BRINGING EUROPE'S AUDIOVISUAL HERITAGE ONLINE: EUSCREENXL

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Abstract

The recently started project EUscreenXL builds on its predecessor EUscreen, which successfully solved a number of problems regarding the creation of online access to audiovisual sources, notably the interoperability at technical and metadata levels. In July 2011 the project *EUscreen* was presented in the IASA journal. In this paper, we would like to present its successor *EUscreenXL*, which started in March 2013. We would like to share some of the objectives of the project and discuss why and how these could be relevant for all organizations holding audiovisual archives and collections. It is EUscreenXL's objective to establish a pan-European aggregator for audiovisual heritage. EUscreenXL makes audiovisual content and metadata from broadcasters and archives searchable, findable, and accessible across Europe and supports the use of European cultural resources through Europeana
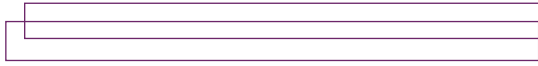
1.   Introduction

National broadcasters around the world in recent years have started initiatives that give viewers the possibility to review older content on the internet. Australia has ABC iview, Ireland has the RTÉ Player, the BBC provides the iPlayer, Turkish inhabitants use Tivibu and U.S. residents watch content on Hulu, just to name a few. There is on the internet a great need for cultural heritage materials, not in the least from the audiovisual field: ever since the habits of online viewing and television watching started to merge, viewers have become interested increasingly in personalized channels and content choices. Online broadcast services, however, rarely secure future access to audiovisual content from the past.

Audiovisual heritage is central to our remembrance of the eventful twentieth century. Professional films, home movies and television programs are, next to radio programs, photographs, and printed material, a main source for telling the past and, thus, for how we imagine a region's political, social, and cultural history. The cultural value of Europe's audiovisual heritage cannot be overestimated. It is a primary source for the understanding of European political and social history, while at the same time it demonstrates the richness of Europe's various national cultures through their different traditions and languages. Audiovisual sources represent European history, cultures, and societies of the 20th century in the most profound way. Making this audiovisual heritage accessible and meaningful for diverse types of users is of particular importance for the ongoing evolution of Europe and its identity.

Archives, broadcasters, and heritage institutions around Europe are aware of the meaningfulness of audiovisual content for cultural memory. There are many initiatives to digitize and to provide access to audiovisual content for both professionals and the general audience. But these initiatives, though partly very effective in creating digital collections, are fragmented. As a consequence, existing digital materials are not easily searchable and findable, especially from beyond specific national contexts.

2.   From EUscreen to EUscreenXL

The EUscreen project (2009–2012), successfully established a network of co-operating archives and heritage institutions that follows a shared metadata schema to provide access to meaningful audiovisual content—content available on the EUscreen website *and* findable through Europeana, the European access point to digital and digitized cultural collections. Still, only a small fragment of the already digitized material (which in turn is just a small fragment of the existing audiovisual collections safeguarded by audiovisual archives, broadcasters, and heritage institutions) is searchable online and accessible beyond national borders. The omnipresence of

video on the web and the high interest of Europeana's visitors in this material underpin the urgency of taking action. As becomes clear from the search preferences on Europeana, users prefer audiovisual content over other types of sources. Yet, for a number of reasons—which include intellectual property rights (IPR), domain infrastructure, the work involved in digitization, accessibility, and metadata exchange—audiovisual material is still the type of content that is the most difficult to make accessible.

The newly minted project EUscreenXL builds on its predecessor EUscreen, which successfully solved a number of problems related to creating access to audiovisual sources, notably the interoperability at technical and metadata levels. For EUscreenXL it is essential to move beyond the success of EUscreen in order to increase drastically the amount of audiovisual content available through Europeana. It is EUscreenXL's main objective to become *the* Pan-European aggregator of existing digital cultural heritage for audiovisual collections. EUscreenXL makes audiovisual content and metadata from broadcasters and archives searchable, findable and accessible across Europe, thus supporting the use of European cultural resources through Europeana. As stated above, the precursor, EUscreen, has created direct access to a significant number of large and small broadcasters in Europe, which justifies its ambition to become the Pan-European aggregator to provide this type of highly valued content to Europeana. The greatest opportunity lies in developing a roadmap for aggregating critical mass and thus enhancing the discoverability and accessibility of the amount of already digitized audiovisual material. This is to make a comprehensive and growing collection of content available, searchable and accessible through Europeana for European citizens, be it the general audience, researchers and teachers, or professionals in the cultural industries. Our aim is to overcome the fragmentation of the audiovisual heritage sector in Europe and to foster the commitment of policy makers and professionals in the heritage institutions to act according to shared protocols. We do so by using innovative digital technologies and content storage possibilities such as cloud-based services and by guaranteeing interoperability between Europeana and the cultural heritage institutions.

EUscreenXL enhances and extends the existing EUscreen technical infrastructure. The EUscreen aggregation module included a mapping tool and a tool for managing the multilingual thesaurus. EUscreenXL continues using these tools and will extend the functionalities with automatic metadata enrichment, normalization, refinement and linking services. Using the experience gained in EUscreen, the aggregation workflow is continuously improved by developing services for mass annotation and enrichment. The search service is being enhanced by deploying semantic web technologies. Cloud-enabled technologies will be used for storing, indexing, and linking metadata allowing for distributed computing and scalable storage. The portal services will be improved by using state of the art technologies in video presentation (e.g., HTML5). Furthermore, user engagement services are being developed to support three pilot applications.

EUscreenXL aims to increase the content of EUscreen's present collection of ca. 30,000 topical items already viewable on the EUscreen portal by adding another ca. 20,000 high-quality items, thus creating what we call EUscreen's **core collection** of 50,000 items. The 20,000 items added to EUscreenXL will focus on long-running series programs owned by the participating content providers. The items are selected for their imaginative representation of the diversity of European history, culture, and everyday life. The content of the core collection will be contextualized (i.e., supported by rich information and interpretation of the material in its historical and cultural context) and this will provide the foundation for innovative user engagement pilots. It is the ambition of EUscreenXL to generate scenarios and protocols for innovative forms of re-use by three different types of users: general audience, researchers (also in their role as teachers), and creative industries. The 'XL' in EUscreenXL thus emphasizes that the proposed project extends and increases the achievements of its forerunner EUscreen.

3.   Issues addressed in EUscreenXL

EUscreenXL particularly tackles six unsolved issues regarding online accessibility and usability of audiovisual heritage content. First, digitized audiovisual heritage is hard to find, since there is no pan-European aggregator for metadata and audiovisual content to help European audiovisual archives and heritage institutions make their material accessible online. Though European audiovisual heritage represents a tremendous cultural resource for Europe, as an imaginative resource for Europe's history of the 20th century, the visibility, findability, accessibility, and usability of it across national borders is, if it exists at all, very limited.

Second, so far only a few European archives and audiovisual heritage institutions use interoperable protocols for cataloguing and publishing audiovisual content. Also, new ways of cloud-based implementation of metadata gathering and accessibility have not yet been tested and applied in this domain. These solutions should lower the technical barrier for small- and medium-sized archives and should support them to contribute to Europeana.

Third, most accessible audiovisual heritage lacks meaningful contextualization and interpretation and, thus, is only ready for use by a specialized elite of academics (i.e., the few film and television historians working in a comparative framework). Dispersed digital audiovisual heritage—representing European history, societies, and cultures—is not linked meaningfully to comparable content on Europeana or to heritage institutions in other European regions and countries. There is a lack of editorial mechanisms serving well-defined, user-led activities. This not only restricts the findability of European audiovisual heritage but more importantly, it limits the potential usage of audiovisual heritage in the European context.

As a consequence, there is a lack of user engagement services readily available to support re-use of audiovisual heritage for leisure, research, or for the creative industry. Services that engage users with new approaches to European audiovisual heritage and its creative re-use are still underdeveloped.

A fifth issue is that within the audiovisual heritage domain, there is a lack of awareness regarding the need for contributing content through Europeana. The more than diverse range of public institutions, commercial players, and a growing number of private collectors, has created a situation where few institutions feel obliged or have the opportunity to contribute to Europeana. Furthermore, national, institutional, or commercial interests overrule open data advocacy for re-use of audiovisual heritage content.

Finally, there is still too low awareness among stakeholders in the audiovisual domain of the cultural, political, and economic potentials of Europeana resources. Today, only 1% of all Europeana content is video, whereas users are ten times more likely to select video material.

EUscreenXL is highly supportive of the principles behind the Data Exchange Agreement defined by Europeana. Opening up data and content has a wider political and economic context. For instance, it forms an important pillar of European policy on Public Service Innovation. EUscreen makes the metadata it aggregates available under the so-called CC0 license. CC0 is the "no rights reserved" in creative commons licensing. It effectively means the metadata is released in the Public Domain. Much of the content contributed by the partners involves in-copyright material. A few partners (for instance INA, Sound and Vision, NInA) allow parts of their content to be re-used under open licenses, notably Creative Commons licenses. EUscreenXL supports these efforts, for instance, by including direct links to items on platforms that gather collections of open content available also through the EUscreen platform. The Open Images portal (operated by Sound and Vision) is a good example. Another way EUscreenXL supports access to open content and encourages content providers to enlarge their offer of open content is to research the consortium member states' legal practices in order to come to a common ground that could be viewed as a European standard for providing access to audiovisual material, mainly of a public service type. The goal of this activity is to increase awareness by the consortium partners of legal possibilities that exist elsewhere so that they can advocate for adoption of these practices.

4. The challenge of intellectual property rights (IPR)

Increased use of digital technologies has prompted a corresponding increase in the public's expectations regarding access to content. Copyright law structures many of the relationships between users, creators, and distributors of copyrighted content and should represent a balance between the legitimate interests of the different entities working with copyrighted materials.

Audiovisual heritage material is most probably the hardest to publish online from an intellectual property point of view. This is because rights for program materials are varied and complex, residing with a range of stakeholders including (but not restricted to) actors, performers, writers, directors, composers, production companies, and, at times, the broadcasters themselves. The rights not only vary across different European countries, but also often, for historical and commercial reasons, vary widely in each country. Whereas single state broadcasters in television's early years may have negotiated directly with individuals or agents and unions representing the range of stakeholders working in television, recent deregulation and expansion of products, services, and channels means that independent production companies now not only have a commercial stake in the television industry but also add an additional layer of negotiation and ownership. All these different factors mean that the clearance of rights for television programming can be both costly and time consuming.

The situation is complicated enough when reusing or repurposing archive materials on television itself, whether for repeat transmission or for use in, for example, news, documentary, or clip compilation programming. The problem becomes even more acute, however, when clearing rights for use on the Internet. This is because the Internet had not been conceptualized when many rights had been agreed or negotiated between broadcasters and the wide range of stakeholders. Even in those instances where rights had been cleared on programming forms for (re-)use on television, they often have to be negotiated again for the Internet. Finally, in some cases rights holders cannot be identified or, if they can be identified, they cannot be located.

Archives and broadcasters are investing in on-line services that provide selective access to their own archive material, but many of them are reluctant to 'lease' this material to other sites for public access.

The EUscreen project has demonstrated that it is possible to clear the rights for online access for thousands of hours of in-copyright content without undue expense. In many cases, time was invested to track rights holders and to seek permission for providing access through the EUscreen portal. Rights have been cleared to a large range of factual material, covering news, current affairs, and documentaries. In other instances, content providers have found it challenging to contribute popular program forms such as drama, music (pop, traditional, and classical), and sport. Research conducted within EUscreen pointed to the fact that, in most cases, copyright holders allowed users to create playlists and add comments. Only few allow material to be downloaded and remixed in derivative works. These findings have been taken into account in designing the portal functionalities, such as creating online exhibitions. The basic principle here is that the tools respect the specific access rights that the content providers give, and in effect therefore determine the type of interactions that can be supported. For instance, all content can be watched, but some archives cannot allow their content to appear in exhibitions.

EUscreenXL takes a very pragmatic approach to the issue of rights and will draw on experience of the EUscreen project to select, clear, and deliver digitized program content that is not hindered by restrictive IPR legislation, rules, precedents, or contracts. This means that a critical mass of content can be delivered in a timely, efficient, and cost-effective manner. At the same time, due to a lack of harmonization of legislation across the European Union, some countries will insist that material cleared for copyright restrictions under their national law must also be 'published' (i.e., 'streamed' in the case of audiovisual materials on the Internet) within its own borders. To achieve this, EUscreenXL will have a flexible technical architecture that will support streaming content from a central website server, provided by the technical partner Noterik, while simultaneously allowing material to be located physically (i.e., to have its streaming server) in any of the partner locations.

EUscreenXL invests in understanding the complex rights issues in an online environment, as well as new emerging user cultures and media practices from a creative industry and user point of view. As a result, EUscreenXL develops strategies, recommendations, and guidelines for solving these issues. Specifically, EUscreenXL creates pilots in three main application areas (the general public, researchers, also in their role as teachers, and creative industries) to discover the issues and organizes a series of activities that collect and organize the findings into useful resources that facilitate both the deployment of immediate solutions and the future design of new solutions. This development work is led by the Aalto University School of Arts and Design in Helsinki, which has specialist IPR knowledge and experience.

Second, we create a pan-European overview of the status quo of adding audiovisual content to Europeana (and the European Cultural Commons). This includes an assessment of IPR regulations in all EU member states that takes earlier work into account. The EUscreenXL network then seeks to develop and promote long-term IPR policy solutions. These solutions will be circulated and disseminated amongst the network members, and amongst stakeholders and policy makers in further workshops, events, papers, or memoranda.
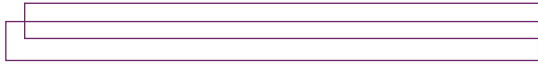
5.   Strengths of a European approach

Europe has the largest and oldest (and most used) audiovisual collections in the world, the result of decades of commitment to public service broadcasting. These archives sit at the heart of the media creation and distribution industry, and also have significant involvement in web-based access to content. By aggregating and enriching a high amount of European audiovisual heritage, EUscreenXL contributes to the presentation of Europe in the digital cultural and creative industries, supporting the visibility of content in Europeana and stimulating its use and reuse on a permanent basis. Moreover it supports the concept of Europe in extending the number of contributing partners.

Innovation in the heritage sector requires a coordinated effort. Europeana, connecting the collections of over two thousand institutions, demonstrates the importance of coordinated efforts in the domain of cultural heritage. For instance, Europeana has been instrumental in providing a legal framework for the exchange of metadata, and has led the creation of the Europeana Data Model, which will set the standard for how cultural heritage artifacts will become available on the web. Only by collaborating on a pan-European scale can these advances be established. EUscreenXL follows a similar approach, first by setting up the experiments with core-consortium partners, and second by a large outward facing campaign, working together with the Europeana Foundation.

Specifically, the challenge to make content from audiovisual archives publicly available is European in scale, and requires European-level responses, as opposed to national or local responses that run the risk of increasing the already dangerous level of fragmentation. In the public policy sector, there is a national and European responsibility to make content available and maintain the audiovisual heritage. Public-sector broadcasters and some media-owning institutions exist because of citizen's tax contributions and have a duty to maintain the heritage for the benefit of citizens. According to the Comité des Sages, digitizing and preserving Europe's cultural heritage is a gigantic task that may eventually cost as much as €100 billion to complete, although the benefits from wider access to culture and knowledge, education and the economy will justify the effort. Preservation is recognized as a key aspect of the process and a core problem for any born digital content; while digital preservation should be the responsibility of cultural institutions, Europeana is seen as the ultimate repository for all digital cultural material.

The Comité also recommended that a service "for the persistent identification of digital objects must be developed and maintained on a European level." Nine months after the Comité's report, on 28th October 2011, the Commission adopted a recommendation for a Digital Agenda: encouraging digitization of EU culture to help boost growth. In support of the Digital Agenda, Commission Vice-President Neelie Kroes said: "Europe has probably the world's greatest cultural heritage. It cannot afford to miss the opportunities offered by digitization and

hence face cultural decline. Digitization brings culture into people's homes and is a valuable resource for education, tourism, games, animation, and the whole creative industry. Investing in digitization will create new companies and generate new jobs."

Activities on this scale, and with this reach, can only be undertaken at a European level. A Best Practice Network in the area needs also to have a European scale in terms of access to research results and expertise across a wide range of domains and technical areas.

6. The nature of heritage collections and technical background

The cultural heritage domain concerns multilingual and multimedia cultural assets spread throughout Europe, with domains as diverse as visual arts, music, and science. Such diversity requires a multi-cultural and multi-disciplinary approach, such as presented with EUscreenXL, which necessarily involves specialists in digital library research, interaction design, and knowledge engineering. No single European country possesses the researchers with such a range of expertise and skills or has knowledge of the diversity of languages and cultures that the communication and dialogue in the enlarged EU aspires to cover. As a Best Practice Network, EUscreenXL brings together this expertise from across Europe in the fields of technology, archiving and digitization practices, IPR issues, exploitation and business models for sustained access to audiovisual content, and subject expertise in European television history and culture. It thus contributes to European knowledge building and knowledge sharing in the field of digitized cultural heritage, and of audiovisual heritage in particular.

7. Circulation and rights clearances

Controlling circulation and rights clearance is another major challenge, which has to be faced on a European level. This will be investigated in collaboration with Europeana. One of the goals here is to create a Pan-European overview of the status quo of adding audiovisual content to Europeana. This work is essential in order for Europeana to reach out to the audiovisual domain (e.g., broadcasters, memory organizations with audiovisual material, and players in the creative industries) and understand what services need to be put in place in order to maximize contributions to Europeana. In EUscreen we found that the situation in each member state differs profoundly, and that the only way to get a clear answer to the question of how to increase the amount of audiovisual material in Europeana is to invest in a Pan-European research effort. Also, we are certain that the involvement of Europe's public broadcasters can be helpful in raising awareness for Europeana. Some of the issues to be investigated are:

    a. The status of online collections.
    b. The need to secure institutional support (defining the mutual benefit).
    c. The legal framework (also in relation to PSI).
    d. The specific conditions and possible exemptions for including audio-
       visual content in educational platforms.
    e. The need to support visibility of Europeana content in the audiovisual
       domain.
    f. The assessment of technical requirements in terms of storage and en-
       coding standards.

8. Exploring content from a truly European perspective

By providing enriched content from across Europe, EUscreenXL enables a truly European cross-cultural exploration of cultural, political and social media events that help to understand the national and European dimensions of European audiovisual content. Moreover the envisioned large-scale accessibility of television archive content, the work of contextualization, and the user-led approach, together with the development of user engagement pilots for three different groups of end-users will enable comparative and integrative research into the history of television in Europe as well as interactive and creative participation (e.g., information sharing).

Thus, EUscreenXL contributes to increasing cross-cultural knowledge in a field that is still underdeveloped, showing and broadly diffusing the potential dimensions of European audiovisual content. This is an important step towards a truly European cultural knowledge arena and relates closely to developing European citizenship.

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