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“EUROPEANA LIBRARIES” PROJECT: FOSTERING DIGITIZATION ACROSS EUROPE

Abstract. Paper presents details of the project “Europeana libraries: Aggregating digital content from Europe’s libraries” with special focus on participation of University library “Svetozar Markovic” in it. This CIP-Best Practice Network ICT-PSP project brought together 24 institutions including some of Europe’s leading research libraries from 11 countries. During the two years’ course of the project 2011-2013 with participation and support of LIBER, CERL, CENL and Europeana foundation, partnering institutions aim to build the library aggregator for Europeana and create infrastructure that will allow for ingestion into Europeana of digital materials from other research libraries across the Europe after 2013. University library “Svetozar Markovic” is the only partner in the project from a non-EU country and the region of SE Europe. Two important collections comprising 160.000 pages of old and rare books from Ottoman collection and collection on Alexander the Great will be made available to international patrons through Europeana as a result of participation of University library “Svetozar Markovic” in this project. Librarians from Belgrade will be partnering with colleagues from Europe on developing new metadata standard EDM (Europeana Data Model) and enhancing full-text searching capabilities and features of Europeana. Other libraries in the region will be profiting from the participation of University library “Svetozar Markovic” in this project since one of the important aims is to create aggregator for research libraries of Western Balkan countries. In the course of achieving this, research libraries from the region will be getting help on kick-starting their digitization projects, creating digital repositories and preparing metadata for ingestion into Europeana.

Keywords: Europeana, Europeana libraries, digitization, EDM

1. Introduction – Europeana

“Europeana is the EU's most visible expression of our digital heritage, and a reference point for European culture on the Internet. It reflects the ambition of Europe’s cultural institutions to make our common and diverse cultural heritage more widely accessible to all” – Neelie Kroes, Vice President of the European Commission, responsible for the Digital Agenda [1].

Europeana is an online portal that, from January 2011, contains links to over 15 million digitized objects stored at repositories of Europe’s museums, libraries, archives and audiovisual collecting institutions. It connects to Europe’s cultural heritage by providing access to items from over 1,500 institutions. It is Europe’s digital library, museum and archive that makes cultural heritage of Europe accessible and searchable.

Europeana aims at making digital collections of European cultural institutions visible to users from all over the world. By creating one, central and well known research point Europeana fosters usage of collections available through its search. Those collections are more available and because of this Europeana enhance possibilities of those collections being used by researchers, students, scientists and the wider public. The idea is that institutions involved in Europeana projects deliver metadata of digital objects from their collections, and Euro-

peana shows the way to repositories of those institutions based on the metadata provided, where users can access digital objects they are interested in.

Some of the highlights of Europeana are masterpieces like Mona Lisa by Leonardo da Vinci, Girl with a Pearl Earring by Johannes Vermeer, the works of Charles Darwin and Isaac Newton and the music of Wolfgang Amadeus Mozart. Equally valuable findings available through Europeana are works that could hardly be found elsewhere, one of which is the book from collection of National and University Library in Zagreb *Machinae Novae* (New Machines), written in Latin in 1615, containing 59 designs of various appliances and devices.

Over 1500 institutions across Europe have contributed to Europeana. These range from major international names like the Rijksmuseum in Amsterdam, the British Library and the Louvre, to regional archives and local museums from every member of the EU and many non-EU states [2]. Together, their assembled collections let users explore Europe's cultural and scientific heritage from prehistory to the modern day.

The story of Europeana began in April 2005, when Jacques Chirac, President of France, together with the prime ministers of Germany, Spain, Italy, Poland and Hungary sent a letter to President of the European Commission José Manuel Durão Barroso. The letter recommended the creation of a virtual European library, to make Europe's cultural heritage accessible for all. The letter addressed the need for developing more projects, much like the ones that were already going on, e.g. Telematics for Libraries. The project that would begin the building of Europeana was called the European digital library network – EDLnet – and was aimed at building a prototype of a cross-border, cross-domain, user-centered service. The prototype was launched on November 20th, 2008. In February 2009, the successor of EDLnet – Europeana version 1.0 – began. This 30-month project was to develop the prototype into a fully-operational service. During 2010, the project accomplished its objective of giving access to over 10 million digital objects. Early in 2011 new features on the site included a translation tool and the ability to expand on information by automatically transferring the search term to Wikipedia and other services.

2. Europeana libraries project basics

Project “Europeana libraries: Aggregating digital content from Europe's libraries” is a two-year project financed by the European Commission through its CIP ICT PSP program (Competitiveness and Innovation Framework Programme, Information and Communications Technologies, Policy Support Programme) with a total of 3.100.000.00 euros planned for the years 2011 and 2012. Full title of this project, “Europeana Libraries: Aggregating digital content from Europe's libraries”, unveils its significance, which surpasses its budget by far [3].

The most important library associations of Europe CENL (Conference of European National Librarians), LIBER (Association of European Research Libraries) and CERL (Consortium of European Research Libraries) along with the Europeana foundation represent cornerstones of the Europeana Libraries project. The project Europeana libraries has brought together 25 partners, out of which 24 come from countries that are members of the European Union, and the only partner from a non-EU country and the region of South Eastern Europe (SEE) is the University library “Svetozar Markovic” from Belgrade, Serbia.

The coordinator of Europeana Libraries project is the Koninklijke Bibliotheek (KB) – the national library of The Netherlands, and the scientific coordinator is the University College London.

The primary goal of this most important project in European librarianship in the next two years is building a library aggregator for the portal of digital objects – Europeana. Adding five millions new objects to Europeana and making available for the first time a full text

search for some objects are two equally important aims, along the development of new meta-data model for Europeana EDM (Europeana Data Model).

All three library associations: LIBER, CENL and CERL are members of the Board of the Europeana Foundation. They therefore understand the requirements of Europeana and are fully behind the goals of giving access to more content and simplifying the workflows involved. There is a shared, common vision between all parties and a huge willingness to make Europeana Libraries successful and to create a new library aggregator for Europeana.

3. Europeana libraries and The European library

The European Library has been aggregating the collections of Europe's national libraries since its launch as an operational service in March 2005. Currently, The European Library aggregates the collections of Europe's 49 national libraries. The aim of Europeana Libraries is to scale The European Library's existing aggregation infrastructure to manage the large-scale aggregation of digital content from Europe's research libraries. The aim is to work closely with the Europeana Ingestion Team to develop a single, end-to-end ingestion workflow and to enable the smooth and ongoing ingestion of content into Europeana.

The Coordinator of Europeana Libraries project KB is also present in the Board of the Europeana Foundation and has taken on this proposal as the host organization and legal entity of The European Library Office. The reach of the combined networks of Europeana Foundation, LIBER, CERL and CENL is widespread in Europe and beyond, with direct relationships into bodies such as the International Federation of Library Associations (IFLA) and the Conference of Directors of National Libraries (CDNL). This gives both a ready access to the content of the libraries, but also a superb dissemination network for the work of Europeana Libraries and its ultimate purpose of producing content and tools for The European Library as the library aggregator for Europeana.

The KB has been the host for The European Library under a Service Level Agreement with CENL for the last 5 years. It has employed individuals to work on The European Library and associated projects including EDL.net in order to produce the Europeana Prototype Architecture [4]. The KB has continued to be supportive of the ambitions of both The European Library and Europeana, providing office space for 25 Europeana Foundation employees.

The European Library has been the training ground of many of the new Europeana Foundation employees bringing experience of managing collaborative human networks and the technology into the delivery of Europeana. The European Library and Europeana continue to share the same Director and have a technical and interoperability team of considerable experience. Additionally, the head offices of LIBER and CERL are also in the KB alongside The European Library Office and the Europeana Foundation and Europeana Office [5]. The project management makes use of these long-term relationships to the benefit of Europeana Libraries.

4. Europeana libraries project details

Europeana libraries project aims at aggregation of high quality content already digitized in some of the leading research libraries of Europe. Besides this research and development work will be performed in the course of realization of the project. Promotion of the project will be going hand in hand with promotion of Europeana and possibilities for institutions that are not involved in the project. The more distinguished partners in the project of Europeana Libraries are: Koninklijke Bibliotheek from the Netherlands, Bayerische Staatsbibliothek from Germany, Katholieke Universiteit Leuven from Belgium, University College London from the

United Kingdom, The Chancellor, Masters and Scholars of the University of Oxford, United Kingdom.

The aims of the project will be accomplished by performing tasks grouped in a certain Work Package (WP). The list of work packages the project consists of is as follows

WP 1 Project management, coordination and monitoring. Lead beneficiary is the Rob Davies MDR Partners (MDR) from the United Kingdom. This work package involves coordinating the work of Europeana Libraries and monitoring progress in order to maintain focus on successful delivery of the expected results and on the accomplishment of the objectives, on time and to budget.

WP 2 Modeling the library landscape. Lead beneficiary is the University College London (UCL) from the United Kingdom. The aim of this work package is to model the library landscape in Europe in order to recommend a sustainable, domain-wide framework for aggregating library content into Europeana, building on the mechanisms developed in the project, in an efficient, scalable and cost-effective way. A new and enhanced business model and business plan for The European Library in support of its role, as the libraries domain aggregator for Europeana will be developed. UCL will undertake desk research to model the library-domain landscape in Europe, building on previous aggregator surveys (Europeana Travel, Europeana/Athena). Using that knowledge, UCL, supported by Europeana, will develop a range of scenarios for the aggregation of digital content into Europeana.

WP 3 Aggregating research library content for Europeana. Lead beneficiary is the Koninklijke Bibliotheek (KB) from the Netherlands. This work package aims to aggregate the digital content from all content partners and facilitate its ingestion into Europeana. An additional aim achieved through this work package is to ensure that all the aggregation-related work of the project is carried out cohesively and efficiently. Also some work will be related to promotion and building of consensus on the adoption of standards related to the aggregation of digital content. This will allow for representation of the European library-domain within the Europeana network and beyond. KB as The European Library Office, together with the Europeana Aggregation and Data Ingestion Teams will coordinate a series of 3 workshops to assist project partners and the wider library-domain network in providing their digital content to The European Library and Europeana. KB/The European Library will work with the content providers to establish a realistic schedule for the ingestion of the research library content into The European Library and then Europeana.

WP 4 Extending The European Library aggregation Infrastructure. Lead beneficiary is Instituto Superior Tecnico (IST) from Portugal. This work package will extend The European Library's existing aggregation infrastructure to enable the aggregation of digital content from libraries in Europe for Europeana, including full-text content. It will also promote and build consensus on the adoption of standards related to the aggregation of digital content and represent the European library-domain within the Europeana network and beyond.

WP 5 Enhancing searchability of existing library content. Lead beneficiary is the Koninklijke Bibliotheek from the Netherlands. This work package involves enhancement of searchability of existing library-domain content in Europeana by defining transformations from ESE (Europeana Semantic Elements) metadata standard to EDM (Europeana Data Model) and establishing best practice taking into account the different types of libraries contributing to Europeana. KB and Europeana will investigate how national library metadata can be aligned with the Europeana Data Model (EDM). This investigation will be validated using a sample of metadata from national libraries that has already been provided to Europeana in Europeana Semantic Elements (ESE) format.

WP 6 Dissemination, communication and promotion. Lead beneficiary is the European Digital Library Foundation from the Netherlands. The aim of this work package is to communicate the activities of the Europeana Libraries project using the research library networks in Europe, at both national and institutional level, highlighting the value of the project and its considerable benefits to all stakeholders, including library intermediaries and end users. The standards established for metadata and digital content provision will be published and communicated. The use and reuse of integrated digitized content by researchers, innovators, the education sector and special interest groups among the wider public will be promoted. An important aim of this work package is also to increase usage of Europeana and The European Library by researchers, librarians and end-users. KB will establish a Communications and Dissemination working group on which each of the network organizations involved in Europeana Libraries (Europeana, LIBER, CERL and CENL) will be proportionally represented. The working group will be responsible for communications strategy and planning, and providing input and validation of key strategic initiatives.

5. The aggregation principle and the Europeana Data Model

In the course of creation of Europeana a vast number of institutions demonstrated interest in providing their metadata and by this collaborating on various projects that build Europeana. Because of this it turned out that the collaboration of Europeana directly with particular institutions is a mission of impossible. The system of aggregation of content came up as the best solution for long term sustainability of the Europeana project [6].

Aggregator refers to a web site or computer software that aggregates a specific type of information from multiple online sources. In the case of Europeana project aggregator is an institution which promotes Europeana and the possibilities it presents for European cultural and scientific institutions, enabling them to digitize their collections and to create metadata that are going to help present those collections on Europeana. Most importantly, this aggregator collects those metadata and forwards them to the higher level aggregator. Metadata from libraries, museums, archives and audiovisual archiving institutions throughout Europe are being delivered to Europeana. Therefore, creation of four main aggregators is planned for Europeana: library, museum, archival and audio-visual aggregator. From January 2011 The European Library (TEL) has been performing the function of main library aggregator of Europeana. Main library aggregator, which includes all lower level aggregators for libraries of Europe, will be created as a result of the “Europeana Libraries” project by 2013. This new aggregator will start functioning from 2013 at the end of the project Europeana libraries, instead of the existing library aggregating structure in which TEL (The European Library) represents the main aggregator for library content of Europeana.

The Europeana Data Model (EDM) is the new model of metadata that structures the data that Europeana will be ingesting, managing and publishing. It will enable users to use new functions while browsing the Europeana and will further Europeana’s participation in the semantic web. EDM is intended to be compatible with ESE i.e. all metadata available in ESE format now will be usable when EDM becomes standard. The EDM is not built on any particular community standard since it is supposed to cover metadata coming from four different communities e.g. library, archive, museum and audiovisual. EDM is built on adopting an open, cross-domain semantic web-based framework that allows for wide range of options that cover all those four community specifics. EDM can, on the other hand, accommodate the richness of a particular community standard. In summer 2010, the validation of the proposed EDM by the libraries, archives, museums and audio-visual domain reached completion [7].

During 2010, the first phase of prototyping of EDM took place. The first alpha version of EDM was released late in 2010. From January 2011, under Europeana libraries project the work has begun on perfecting this metadata model and it is expected that EDM-based content will be ingested into Europeana later in 2011. If successful, this effort will result in the research library content provided in EDM format as a part of the Europeana Libraries project. The European Library has been both actively involved in the validation of EDM and will continue to follow progress during the prototyping stage. This involvement will form the basis of the continued library-domain involvement in the development and implementation of EDM [8].

6. University library “Svetozar Markovic” and the Europeana Libraries project

University library "Svetozar Markovic" is the biggest university library in Serbia. It is the central library for the University of Belgrade, the University of Arts and the main library for all the other university-level and specialized libraries in Serbia. The Library collection contains 1.5 million volumes of printed material. The Library was the coordinator of the 2002 – 2004 Tempus project “Building a cooperative academic library network in Serbia”, that spanned partners from Serbia, United Kingdom, Germany and Austria [9]. Ongoing Tempus project “New library services in the Western Balkan Universities” is conducted in partnership with Universities from Western Balkan countries of Bosnia and Herzegovina, Montenegro and Serbia and Universities from EU countries of United Kingdom, Slovenia and Austria [10].

University library “Svetozar Marković” was invited to participate in “Europeana libraries” project due to excellent results it had achieved in the past, most notably in the course of implementation of the EU funded projects. Along with the results achieved the library successfully disseminated those results at international gatherings, conferences and meetings of librarians. The most notable success stories were those made during the coordination of two Tempus projects, of which “New library services in the Western Balkan Universities” is ongoing as of 2011.

University library “Svetozar Markovic” is going to be involved in most of the tasks of the work packages in the “Europeana Libraries” project. It is the only partner in this important project from a non-EU country and the region of SE Europe.

Two important collections from the holdings of the University Library “Svetozar Markovic” will be made available to international patrons through Europeana. Materials comprising 160,000 pages of old and rare books from the Ottoman collection and collection on Alexander the Great were digitized prior to the project. In the course of the project metadata concerning these collections will be prepared in accordance with Europeana metadata standards. This will be the most important and the most visible result of the Library’s participation in the “Europeana Libraries” project.

Librarians from Belgrade will also be collaborating with colleagues from Europe on developing new metadata standard EDM (Europeana Data Model) and enhancing full-text searching capabilities and features of Europeana, which is a planned activity of the WP 5 of the project.

Following the idea and initiative of dr Nikola Markovic, Head of the Department of Old and Rare Books, and library advisor Danica Filipović from the same department, the Library will present Heinrich Christensen’s library of books and volumes about Alexander the Great, and a collection of oriental manuscripts. The University library “Svetozar Markovic” came into possession of the valuable collection of books and volumes about Alexander the Great when this collection was bought from Germany based on war reparation, after the

World War I, in 1928. Heinrich Christensen (1849-1912) was a university professor in Hamburg and he wrote books about Alexander the Great. He also collected 150 books and 300 volumes with the same topic – Alexander the Great. These books were written in different European languages and published in various European cities from 15th until 19th century. The oldest book from this collection dates back to 1494. This collection also contains ten doctoral dissertations relating to Alexander the Great. 28.000 pages in PDF format will be made available for users through Europeana search engine, and users will be able to download these pages from the digital repository of the University library “Svetozar Markovic”.

The collection of oriental manuscripts holds 166.000 pages in 686 works and 395 volumes. These manuscripts were created between 13th and 18th century and they were written in three Oriental languages: Arabic, Ottoman Turkish and Persian. Most of the manuscripts were written in Arabic – 525, 149 are in Turkish and 13 in Persian. A large number of manuscripts were created on the territories of Serbia and the region, therefore the influence of local language and culture can be recognized in the content and the style in which these manuscripts were written. The largest number of these manuscripts – 198, were given as a present to the Library by an Armenian dentist from Belgrade, Aram Čalikjan, while he was living in Macedonia, before the World War II. The Belgrade National Museum bestowed 32 manuscripts in 1963. Other manuscripts were acquired from various sources, mostly in the 1950s. Most of them are of religious character, but many manuscripts also represent old Arabic and Persian culture classics. The oldest manuscript in this collection, completed in 1206, is the transcript of the “Gifts of Deep Knowledge”, written by a famous mystic Suhrawardi (1145-1235), founder of the Suhrawardiyya silsila of Sufism in Baghdad. The collection consists of 8 subject groups: legal sciences, linguistics and related subject areas, literature, medicine, mathematics and algebra, Muslim dogmatism and Koran studies, Sufism and historiography.

By the end of 2013, these valuable collections will be made available through the Europeana portal and accessible in the digital repository of the University library “Svetozar Markovic” in Belgrade.

7. The aggregator for scientific and university libraries of Western Balkan countries

Project “Europeana Libraries” is of an utmost importance for scientific and university libraries in Serbia other countries in the Western Balkans region. In the course of the project the basis for aggregator for scientific and university libraries in the region will be made. Librarians from the University library “Svetozar Markovic” will be directly involved in this project, but other librarians from the region will have a chance to learn from them. In the course of creation of this aggregator University library “Svetozar Markovic” will be providing help by sharing its expertise, based on experiences acquired through the Europeana Libraries project, on kick starting a digitization project, metadata standards and all other methods and activities important in the process that leads from the codex edition to the Europeana portal of digital materials and ultimately to the patrons all over the world. Other libraries in the region will be able to gain a lot from the participation of University library “Svetozar Markovic” in this project, since one of the important aims is to create an aggregator for research libraries of the Western Balkan countries. In the course of achieving this, research libraries from the region will be getting help on kick-starting their own digitization projects, creating digital repositories and preparing metadata for ingestion into Europeana.

8. Conclusions

The Europeana Libraries project's successful implementation will give more visibility and accessibility to collections of scientific and cultural institutions in Europe. For the first time scientific heritage will be searchable along with the cultural one in the same digital portal – Europeana. By doing this a solid basis will be made for Europeana portal to become, the most important reference point for researchers, scientists and students from all over the world. By learning from other great digitization and preservation projects e.g. "Google books" future operations of Europeana should not be competitive with these projects but collaborative [11]. World cultural and scientific heritage is one and only by combining our resources and experiences we can save it for future generations.

By participating in this great project University library "Svetozar Markovic" is paving the path for other scientific and cultural institutions of the region to take part in Europeana project more easily and by profiting from this experience. Only by participating in European projects can we hope to achieve the cultural and scientific heritage of the region and of each particular country to be included in the European and ultimately world's digital heritage accessible to all.

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