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Integrated Archival Web Services. Estonian Example

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In accomplishing the mission of the NAE - to ensure the access to information regardless of time and location - major milestones have been reached within the last decade. The national archival information system AIS and Saaga (collection of digitized archival records) list among the most important achievements. AIS is created with the aim to digitalize file-level archival descriptions and providing full online access to them, to this day, archivals of all the public archives have been entered into the system. Since 2005, Saaga project for digitalizing archival sources is active, which provides free access to the most used sources through the web. In spring 2009, virtual reading room VAU was opened. It is an integral solution where the electronic finding aids have been integrated both with the original archivals and their digitized user copies with the added technical platform which enables researchers to create databases, exchange information and communicate with each other. The further plans of the NAE are associated with the development of massive source types and with the functions of digitizing and customer service.

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Nel portare avanti la missione della NAE - assicurare l'accesso alle informazioni indipendentemente da tempo e luogo - molte pietre miliari sono state raggiunte nel decennio passato. Il sistema informativo archivistico nazionale AIS e Saaga (collezione di documenti digitali) sono fra i risultati più importanti. AIS è stato creato con l'intento di digitalizzare a livello di fascicolo la descrizione archivi-

The National Archives of Estonia as a modern memory institution is facing the two main challenges of our information age - the preservation of digitised information and the use of heritage employing up-to-date means. The subject of this article is first and foremost the problems of web-based usage, which the National Archives are trying to solve based on international principles (Lund principles) and their internal development strategy.

The main aim of the National Archives is to enhance independent access to most widely used sources which does not depend on time and place, and the up-to-date development of e-services. The following provides a brief overview of the current situation and prospects of the digital use of the National Archives.

Several significant signposts have been reached in the course of fulfilling the mission of the National Archives during the last decade. Since the end of the 1990s, e-services have been dealt with more systematically. The most important achievements may be considered to be the establishment of AIS, the Archival Information System, and Saaga, the collection of digitised archival records. The aim of AIS is to digitise file-level archive descriptions and ensure an on-line access to a full extent (ais.ra.ee). Saaga, the project of digitalised sources of family history, has been worked on since 2005. It enables users to access the most widely used sources on the web free of charge (ra.ee/saaga). In the spring of 2009, the *virtual reading room* VAU (ra.ee/vau/) was launched. It is a comprehensive solution in which e-records are integrated with the original records and their digital copies, and a technical platform has been added which enables users to create databases, exchange information and communicate with each other. The future plans of the National Archives regarding developing services for users are connected with massive digitisation of sources, developing up-to-date search engines and client services functions.

AIS - Archival Information System

By this time, most Estonian memory institutions have taken the first step and are in the process of making accessible to users electronic catalogues and databases involving information about their collections. The purpose of the Archival Information System AIS is to ensure on-line access to preservation items conserved in the archives. The establishment of the information system began in 1997 in order to broaden and simplify the modern access means to the archi-

val data in the archive and to reduce the researchers' and archivists' workload when searching for data. Data entry was begun in 1999 and it reached the Internet in December, in the year 2004. The massive entry of records was completed in 2009 and we can say now that all, which amounts to approximately 8 million, archival documents of archival value have been entered.

The client benefits from AIS both indirectly (the archival institution with good working equipment can serve clients better) and directly (one can search information on the Internet by themselves). Traditionally, a user had to go to the archive in order to get acquainted with the archival information, yet nowadays an interested person can obtain the necessary information without leaving the computer. Although similar changes have been made in the archive before, for example the list of collections on the homepage, AIS is special for being so detailed - information which reaches the archival level can be obtained. In its essence, AIS resembles electronic databases of libraries where books can be searched for. The database of AIS is similar - records can be searched using keywords. In addition to saving time, AIS expands searching possibilities qualitatively as IT methods enable to conduct searches in ways not possible when using paper catalogues. Traditionally, in order to find archival information, one has to know at which institution, organisation or by who records could have been created and browse through the inventory of the relevant creator of archive. The so-called top-down approach requires prior knowledge and the experience of archival work. With the help of AIS, however, a bottom-up approach can be employed - while inserting keywords into the search engine, a user does not have to know the creator of records, the system looks for the answers from all archives of the NAE. Simultaneously, the search system takes into account the multi-level description of an archival description, i.e. keywords can be distributed among different entries subordinated to each other. The search does not cover only titles but also other important data fields like history, content and topic, remarks, etc. All this guarantees that the bottom-up enquiry will help the user to quickly reach the desired result.

AIS is not merely a means of search meant for the client, several modules involved in the archives` main field of activity have been linked with it, for example, supervision, repositories, assessment. The National Archives is currently working on designing the client service module. The aim of the module is to assemble the clients of different archives in a unified database and administrate all records-related activities in the reading room: user requests, sales copies, damaged and missing records, copies for usage, access requests, etc. The module provides an archive employee with the possibility of having an overview of the location of a record or active operations at all times. Through a public interface, a user can submit requests and see data concerning whether it is being processed, has been completed or refused for some reason.

AIS is constantly being changed qualitatively as archivists` and users` observations indicate shortcomings in the development and create a need for new solutions. By today, we have reached an understanding that the time is ripe for a completely new version - AIS2. Its key issues are as follows:

stica e per fornire completo accesso online, oggi tutti gli archivi pubblici sono entrati nel sistema. Dal 2005 è attivo il progetto Saaga per la digitalizzazione delle fonti archivistiche, progetto che fornisce libero accesso alle più utilizzate fonti sul web. Nella primavera del 2009 la sala di lettura virtuale VAU è stata aperta. E' una soluzione integrale dove gli strumenti di ricerca virtuali sono stati integrati sia con gli archivi originali e le loro copie digitali che con la piattaforma tecnica aggiunta che consente ai ricercatori di creare database, scambiare informazioni e comunicare uno con l'altro. I piani futuri della NAE sono associati allo sviluppo di tipi di fonti e con le funzioni di digitalizzazione e servizio per l'utenza.

V izpolnjevanju poslanstva nacionalnega arhiva Estonije, ki si je zadal nalogo, da bo naredil informacije še bolj dostopne, ne glede na čas in lokacijo, je bilo v zadnjem desetletju doseženih več mejnikov. Med njimi sta zagotovo estonski narodni informacijski sistem AIS in zbirka digitaliziranih arhivskih posnetkov dokumentov Saaga. AIS je bil zasnovan z namenom, da bi digitaliziral datoteke in zagotovil neomejen spletni dostop do podatkov. Tako so bili v ta program zajeti vsi javni dokumenti, Saaga pa že od leta 2005 naprej omogoča digitalizacijo arhivskih virov in s tem prost dostop do vseh najbolj iskanih virov v spletu. Leta 2009 so odprli virtualno čitalnico (VAU), pri kateri gre za rešitev, ki vključuje elektronska arhivska pomagala, s katerimi lahko poiščejo digitalizirane kopije originalov in omogočajo izmenjavo informacij ter izdelavo podatkovnih baz. V prihodnje pričakujemo razvoj na področju masovnih virov s funkcijami digitalizacije in storitev za stranke.

SUMMARY

Ten years of developing e-services have awarded the National Archives of Estonia with invaluable experience in developing the subject area. Several significant signposts have been reached. The most important achievements may be considered to be the establishment of AIS, the Archival Information System, and Saaga, the collection of digitised archival records. The aim of AIS is to digitise file-level archive descriptions and ensure an on-line access to a full extent (ais.ra.ee). Saaga, the project of digitalised sources of family history, has been worked on since 2005. It enables users to access the most widely used sources on the web free of charge (ra.ee/saaga). In the spring of 2009,the virtual reading room VAU (ra.ee/vau/) was launched. It is a comprehensive solution in which e-records are integrated with the original records and their digital copies, and a technical platform has been added which enables users to create databases, ex-

change information and communicate with each other. Naturally, the development of e-services has changed the archive user`s profile and the workload of archivists. As to the users' needs, the principal question is to what extent we should adjust ourselves to the wishes and habits of our users. Would it be sufficient to make just archival descriptions and content available to the public? It definitely seems to be of major future potential where the role of the archives could only be about provoking users, no more. In the circumstances where our biggest traditional user group, genealogists, has got excellent conditions for self-supporting online research, the NAE can now put efforts on other enhancements and fields of activity, for example GIS-based solution for accessing digitized records (taking the results from QVIZ project) or tools for archival pedagogy.

- How to organise thematic keywords, or how to bring together data for the same topic from a variety of sources? Should it be based on the type of source, for example, a parish register, or the provenience, i.e. who created the document?
- How to improve search options, for example, linking enquiries in different languages (Estonian, German, Russian) to place names?
- How to structure collections hierarchically and present systematically?

AIS should ideally evolve into a central information system which contains all information regarding a record, can directly be linked to a variety of databases to conduct parallel searches and provides a direct way for submitting a request or viewing digital images.

Saaga - a collection of digitalised sources

Services of the second level - access to digital materials within the on-line system - was achieved in the National Archives in 2004, which is the year when project Saaga was initiated. The need for it arose when the use of genealogical sources became more frequent and their poor physical condition. In the 1990s, interest in family history research began to increase rapidly, for example, more than 35% of researchers in the Historical Archives have stated the study of the family tree as their research objective. In addition to them, there are also people who are too busy to visit the archive reading room, but would gladly engage in research in the evenings or at weekends. The collection of existing microfilms (ca 3 million images) was first scanned in order to make the favourite sources of genealogists available for the public on the Internet. The first digital user copies were made accessible for researchers on the Archives intranet in November 2004. In May 2005, Saaga was launched on the Internet containing one of the most important collections of sources for research into family history - Estonian Evangelical Lutheran Church congregation parish registers. Soon other traditional sources preserved in the Historical Archives followed: parish registers and parish member lists of the Lutheran and the Orthodox congregations, *status animarum* registers, and lists of commune members. Today we can say that Saaga contains all major source groups which are required in genealogy research, in addition to the aforementioned, the secondary materials, such as list of those enlisted in military service and registers of socage holdings and taxes imposed on the peasants.

The digitalising priorities and scope have changed significantly over the years, and a collection which contained only family history sources has evolved into a comprehensive portal of a variety of archival materials, where school history and the activities of state institutions, Estica from foreign archives, recollections, printed materials, articles, maps and coats of arms can be found. Saaga contains more than 5 million images, i.e. about 46 000 records, which accounts for about 1 % of our collections. All of this is available for users 24/7 and free of charge. And Saaga continues to grow - the Euro projects of the digitalisation of parchments, maps and photographs will increase the number of digital images significantly.

It is important to emphasise that Saaga is the collection of digitalised images, not a database.

A desired document cannot be searched by using personal data (e.g. family name). The development of computer technology has not yet reached the level (if it ever will) where a computer programme could effectively recognise different handwriting in old and worn-out documents. A web interface has been created to grant access to the image collection in which sources available in various collections have been organised based on topics.

VAU - Virtual Reading Room

Archival records and the digitising of records and the establishment of databases have created the preconditions for the so-called third-level service (a digital object and, in addition, context and expert knowledge), i.e. a web-based client environment. When using AIS and Saaga, it became evident that it is not always easy to navigate among the colourfully diverse information and services created by different archives, and to find the required information. Therefore, the National Archives` priority became the establishment of a comprehensive web environment for clients, which would offer all the existing services on the same site, enable communication, co-operation and information exchange in three directions: from archive to client, client to archive, client to client. Last spring the National Archives presented VAU, the Virtual Reading Room, which contains the collections, services and clients of the National Archives. VAU enables users to get acquainted with archival records, search for and browse sources, submit requests for copies and consult archive employees. Similarly to traditional reading rooms the user has a desktop where they can save references and links in their personal link notebook. Lastly, VAU is also a communication environment where one can discover co-researchers with similar interests and problems, exchange ideas with them conveniently, and ask for advice from more experienced researchers if necessary. In addition to the possibilities for individual research, VAU also enables a citizen to request archival notices and purchase books and other editions published by the Archives.

The structure of VAU has three levels: "the archive view" which comprises information about the archives and their services, "the personal view" which comprises the user data, and "the social view" meant for communication and exchange of information. If the basic view of VAU does not provide answers for all questions or something remains unclear, everyone interested can get acquainted with FAQs and explanations of basic archival terminology in the help section, and send enquiries and feedback to the archives.

Archives and the user in a changing world

Now that all archival records are available on the Internet, the most frequently used records have been digitised and can be looked at and read on the web and all this is accessible in one client environment, the time has arrived to consider how the developments have influenced archive work and client services. Statistics says it all. By the year 2004, just before AIS reached the Internet, the number of visits in reading rooms had reached the peak, 21 000 visits per year. The launch of AIS and Saaga in spring 2005 can be considered as the

turning point. Since that year the number of clients who physically visit the archives began to decrease significantly. 13 700 reading room visits were registered in 2009. The traditional public archive user model is being replaced by a new web-based user model. The number of user places in reading rooms indicates the transition to e-use. There were 181 of those 10 years ago, now it has decreased by a fifth. The opening hours are shorter and one reading room has been closed, use of microfilms in archives has now entered the realm of history. Whereas the number of Saaga and VAU visitors is growing every day. Never before has such a large number of people used archival records and sources. Last year approximately 200 000 visits were registered in Saaga, which is 2.5 times more than in an off-line reading room in 5 years. These days about 1000 visits are made per day, each lasting approximately 40 minutes. According to statistics, the number of people who regularly visit the National Archives` e-services is more than 10 000.

Naturally, the development of e-services has changed the archive user`s profile. We have put behind us times when sources that were difficult to access belonged to competent and dedicated researchers` domain. Nowadays the so-called laypersons who are interested in their ancestry, hometown, real estate or some other topic reach the virtual reading room and, in addition, the archives. Proportionally, the number of people who visit us once has increased. They have found a record with a title of interest in AIS and wish to come and see it in the Archives or request copies. The number of archive enquiries submitted on the site is evidence of the fact that the Archives has entered the everyday Internet user`s world. Citizens are now able to carry out all necessary procedures to establish their rights without physically visiting the Archives.

For an archivist, the wider range of users means more work with informing and educating users. Dealing with feedback and enriching the site with additional information and a variety of helpful texts has become a part of an archivist`s everyday work.

A new direction has arisen in the development of this field - archival pedagogy, which promotes the Archives and its possibilities, and develops the skills of working with archival sources already among school-aged children. It is, however, obvious that the resources of time and money that are currently available in the Archives are insufficient for supplying the massive digital data on the web with search help and knowledge. The archive user expects simpler and faster options when searching for information from archival sources.

They are not anymore satisfied with massive resource data which makes it rather time-consuming to find the desired information regarding a person or place. The Archives must abandon the viewpoint that only an archivist is able to create adequate search tools and catalogues. These tasks are more often delegated to the users themselves. Wiki-based archival descriptions, indexes created by users and such, which are common in many archives, are now partly applied in Estonia. Firstly, we are glad to say that we have been able to co-operate with target groups fruitfully when developing Saaga.

In 2005, Estonian Genealogical Society, which unites the researchers of family history, began to digitalise name registers of personal books, and, as a result, the name register search engine was connected to Saaga environment. The register which enables us to find out in which indexed personal books the family name of interest appears is essential support for a researcher who lacks more detailed basic knowledge regarding their ancestry. Now volunteers have entered about 500 000 names in the database and the work is ongoing. The register is an excellent example of the Archives` and users` interaction, in which the Archives establishes access to sources and users can create so-called expert knowledge themselves. Secondly, the web contains a variety of databases with diverse structures and formats. As creating, finding and using these is not always easy, the Archives has produced technical means in VAU for the creation and administration of databases. Researches have already uploaded 35 different databases in VAU. Thirdly, the family history forum must be mentioned. It brings together more than 1500 interested users. Although researchers receive help from archivists through feedback, it is often more convenient to communicate and exchange experiences with other hobbyists. Mostly a beginner or a researcher who is at a loss receives an answer to their enquiry in under an hour, experienced and helpful genealogists are glad to provide useful advice to each other regarding the use of different sources, conducting web search and such.

Ten years of developing e-services have awarded the National Archives with invaluable experience in developing the subject area. New directions have evolved, and these are in accordance with archive users` needs and expectations.

- To digitise as many and various sources as possible.
- To guide and help users with indexing the sources and creating search tools.
- To develop alternative search engines in addition to traditional catalogue search, for example, GIS-based solutions.

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