centers. Altogether, 170 people with widely different backgrounds from 95 institutions from all sectors, including the private sector, were involved in 11 nedor working groups in 2017. For some more statistical information, see Illustration 1.

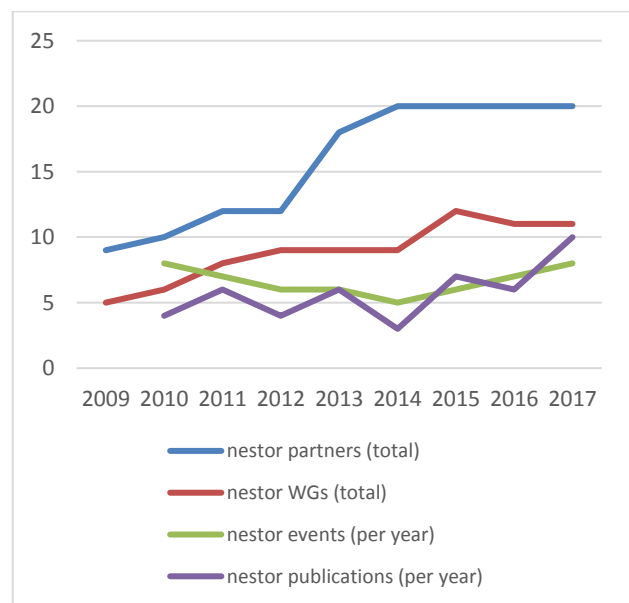


Illustration 1

While the lead of a working group is reserved to nestor partners, anyone interested in the topic may engage in nestor working groups. The first nestor working groups were deliberately composed as cross-domain collaborations. Topics of early nestor Working Groups (WG) include: Trusted Repositories/Certification, long term preservation of AV-Media, standards for metadata and object transfer. There even was a dedicated “cooperation and networking” WG that identified topics and projects of joint interest. In the recent past, there were efforts, especially from the archive sector, to pursue more archive specific projects in nestor working groups (e.g., preservation of electronic records, and archive cooperation).

KEY ACTIVITIES

In the 15 years that nestor exists, including the two project phases and the nine years as a consortium, nestor has, time and again, shifted its focal areas, with some constants. Working on certification was a constant key activity from the beginning in 2003, besides building up the cross-domain information and communication platform. Standardization and Training were added as two more focal areas in 2006. In recent years, nestor has come to consider its working groups, its publications and its events as key elements of the network.

In 2018, nestor has 11 working groups, ranging from File Format identification over Preservation of AV-Media to Personal Digital Archiving. They pick up, bundle, and enhance current topics of interest. They monitor and take up international developments, and disseminate their results internationally, as well.

Discussing specific questions in working groups across domains can be challenging, for instance communication between librarians and archivists can be difficult. Librarians might think that they have messy material to ingest in their Digital Archives and have to deal with a plethora of file formats, but archivists usually are much worse off. Having to analyze several hard-discs of an allowance they have to keep and make publicly available and not even knowing which files to archive, as it is not always clear if the file is unique or just a system file. In the nestor working group on file format identification, for example, the librarians benefit from the experience of the archivists, tools they use and workflows they have established.

The working groups regularly organize workshops and publish their findings as “nestor materials” (a dedicated publication series from nestor) to expand the information available on various aspects of Digital Preservation. So far there are 22 published “materials”, 6 of which have English translations [4]:

- Guidelines for the creation of an institutional policy on digital preservation (2014)
- Explanatory notes on the nestor Seal for Trustworthy Digital Archives (2013)
- Guideline for Preservation Planning. Procedural Model and Implementation (2012)
- Catalogue of criteria for assessing the trustworthiness of PI systems (2008)
- Into the Archive - a guide to the information transfer to a digital repository (2008)
- Catalogue of Criteria for Trusted Digital Repositories (2008),

Furthermore, there is one translation into Japanese and into Dutch to enhance visibility and enable international colleagues to use the materials more easily.

In 2009, nestor organized its first nestor Praktikertag, which was such a success that nestor has arranged a nestor Praktikertag every year since the first one, always hosted by one of the 20 nestor partners. For a couple of years now, the nestor Praktikertag has always had a main theme, for example certification and format migration and this year’s topic was

PREMIS. The Praktikertag, as the name shows, addresses the community, which is working with practical matters of Digital Preservation [5].

nestor also organizes several topical expert workshops, e. g. for web archiving, and since 2016, “nestor for newbies”, an information event for Digital Preservation beginners.

nestor is engaged in the professional training in the field of Digital Preservation. This includes students as well as professionals. In 2007, 11 Higher Education Institutions signed a Memorandum of Understanding (MoU) to cooperate in the development of curricula in Digital Preservation. Conjointly, they organize the nestor school, which took place for the first time in 2007 and was repeated annually until 2012 and bi-annually since then. The next nestor school will take place in 2018. A nestor school usually lasts three days and has a main topic, for example Digital Preservation of Research Data, Format Migration or Digital Preservation and Digitization [6].

The nestor newsletter has about 1600 subscribers and about 830 are registered for the nestor mailing list. Almost 400 people follow the nestor Twitter account. Thus, nestor offers information and an infrastructure to communicate, which is used by hundreds of information professionals.

REPOSITORY CERTIFICATION

Since 2016, nestor offers an extended self-assessment process for digital archives on the basis of the DIN 31644 standard “Criteria for trustworthy digital archives”, thereby contributing to improving the overall quality of the preservation landscape. This activity is rooted in the first nestor project phase starting in 2003. A working group “Trusted Repositories/Certification” with a membership representing libraries, archives, museums and research institutions, defined a catalogue of criteria, which permit the trustworthiness of a digital repository to be evaluated at the organizational and technical levels. The criteria were defined in an open approach with involvement of a wide range of different memory organizations, producers of information, and other interested parties, and in discussions with international partners, especially the OCLC/RLG-NARA Digital Repository Certification Task Force, the Center for Research Libraries, the Digital Curation Centre and the Digital Preservation Europe Project. Since 2016, four organizations have been awarded the nestor seal. They had to publish their documentation and application forms on the website, which is helpful for further applicants and the interested expert audience [7]. The nestor seal fits into the European Framework for Audit and Certification, which is based on a Memorandum of Understanding between the former Data Seal of Approval Initiative (now CoreTrustSeal) and the ISO 16363 initiative [8].

In comparison with the CoreTrustSeal the nestor has more than twice as many criteria, 34 questions must be carefully answered, whereas the CoreTrustSeal consists of 16 criteria. Besides, the nestor seal stresses the organizational questions for the memory institutions more. Information about adequate funding and human resources are demanded, as well as an exit strategy in case the institution has to close its doors.

INTERNATIONAL COLLABORATION

nestor is embedded into an international network, partly formalized with Memorandums of Understanding (MoUs) or cooperation agreements, but mostly built on informal, personal and institutional relations. In this way, nestor extends its own network, gains access to the knowledge base and activities of others, and grants access to its own knowledge base and activities vice versa.

In 2013, nestor and the Digital Preservation Coalition (DPC) signed a co-operation agreement which allows them to share resources and enables their members to work together for the

preservation of digital objects. In particular, the agreement entitles nestor and DPC members to mutual access to each other's members-only contents and events.

In 2016, nestor and the Open Preservation Foundation (OPF) signed a Memorandum of Understanding to facilitate discussion and co-working between both organizations and join forces of Digital Preservation knowledge and activities [9]. Through nestor, the OPF reaches a very active and interested audience, and the OPF supports nestor in overcoming the language barrier and sharing its achievements, experience and work in progress all over the world.

In 2014, nestor formed a working group on format identification, which works on problems on format identification and validation. Interestingly, in the same year, the OPF formed the Document interest group (DIG), which concentrates on solutions and information exchange for validation problems. The nestor working group extensively documented on the error messages of the validation tool JHOVE PDF module. To reach a broader audience, and, more importantly, gain experience from other JHOVE users all over the world, the work done by the nestor working group transferred its work to the OPDF wiki [10]. The findings are listed in detail in the GitHub of the British Library, which leads the OPF DIG [11].

However, the nestor working group on format identification and the OPF DIG are not the only working groups from the two organizations with overlapping interests and working packages. In 2014, nestor formed the working group Elektronische Akte (digital record). The 20 participants are Digital Preservation specialists working in archives all over Germany. Their main focus is to generate a catalogue that lists the most frequently used forms of electronic records, with emphasis on the needs of federal, Länder and municipal archives. The equivalent OPF working group is the Archive Interest Group (AIG). The AIG was established in 2016 and started with a focus on preferred and accepted format from an archival perspective. Nowadays, the AIG researches significant properties.

There are other areas, in which nestor assists its members to participate in the international specialist discourse, by bundling and representing the input of the German speaking community, and by channeling international developments into the national community. Two recent examples include the 2017 OAIS review and PREMIS.

The Open Archival Information System reference model (OAIS) is one of the most influential documents in the area of Digital Preservation. In the run-up to the periodic review by ISO, which was scheduled for 2017, the DPC created the OAIS Community Forum initiative to discuss and debate the standard and to collect input for the review. nestor promptly took up the initiative and set up a working group to bundle the contributions of the German and German speaking community. The working group hosted a public workshop at the German National Library in Frankfurt in June 2016 with almost 40 participants from archives, libraries, data centers, and research institutions, and submitted 9 change requests to the review process. The results were shared with the international community at a joint iPRES Panel with DPC, NCDD and the KB Netherlands in 2016 with the title "OAIS for all of us". While the review process is ongoing, it seems that the responsible standardization committee at the Consultative Committee for Space and Data Science (CCSDS) has picked up most of the nestor change requests.

In 2017, nestor organized an internal workshop on PREMIS and invited three members of the PREMIS editorial board for presentations. The workshop was primarily intended as a training event for the nestor members, but some of the questions and ideas that nestor members had in relation to the PREMIS data

dictionary triggered discussions, and the presenters agreed to put forward some of the issues to the editorial committee.

CURRENT CHALLENGES AND LOOKING AHEAD

As mentioned above, nestor does not receive any third party funding, but is completely maintained by in-kind-contribution of its partners, who allocate staff resources to nestor in order to maintain the core activities. All people contributing to nestor, e.g. leading or contributing to working groups, organizing nestor schools, or writing nestor publication have other main employments at nestor partner institutions, with the exception of the post at the nestor office.

As in any context, which is fed by voluntary contributions, there is a constant challenge to keep up the motivation of the contributing people. In 2015, nestor conducted an informal survey among its members. Based on this positioning, the members particularly valued the opportunity to exchange professional information, to work together on specific Digital Preservation topics and to develop community standards. The members criticized, however, that the level of activity could be higher, that more services could be provided, and that more target groups could be addressed. It was clear that the perceived gaps were mostly caused by the limited staff resources.

As a result, nestor tries to focus on activities that are of immediate use to its partners so that it is easier to create synergies between people's main employments and their engagement in nestor. New working groups, for example, always address a question that one or several partners need to work on, anyway. Nonetheless, certain services are offered where the return on investment is rather indirect, like the provision of the nestor seal, or the nestor training activities. It takes more effort to maintain these activities, but the demand of the community confirms that it is worth the effort.

The nestor partners have done some pioneer work in the early years, and via nestor have continued to support the advancement of Digital Preservation. The key activities outlined above and the international collaborations will be maintained, if not intensified in the years to come. In the future both sides will derive even more benefit if nestor and the OPF intensify their exchange, because both organizations want to contribute to community-built knowledge and tools and their working groups have strongly related working fields and goals. For instance, there have been already tentative steps of the nestor working group on format identification to engage more deeply in the JHOVE GitHub project to contribute actively to the JHOVE development.

While the expertise of nestor is undisputed in the core Digital Preservation community, a current challenge for the network is to position itself in the more "political" context. It strives, for example, to define its contribution to the "National Research Data Infrastructure" recommended by the German Council for Scientific Information Infrastructures. The Council envisages that the outlined National Research Data Infrastructure should be implemented as a national collaborative network that grows over time and is composed of various specialized nodes [12]. Data preservation is but one issue in the overall vision, but the advantages of a distributed, coordinated approach to data preservation are obvious and congruent with the efforts of nestor. In the future, nestor could even more provide the appropriate framework for the coordination process that is necessary to put the envisioned national infrastructure in place. Also, nestor's competencies and experiences in the area of certification (nestor seal) standards development are important contributions to the process. Moreover, nestor is well positioned to build a bridge to international players and initiatives.

CONCLUSION

Shortly after the turn of the millennium, it became clear that Digital Preservation is an important contemporary task, which is best achieved working together – across institutions and even across countries and continents. It is not a coincidence that the activities around iPRES and nestor both started about 15 ago, together with similar initiatives like DPC, DCC and others: the time was just right.

Both iPRES and nestor have grown a lot since then. Firstly, in regard to sheer quantity: iPRES participants, number of papers per conference, nestor partners, active institutions and newsletter subscribers. Secondly, in regard to quality: depth of papers, solutions and best practice in Digital Preservation already achieved for iPRES; and ability to support Digital Preservation activities with knowledge exchange and guidelines for nestor.

Networking on the national as well as on the international level has grown more and more important. Several knowledge platforms, wikis, blogs and tools useful for Digital Preservation already exist and are maintained and developed further by the international community or made openly available by active institutions and/or coalitions. Consequently, international collaboration and working together to avoid isolated solutions and prevent duplication of effort remains important. Thus, nestor will engage even further and in more depth in international networking.

The nestor infrastructure has proven to be reliable: The current working groups cover the most important Digital Preservation issues, and the procedure to start new working groups on emerging topics is well-trying. nestor has extensive experience in organizing events and bringing people together. Against this background, nestor is always ready to support, develop and start new trends in Digital Preservation.

ACM Reference Format

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REFERENCES

- [1] International Conference on Digital Preservation. 2018. Retrieved from <http://ipres-conference.org/>.
- [2] Neuroth, H. et al: Qualification & Education in Digital Curation: the nestor Experience in Germany. University of North Carolina at Chapel Hill, 2009. Retrieved from http://www.iws.th-koeln.de/personen/osswald/publikationen/Neuroth_Osswald_Strathmann_DigCCurr2009Proceedings.pdf.
- [3] Schrimpf, S.: Lessons Learned: Moving a Digital Preservation Network from Project Organization to Sustainability. UC Office of the President: California Digital Library, 2009. Retrieved from <https://escholarship.org/uc/item/2f77s5bk>.
- [4] nestor Materialien. 2018. Retrieved from http://www.langzeitarchivierung.de/Subsites/nestor/DE/Publikationen/Materialien/materialien_node.html.
- [5] nestor Praktikertag. 2017. Retrieved from <http://www.langzeitarchivierung.de/Subsites/nestor/DE/Veranstaltungen/TermineNestor/praktikertag2017.html>.
- [6] nestor Qualifizierung. 2016. Qualification. Retrieved from <http://nestor.sub.uni-goettingen.de/education/index.php?lang=en>.

- [7] nestor Seal for Trustworthy Digital Archives. 2017. Retrieved from http://www.langzeitarchivierung.de/Subsites/nestor/EN/Siegel/siegel_node.html.
- [8] European Framework for Audit and Certification of Digital Repositories. 2010. Retrieved from <http://www.trusteddigitalrepository.eu>.
- [9] nestor newsletter. 2016. Retrieved from nbn-resolving.de/urn/resolver.pl?urn=urn:nbn:de:0008-2016111702
- [10] Open Preservation Foundation. 2017. JHOVE issues and error messages. Retrieved from <http://wiki.opf-labs.org/display/Documents/JHOVE+issues+and+error+messages>.
- [11] British Library GitHub. 2018. PDF hul Message. Retrieved from <https://github.com/bl-dpt/jhove/wiki/PDF-hul-Messages>.
- [12] RfII – German Council for Scientific Information Infrastructures: Enhancing Research Data Management: Performance through Diversity. Recommendations regarding structures, processes, and financing for research data management in Germany, Göttingen 2016. Retrieved from <http://www.rfii.de/?wpdmdl=2075>.