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Valérie Legrand, Peter Stockinger, Francis Lemaitre

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The social and economic context for the sharing of video resources in a non-profit setting.

A preparatory study for the development of the community research platform ARA Campus *(*Campus of the Audio-visual Research Archives*)*

Valérie Legrand-Garlarza (INALCO, FMSH - ESCoM-AAR)
Peter Stockinger (INALCO, FMSH - ESCoM-AAR)
Francis Lemaitre (FMSH - ESCoM-AAR)

Fondation Maison des Sciences de l'Homme (FMSH)
Equipe Sémiotique Cognitive et Nouveaux Médias (ESCoM) – Programme « Archives Audiovisuelles de la Recherche » (AAR)

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1) Background

In 2002, the R&D lab ESCoM (Equipe Sémiotique Cognitive et Nouveaux Médias) of the Fondation Maison des Sciences de l'Homme (FMSH) in Paris has launched the "Audiovisual Research Archive" Program (acronyme: ARA). The mission of ARA is two-folded:

- 1st to produce a digital audiovisual online library that documents the scientific and cultural heritage in social and human sciences;
- 2nd: to do research and development in the use and exploitation of audiovisual content.

Ten years after, the ARA Program is composed of:

1) A collection of almost 6000 hours of online video resources produced by an international community of 2500 authors (researchers, teachers, journalists, artists, ...) from some 85 countries and accessible through a main web portal and several specialized portals[1];
2) A digital environment for working with audiovisual corpora called ASW[2] Studio (Studio ASA in French). This working environment is constituted on the one hand by tools for segmenting, describing, annotating and indexing as well as publishing of audiovisual corpora and, on the other hand, of meta-linguistic resources – the ASW ontology – for building libraries of description models necessary for the concrete work (segmentation, analysis, publishing) with an audiovisual text (a video);
3) The necessary technical infrastructure for storing, streaming, using and preserving audiovisual data (essentially a group of servers that are maintained by the Computer Resources Department of FMSH);
4) A small team dedicated to the different tasks of the ARA program (one part-time research director, one full-time computer engineer, one part-time digital archivist, one part-time technician). The ARA working group is advised by a scientific board of researchers, engineers and representatives of user stakeholders.

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[1] http://www.archivesaudiovisuelles.fr/EN/ and http://www.semiosphere.msh-paris.fr/semiospherefr.aspx

[2] « ASW » stands for « Audiovisuel Semiotic Workshop » which has been developed thanks to an ANR (Agence Nationale de la Recherche) founded R&D project called « ASA-SHS » (Atelier de Sémiotique Audiovisuelle pour l'analyse de corpus audiovisuals en SHS): http://www.asa-shs.fr/ (also: http://asashs.hypotheses.org/78)

Since 2006 and thanks to a series of European and French founded R&D projects[3] as well as a special targeted financial help from the French Ministry of Higher Education and research, one of the main R&D activities has been to disclose the intellectual and technical opportunities of the ARA program for a public composed mainly of people and institutions of higher education and research.

The willingness to disclose the intellectual and technical opportunities of the ARA program to this public has been motivated by the following two observations:

1) In the "academic world", a growing number of individual actors (i.e. researchers, teachers, researchers, doctoral students,...) and collective ones (research labs and teams, educational centers, associations, archives and libraries,...) make more and more use of digital audiovisual resources (namely videos) in their professional activities (research, education, scientific and cultural heritage preservation and valorization, ...) and are themselves engaged in concrete activities of collecting, processing, analyzing, publishing, using and reusing as well as, finally, preserving an intellectual heritage.
2) But without an appropriate working environment, it is difficult if not impossible to generalize and to "standardize" this new interests and activities – sometimes summarized under the heading of *digital humanities*; it's a serious drawback for enabling the targeted public of the ARA program to become an active actor in the production, diffusion and use of digital audiovisual resources.

Based on these observations, a small R&D project has been started at the very beginning of 2012 aiming to provide, *in fine*, an appropriate environment for individual and collective actors of the "academic world" working with audiovisual resources. The name of this project is *ARA Campus* (the *Campus of the Audiovisual Research Archives*). In a nutshell, ARA Campus is intended:

1) to become a video portal for accessing the audiovisual productions of individual or collective actors belonging to the "academic world"

[3] Mainly the two ANR (Agence National de la Recherche) founded projects SAPHIR (2006 – 2009) and ASA-SHS (2008 – 2011) and the two FP6 founded projects LOGOS (2006 – 2009) and DIVAS (2007 – 2009)

2) and to provide these actors with the necessary tools and services (software, ...) for creating and managing their own archives, working and publishing their video collections, using and/or reusing their own collections and/or those of third parties.

The functionalities and services which ARA Campus is intended to provide from the end of 2014/beginning 2015 on, are identified in the next section.

2) Output

The ARA Campus is intended to be a technical and scientific platform (mainly in form of *downloadable software, ontologies and description models, procedures and "best practices"*) that enables, in principle, any individual or collective actor of the "public academic world":

1. to create and manage his/her own online audiovisual archive (its own "video channel" in the sense of You Tube) that is to say, via a CMS, to adapt the interfaces of his/her archives and the main access to the videos that are provided by the Campus AAR;
2. to upload (to add), to delete or to change,... audiovisual resources in his/her archives;
3. to develop and manage his/her own ontology (concepts, description models and thesaurus) on the basis of a common ontology provided by the ARA Campus;
4. to define his/her own publishing formats of audiovisual resources on the basis of a "library" of models provided by the ARA Campus;
5. to segment, analyze, publish and republish, in his/her archives own audiovisual resources;
6. to moderate the inclusion in his/her archives, videos of a third party (other researcher, other institution, etc.);
7. to moderate the segmentation, description and republication of his/her resources by a third party;
8. to moderate the possible adjustments to his/her regional ontology - changes requested by third parties using his/her archives as a platform for storage and dissemination;
9. to moderate requests of third parties to use in a non-commercial or commercial way records belonging to his/her archives;
10. to launch, through the social media, bits of resources belonging to his/her archives.

In addition, ARA Campus is also intended to be a central web portal for accessing content of all archives using ARA Campus as a platform for storage and distribution of their own audiovisual resources. In other words the ARA is also a content provider:

1. of third party videos,
2. of third party video archives,
3. of third party video descriptions and video publications (in form of interactive video books, thematic folders, video-lexica, etc.).

As shown in Figure 1, ARA Campus will be made up of several services (or "workshops") for the management of videos, semantic resources, analyses and channels:

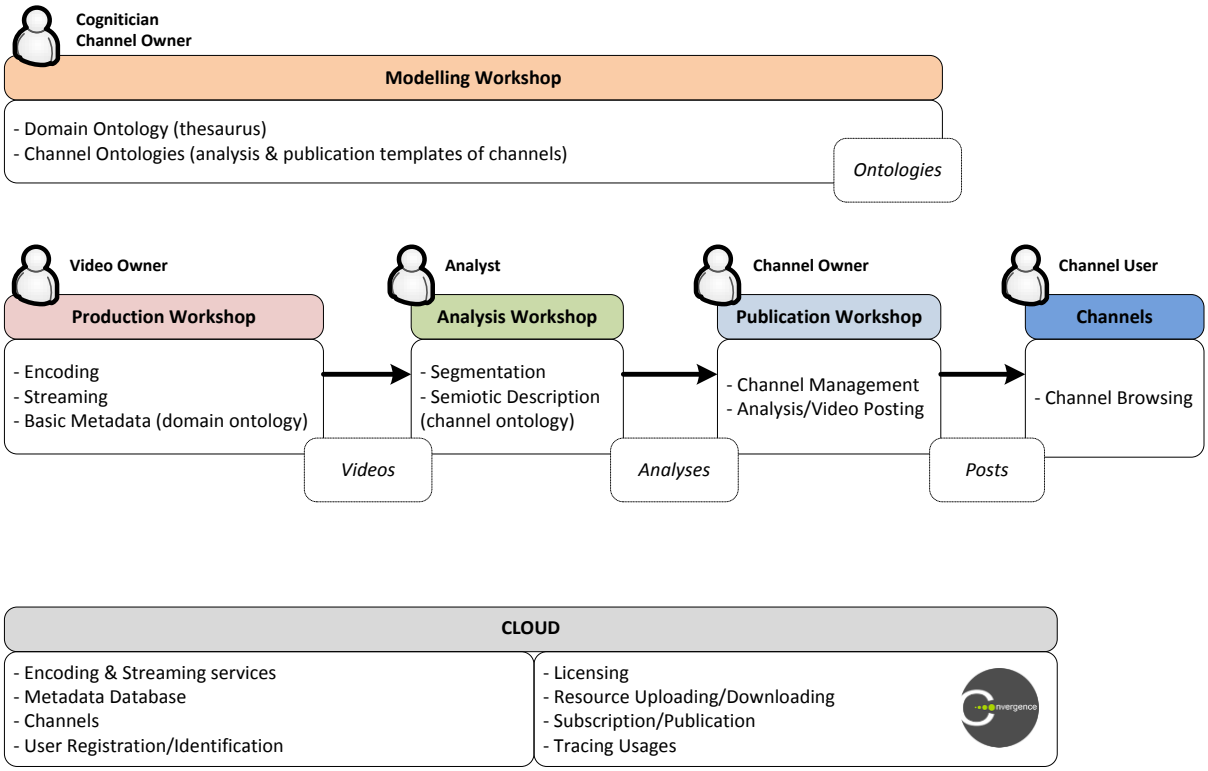


Fig. 1: ARA Campus Services

1) A Modeling Workshop providing tools to cogniticians (semioticians or specialists in the specification of description models) and video channel owners for building, moderating and sharing multilingual ontologies:

- a common thesaurus defining the vocabulary of Real World Objects (RWOs), as well as the vocabulary specific to the video analysis domain;

- a common set of analysis and publication templates usable by any channel;
- user ontologies defining the templates specific to each channel: subjects, indexing sequences and schemes, as well as the definition of the channel publication models: thesaurus access, thematic access, contextualization of results, etc.

2) A Production Workshop providing tools to video material owners for:

- Publishing, creating licenses, and making their videos available for streaming

3) An Analysis Workshop providing tools to analysts for:

- Subscribing to and downloading videos in a secure environment
- Analyzing videos (segmentation and semiotic description)

4) **A Publication Workshop** providing tools to video channels owners for:

- Creating and managing their channel (interface and content personalization)
- Subscribing to videos and analyses
- Posting videos and analyses on their channel

3) Description and size of market

As already mentioned in section 1, the principal market of the ARA Campus project is, globally speaking, the public academic world first of all in France (individual actors: researchers, teachers, doctorate and post-doc students; institutional actors: research labs, research networks, but also associations ...). In this part we will describe:

- the market of Web video platforms in scientific, cultural and educational fields
- the target market: his profile and needs
- the ARA Campus' strategy to answer to the market's needs

3.1 Web video platforms in scientific and cultural fields

Audiovisual archives online: new interactive and attractive Internet use

The advantage of new technologies and internet is undeniable and, actually, these new media provide the necessary conditions for processing intangible material, such as cultural or scientific audiovisual content. Ever since the 1980s, the Internet revolution has been highly beneficial for publishing audio-visual data which had previously not been, or at least under represented institutionally. Such as a representative example, since 2006 over 20 million Internet users visited the INA website which offers a referenced and catalogued by search engine, keywords associated, or via a custom space and sharing: the success of this site shows that this heritage digitized encounters a memory appetite in public.

France: 36,6 % of Internet users have consulted videos online

Part of Internet users who have consulted online videos

According to Médiamétrie, 10,599 millions of Internet users are video online users in April 2007, i.e. 36,6 % from the Internet users population. They were only 6,953 millions of Internet users to consult videos (i.e. 26,2 % of Internet users), in the same period in

France : the most common operations on the web - Source : Ipsos, enquête profiling*, 2005

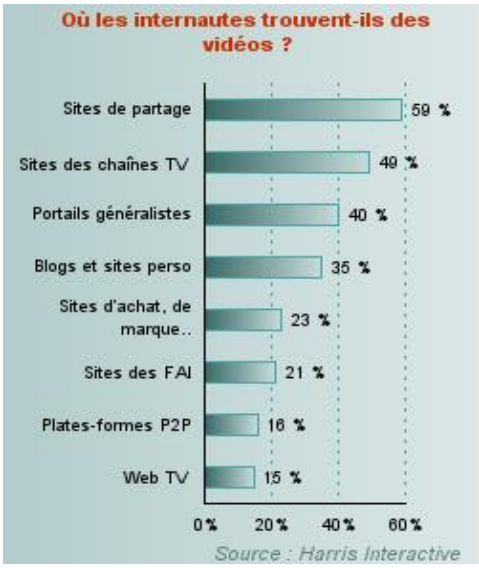
Type of operations	Dec 2004	Variation
Research of news	64 %	- 3
Bank operations or consultations	53 %	+ 3
IM	42 %	+ 9
Listening radio online	34 %	+ 6
Sharing photos with others Internet users	33 %	+ 3
Downloading software	30 %	- 1

Watching movie trailers	28 %	+ 6
Participating in a Chat	24 %	+ 3
Participating in a forum	21 %	+ 3
Sharing files with others Internet users	19 %	--
Downloading music MP3	15 %	- 6
Consulting videos	**14 %**	**+ 3**
Games online or in networks	13 %	+ 3
Downloading games	12 %	+ 0
Downloading videos	**11 %**	**+ 0**

Note: This poll was made with Internet users from 15 and over, on more than 200 websites.

The interactivity of the Internet, coupled with its ease of access and exchange between the far corners of the world makes this media a vector for publishing and promoting global audiovisual heritages, thereby enabling all the users to view hitherto unpublished and inaccessible cultural or scientific phenomena.

59 % of Internet video amateur users adhere to content sharing platforms



Where Internet users find their videos?

59 % of the Internet users, all ages, declare finding videos they view on content sharing platforms, such as DailyMotion or YouTube, according to a poll made by Harris Interactive in November 2007. In the 15-24 years, this source is the most acclaimed one (85 %), with blogs and personal websites (51 %).

Concerning the types of videos viewed, the movie trailers (56%), humorous videos (55 %) and musical video-clips (50 %) are at the top, especially in the people under 35.

At the same time, the popularity of internet and new media platforms allow indeed to develop new popular ways of sharing videos on the net, or UGC (User Generated Content). The popular web video platforms (such as You Tube, Vimeo or Daily Motion) and social

networks (such as Facebook, or Twitter) offer various informal ways of disseminating audiovisual data. These "popular" media could actually be used for academic communication, but they won't allow an advanced user to manage specific rights on sensitive video contents or to index in detail video data.

It is therefore necessary to conduct a reflection on the articulation and differentiation of scientific and popular audiovisual platforms to meet the diverse needs of multiple users and to develop new way of broadcasting and protecting video material.

Research, knowledge transmission and education through video data

Nowadays, with implementations of audiovisual and digital technologies the needs and uses of video materials are increasing in cultural, scientific and educational domains. Indeed, since one decade many researchers are working with digital audiovisual material to documents their researches, especially in the domain of social sciences. In the educational area, a lot of teachers are using video as pedagogical resources, especially in linguistics studies, language learning and distance education. In this framework, many universities, scientific institutions (such as the CNRS and the CCSD[4] or INRIA), cultural heritage institutions (such as INA, UNESCO or Louvre) as well as governmental institutions (such as the Directorate of audiovisual resources of the Ministry of Higher Education and Research with CERIMES[5], Canal U[6] – the online video-library and web tv for higher education -, the digital universities network (UNT)[7] and the UOH – the Open University of Humanities)[8] have already developed their own systems to archive videos, which are not always compatible with one to another.

Since the last three years and thanks to big national infrastructure projects (such as the TGE Adonis for Humanities)[9], the "digital humanities market" is becoming more and more structured enabling individual as well as small institutional actors (research labs, groups

[4] http://ccsd.cnrs.fr/
[5] http://www.cerimes.fr/
[6] http://www.canal-u.tv/
[7] http://www.universites-numeriques.fr/
[8] http://www.uoh.fr/front
[9] http://www.tge-adonis.fr/

working for a research project, ...) to have a better use of new information technologies for producing, disseminating and sharing scientific information. Main services in this are, as far as France is concerned, the ISIDORE gateway[10] for human and social sciences, Revue.org[11] for the production and management of digital research magazines, the HAL gateway[12] for gathering and disseminating scientific reports, articles, still images (and soon videos), the Hypothese.org portal[13] for the creation and management of scientific logs (documenting research "in progress") and finally the Calenda portal[14] for announcing scientific events such as workshops, symposia, etc.

In the field of archives, for a decade, digitization projects respond to major issues related to the exercise of democratic culture: save large segments of audiovisual history threatened by technical obsolescence and physical deterioration of the collections, increase backed up volumes and enhance audiovisual heritage by ensuring wider access to the public. Furthermore, digitization was accompanied by widespread battle content with the appearance of "technological convergence"[15] as of 2006.

With the inflation of Web audiovisual contents, servers and internet are now at the heart of the system of archive. The perimeter of the audiovisual archive is deeply modified, having been so far confined to the activities of storage, backup, indexing, and - often limited - provision of resources. Today, heritage institutions define themselves so more and more in terms of activities and not only storage, making the audiovisual archives of an "archive-stock" system to a system "of archive-stream". In general, the emergence of networks led the heritage institutions to more focus on the user and its practices. This means that they

[10] http://www.rechercheisidore.fr/

[11] http://www.revues.org/

[12] http://hal.archives-ouvertes.fr/

[13] http://hypotheses.org/

[14] http://calenda.org/

[15] Technological convergence is the result of digital technology which provides different types of content (audio, video, text) on multiple technologies as the computer, mobile telephone, television. Internet practice diversity by converge all previous media that he welcomes and broadcasts. While until the early 2000s, the canvas was constituted 95% of hypertext, the web has quickly overwhelmed by the arrival of successive sounds, music and finally of the moving image with YouTube and Dailymotion video sharing platforms. (See the report of the European Parliamentary Assembly on audiovisual cultural heritage (May 09, 2012): "Doc.12929: Protection and provision of audiovisual cultural heritage": http://assembly.coe.int/ASP/Doc/XrefViewHTML.asp?FileID=18707&Language=FR, following the European Convention on the protection of the audiovisual heritage (ETS No. 183))

are the gateway to cultural contents in developing dynamic interfaces between the users and the knowledge, in relying on collaborative tools and devices of mediation. Also we see emerge new activities such as online archives of television or even production targeted educational and cultural content. Therefore, digitalized online multimedia archives can also be used as a means of communication not only for the conservation purposes. In this direction, FMSH – ESCoM-AAR through the development of various online audiovisual archiving programs has ensured the important protection and wide dissemination of audiovisual heritages whether through interviews with specialists, seminars, or cultural events. The creation of thematic folders and networks of links between different recordings of videos enables the conception of a dynamic approach to audiovisual heritages.

3.2 Profile of the target market

In this part we will describe the main targets markets identified for (CONVERGENCE-derived) services provided by FMSH – ESCOM-AAR structure, considered as a Technology provider.

So the main concerns of the target market actors, concerning their activities related to audiovisual data, could be resumed as:

1) individual or institutional actors already possessing audiovisual data and who want to digitize them in order to preserve and disseminate them.
2) individual or institutional actors who want to create their own audiovisual archive system for research, education or culture
3) individual or institutional actors who want to use or reuse (and so modifiy, adapt and enhance) already existing digital resources for their specific activities (in research, in education, in documentation, etc.)

It is very difficult to find "official" data allowing to quantify this market with respect to these three roles.

However, since 2001 ESCoM has realized for its ARA (Audiovisual Archives Research) Program, several surveys and reports on user communities in the "public academic world" and their typical needs and expectations with respect to audiovisual corpora in research, education, heritage management and preservation[16] (See chapter 4).

[16] Since 2001 ESCoM has realised several surveys and reports on the identity and expectations of user communities in the "public academic world" with respect to audiovisual corpora in research, education, heritage management and preservation, etc. Cf., for instance,

1) Elisabeth de Pablo (ESCoM) and Tanguy Larher (CNDP): OPALES – Outils pour des Portails Audiovisuels Educatifs et Scientifiques. Rapport sur les besoins des communautés éducatives et scientifiques. Paris, 2001 (version enligne : http://www.semionet.fr/ressources_enligne/projets_recherche/00_02_opales/opaleswp1.pdf);

2) Elisabeth de Pablo, Muriel Chemouny, Margot Sputo-Mialet : ASA-SHS – Atelier Sémiotique Audiovisuel pour l'analyse de corpus audiovisuels en SHS. Analyse des attentes des principaux groupes d'utilisateurs de contenus audiovisuels en SHS. Paris, 2009 (version enligne : http://www.asa-shs.msh-paris.fr/IMG/pdf/Tache1_RT_1_1.pdf).

3) ESCoM-ARA Online Survey. The Audiovisual Research Archives (ARA) Program – Needs and expectations. 2009 – 2010 (new online survey since April 2012; http://www.archivesaudiovisuelles.fr/FR/Survey.asp).

Table of Target Market Actors in France: institutions and users

Type of Institution	Name	Website	Type of Archive	Orientation
International Cultural Institution	**UNESCO**	Multimedia archives: http://www.unesco.org/archives/multimedia/	Films documenting cultural manifestations and conferences.	Culture
International Cultural Institution	**ONU**	http://www.un.org/fr/aboutun/guide/audiovisual.shtml	Films of record since the League of Nations and the United Nations Foundation and audiovisual news documents.	Culture
National Cultural Institution	**INHA** - National Institute of the History of Art	http://www.inha.fr/spip.php?rubrique363	Audio and video of various events taking place at the INHA: round table of experts, meetings, etc.	Culture
Archives	**INA** – National Institute of the Audiovisual	http://www.ina.fr/	Audiovisual archives, library online training offerings.	Culture Research Education
Library Archives	**BNF** – France National Library	http://www.bnf.fr Audiovisual channel: http://www.bnf.fr/fr/la_bnf/a.videos.html	Audiovisual archives, legal deposit and audiovisual channel.	Culture Research Education
Library Archives	**BPI** – Public Library of Information	Collection « Films » : http://www.bpi.fr/recherche_documentaire.jsp	Catalogue of approximately 1500 documentary films whose rights were acquired directly from the producers, distributors or producers.	Culture Research Education
Academic library	**BULAC** – Academic Library of Languages and Civilizations	http://www.bulac.fr/	Media library	Culture Research Education
Cultural Institution	**Cité de la Musique** – City of Music	http://www.citedelamusique.fr/francais/Default.aspx	Media library, videos online	Culture Research Education
Museum	**Museum Quai Branly** – Museum of Cultures and Civilizations	http://www.quaibranly.fr/	Media library	Culture Research

Cultural Institution	**MCM** – House of World Cultures	http://www.mcm.asso.fr/site02/vitre/ibnbattuta_b.htm	Multimedia database online about performances and music of the world (Ibn Battuta), documentation Centre on the performances of the world in Vitré.	Culture Research Education
Cultural Institution	**Portal « Spectacles du Monde »** - Project supported by Ministry of Culture and Communication	http://www.spectaclesdumonde.fr/sdm/default.aspx	Portal dedicated to the dissemination of sound and audiovisual digital documents, from the capture of the performances of the different partners: City of music, House of the Cultures of the world, the City Theatre and Museum Quai Branly.	Culture Research Education
Cultural Institution	**Sorosoro Program** - Foundation Chirac	http://www.sorosoro.org/	Videos on the cultural and linguistic diversity.	Culture Research
University	**ESAV** – Superior School of Audiovisual	http://www.esav.fr/	Media library	Research Education
University	**EHESS** – School of High Studies in Social Sciences	http://www.ehess.fr/fr/ressources-documentaires/videotheque-numerique/	Digital video library	Research Education
University	**University Paris 3** – Sorbonne Nouvelle	http://media.univ-paris3.fr/	Academic channel	Research Education
Research Institution	**CRDO** - The Description of Oral resource Centre	http://crdo.risc.cnrs.fr/exist/crdo/	Resource centre attached to the CNRS (National Centre for Scientific Research): open archive and documentation centre on oral data	Research
Research Laboratory	**LACITO** - Languages and Civilizations in Oral Tradition	http://lacito.vjf.cnrs.fr/ Oral archives : http://lacito.vjf.cnrs.fr/archivage/presentation.htm	Audiovisual archives of students and researchers.	Research
Research Laboratory	**CERLOM** - Centre for research on the literature and	http://www.cerlom.fr/	Audiovisual archives of students and researchers, but not yet exploited.	Research

	oral traditions of the world			
Research Laboratory	**CREM** - Centre for research in ethnomusicology	http://www.crem-cnrs.fr/presentation/presentation.php	Audiovisual archives and multimedia projects.	Research
Research Laboratory	**LAS** - Laboratory of social anthropology	http://las.ehess.fr/ Archives of ethnologists : http://arlas.college-de-france.fr/arch/ar.aspx?archive=las	Mixed archives of ethnography: texts, photos, sounds, films.	Research
Research Laboratory	**LLACAN** - Languages and cultures of black Africa	http://llacan.vjf.cnrs.fr/	Archiving the oral corpus of researchers.	Research
Research Laboratory	**CLT** - Cultures, Languages and Texts	Audiovisual : http://www.vjf.cnrs.fr/clt/html/audiovisuel.htm Video Library : http://www.vjf.cnrs.fr/clt/html/audio/videotheque.htm	Video library, production of audiovisual documents, training.	Research

3.3. Needs of the target market

In the context of Web video platform market for purposes of research, knowledge transmission or education, the main and current issues are:

- The lack of an equivalent non-commercial management service for the production, dissemination, management and preservation of audiovisual resources in higher education and research (a sort of “academic YouTube”) open to all actors in human and social sciences (and beyond) ;
- The lack of a scientific media allowing researchers and institutions to properly broadcasting their videos in a legal and scientific framework;
- The lack of interoperability and compatibility between the different existing audiovisual archive systems.

We point out **7 main needs**:

Compatibility and interoperability

Issue

Many large institutions working in this area have developed their own proprietary systems to archive and manage videos. But, in the majority of cases these systems are mutually incompatible.

Need

Therefore, there is a strong need to develop a common archive system which could be used by different stitutions and/or individual actors to put in common their work.

Legal framework and juridical procedures

Issue

In commercial services many sites distribute videos on their own terms, preventing research departments from defining their own terms and condition. They provide no encryption, no way of restricting access to a given group of users, no way of enforcing license terms, and no way of monitoring the way video resources are used. These limitations mean that some "culturally sensitive" materials (e.g. depictions of religious rituals) cannot be distributed at all.

Need

The need to create new audiovisual legal structure in order to protect and in the same time disseminate the audiovisual heritage ; and need to develop technology to support licensing.

Autonomous services and non-commercial use

Issue

The majority of organizations working in the digital humanities have not deployed their own video platforms and video delivery is largely delegated to commercial video sharing platforms. Currently there is an interest in avoiding the use of commercial services for video distribution (download or streaming).

Need

Need for autonomous non-commercial services, producing their own "branded" services and archives, need to monitor and control access to and use of video resources, need to deliver services free of charge, need to minimize capital investment and operating costs (including costs for bandwidth and server capacity).

Scientific use: Advanced annotation and indexing

Issue

Although specialists in the digital humanities are uniquely placed to make effective use of semantic and other advanced technologies, very few actually do so. The majority of services offer only very simple means of searching for resources and very few services provide researchers with ontology-based tools to annotate or search for data, and annotation techniques are still underdeveloped. Currently, there is a strong interest in the use of semantic technology to facilitate the generation of metadata and to make it easier for users to find the resources that interest them.

Need

The need to add value to video resources through the use of meta data, annotations, and advanced indexing. The need to constitute audiovisual libraries by establishing a system of evaluation, selection or sampling of the audiovisual materials available for purposes of education and research.

Differentiation of approaches: popular-informal / scientific-academic

Issue

Currently we are witnessing the emergence of a generation of UGC "User Generated Contents », the large public producing and annotating its own documents, while it generally ignores all of the traditional archival. Audiovisual "academic" culture is then counterbalanced by consumers of images becoming themselves new « memory producers ».

Need

Need for differentiation between the informal popular approach and the academic scientific one proposed by the archives or libraries and residing in the documentary quality and levels of indexing.

Training for audiovisual techniques and services

Issue

Currently the individuals and institutions ask for more availability of technical know-how.

Need

Need training in terms of media manipulation: use of filming techniques, publishing, broadcasting and video analysis (annotation, indexing).

Dissemination on-line and remote access

Issue

Currently, heritage institutions reposition not only in terms of storage, but more and more in terms of dissemination in the direction of the multiple users.

Need

Need for remote access to audiovisual heritage: give users around the world the opportunity to search and view the archives digitized at home on the internet through web portals. In this case there is also a special need to develop « Use Advanced Options » to answer Advanced Users' demands, such as special distribution channels for specialized users, or the providing of a mechanism for notifying users of new resources when they become available.

3.4 Strategy of the ARA Campus to answer to the market's needs

As already explained in section 2, the ARA Campus project has three main objectives:

1) it should provide the necessary services for the targeted public – services such as archive creation, indexing, diffusion, republishing of digital audiovisual resources;
2) it should further provide relevant (audiovisual) content : i.e. a digital resource itself as well as the relevant metadata for the (intellectual, cognitive) appropriation of the resource and its practical "exploitation".
3) it should develop a new scientific framework for intellectual properties on videos

Modern-day information society relies on increasing the number of digital resources. Music, films, software, and sensitive personal data (bank accounts, medical records, billing etc.) are stored and moved as digital files and broadcasted, in their own formats. Designed to route information between computers, the Internet is rapidly evolving into an Internet of things where services, media, and Real World Objects (RWOs) (e.g. products, people and places) and their corresponding data are individually identified.

In the context of this new Internet, the main center of interest is content. At present, the content management solutions are proprietary, non-interoperable, and restricted to certain types of information. Hence, there is an increasing need for more effective means of managing and organizing information resources, ensuring their traceability and the ability to search and filter them, as well as to copy, protect, and synchronize them while guaranteeing their integrity and controlling access to them and their usage.

With audiovisual data, considered as a new object for scientific purposes and from the international legacy perspective, we have to face with a legal vacuum concerning rights and intellectual properties. The creation of a Web audiovisual portal which publishes living cultural heritages in the public domain raises legal questions, notably about rights over content and publication rights concerning data collection practices and using oral data. Beyond the current "Image Reproduction Rights" and "Author Rights", we have to consider

the "Contents Holders' Rights" concerning the speech and ideas developed by the person filmed/interviewed in the video. At the present, the current technologies can't allow us to recognize and protect these Contents Holders' Rights. For example, if a Video Material Owner specify the names and participation of Content Holder on the videos credits at the end, this part could ever be cut and this information could disappear, there is no way to ensure and record it permanently on the video with current technologies. On this specific point, a future technology should allow to specify these rights in the video permanent metadata.

In some cases, the copyright in the audiovisual materials limited the distribution of these materials via the internet. It is important that the interests of the authors, actors and other right holders are taken into account in the search for satisfactory solutions to enable a wide public access to audiovisual material. So, special attention should be given to the research and education objectives allowed by copyright laws. European recommendations on copyright are therefore essential: some legal mechanisms for the producer of a film to grant rights of use for non-commercial purposes for a public institution in charge of film heritage institution are under study[17].

4) Results of an online survey (2009/2010) on the relevancy of the ARA Campus for the target market

Based on a cumulative experience of almost 9 years in the production and management of digital audiovisual archives and in order to prepare the ARA Campus project, a detailed online survey has been realized on the web portal "Audiovisual Research Archive"[18] during the period of 2009-2010. The objective of this survey has been:

[17] See the report of the European Parliamentary Assembly on audiovisual cultural heritage (May 09, 2012): "Doc.12929: Protection and provision of audiovisual cultural heritage": http://assembly.coe.int/ASP/Doc/XrefViewHTML.asp?FileID=18707&Language=FR, following the European Convention on the protection of the audiovisual heritage (ETS No. 183)

[18] http://www.archivesaudiovisuelles.fr/FR/Survey.asp

1) to get an input form the visitors and users of the about 6000 hours of scientific and cultural videos diffused on the ARA web portal concerning the evolution of the ARA program itself;
2) to understand the expectations of the ARA public as far as the uses and potential exploitations of video material is concerned.

The survey – provided in French and English - has been composed of the following principal headings:

1) general personal information;
2) access to collections of videos/audiovisual resources: *satisfaction of existing solutions; desired new solutions*;
3) the diffusion of videos/audiovisual resources: *satisfaction of existing solutions; desired new solutions*;
4) the content of videos/audiovisual resources: *satisfaction of existing content; actual and potential use of content by the visitors*;
5) the publishing formats of videos: *satisfaction of actually existing, desired, expected ones and for which use*;
6) ARA as a service provider: *satisfaction of actually existing ones, desired, expected ones*.

Here is a small list of **8 salient results** of this survey[19] which have been proved to be extremely precious for the definition of the different services of the ARA Campus.

Result 1) 265 persons have answered the survey (54% male; 46% female, *figure 2*) – 63% are from France, the rest is coming from some 35 different countries (major representation of the francophone world, Africa and Europe, *figure 3*).

It is not surprising that the two principal languages are French (98%) and English (73%); among the 25 represented languages, the most important are, further, Spanish, Italian, German and Arabic (spoken between 29% and 13,4% of the panel; *figure.4*)

[19] A second vague of – a slightly updated – new version of this survey is actually planed for the period 2012/13.

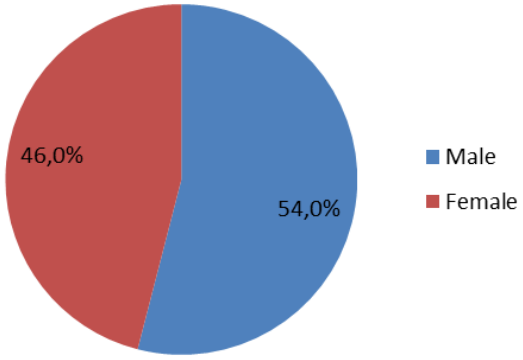


Fig. 2: Gender distribution of the survey

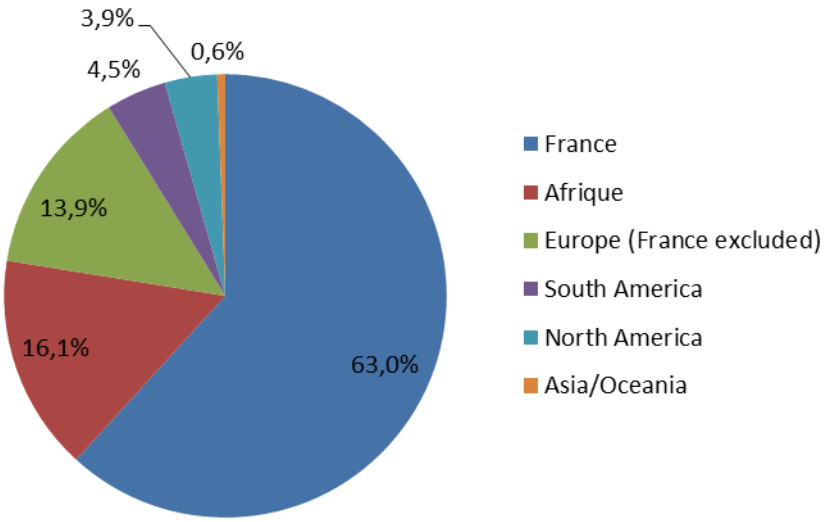


Fig. 3: Country of Work

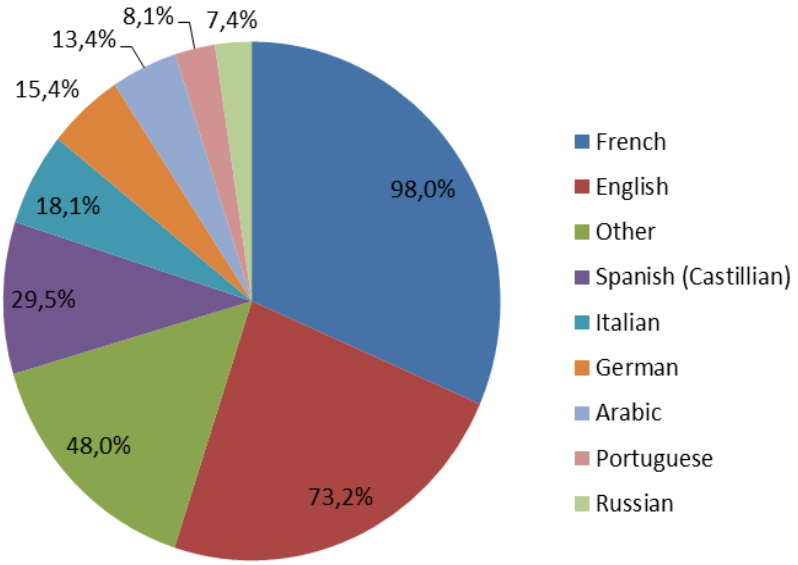


Fig.4: Spoken Languages

Result 2) within the panel, we can easily identify a ***small kernel of regular customer*** of the ARA program (*figure 5)* – kernel which is enclosed by an important range of ***potential customers***.

Indeed, 35% of the panel confirm to consult either one time or more than one time *per day* the ARA program (14, 9%) or at least *several times a week* (20,1%). These 35% are completed by 41% of the surveyed panel who confirms that they visit a few times a month the ARA portal (only 21% of the surveyed panel confirms to be "occasional" users of the ARA program.

In taking into account that the average daily number of visitors for the period 2009-2010 has been about 620 visitors (spending an average time of 6 to 9 minutes on a video page)[20], the

[20] This data are provided by an FMSH external service – Xiti – and, since 2011, also by Google Analytics. It also has to be mentioned that the in 2009-2010, the daily average of visitors of the ARA content has been significantly be more important than to-day (to-day, 2012, the average number of visitors is about 450 visitors spending however more or less the same time on a video page). The relative decline of visitors between 2010 and 2012 ha several internal reasons: important reduction of means in the production of new content, reorganisation of the service, etc. But an other reason is that the priority in the last three years has been given to research and development and the consequences of these activities only will be visible (and hopefully positive) from 2013 on.

"kernel" of daily ARA customers can be situated between 180 to 220 visitors and those of potential customers between 200 and 250 visitors. However, it is impossible to have an idea of the absolute number of "de facto" or potential customers of the ARA programme[21].

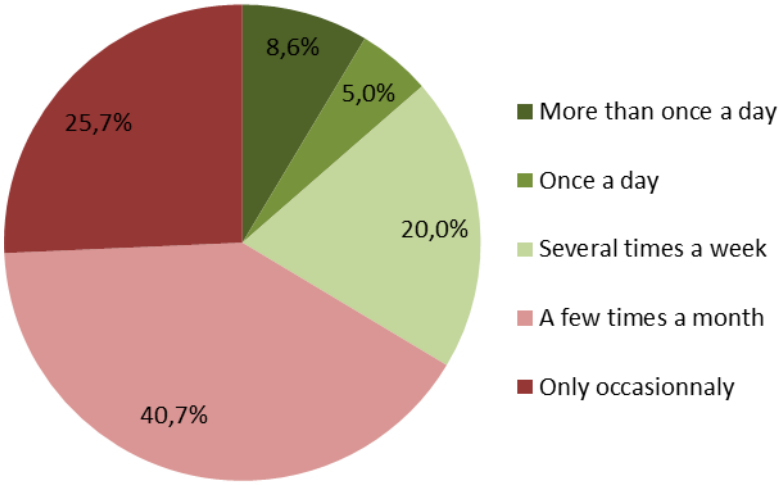


Fig. 5: Consultation Frequency

Result 3) (De facto, potential or occasional) customers of the ARA video resources are, as expected, mainly working in the field of social and human sciences (56%), other important fields are **education** (42%) or again the "**cultural industry**" with art, communication and digital medias (35%).

This figures show that the ARA Campus is - a priori - a credible project for the targeted public composed of individual and collective actors in the academic world (*figure 6)*.

[21] The second vague of the survey will try to find trustful ("quantifiable") data for this. However, there are different indirect evidences for the rather important popularity of the ARA program as can be shown through an impressive number of collected and online published endorsements from individuals and institutions (http://semioweb.msh-paris.fr/corpus/aar/fr/_petitionMessages.asp), the inclusion of the ARA portal in many university and research labs portals, etc.

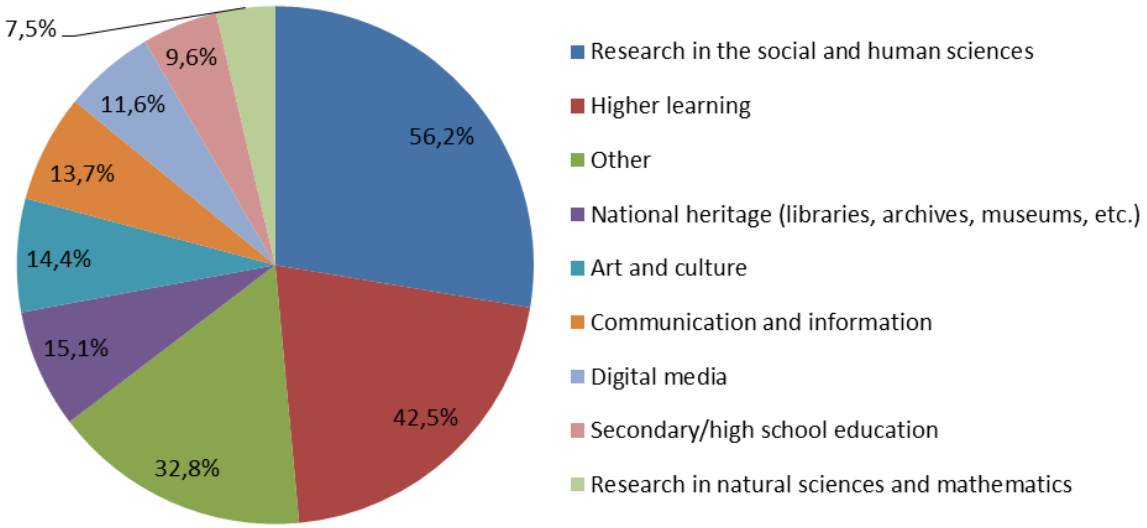


Fig. 6: Professional Category

Result 4) Concerning the *content* itself provided through the ARA portal(s), it is strongly claimed by more than 52% (+ 39,3%) of the respondents to include third party videos (and not only videos produced by the FMSH-ESCOM).

This figure echoes the "strategic" choice of opening the ARA opportunities to the academic public in order to enable every researcher or research unit to become an authentic producer and author of audiovisual resources and to use or reuse third-party resources in his/her own work (*figure 7)*.

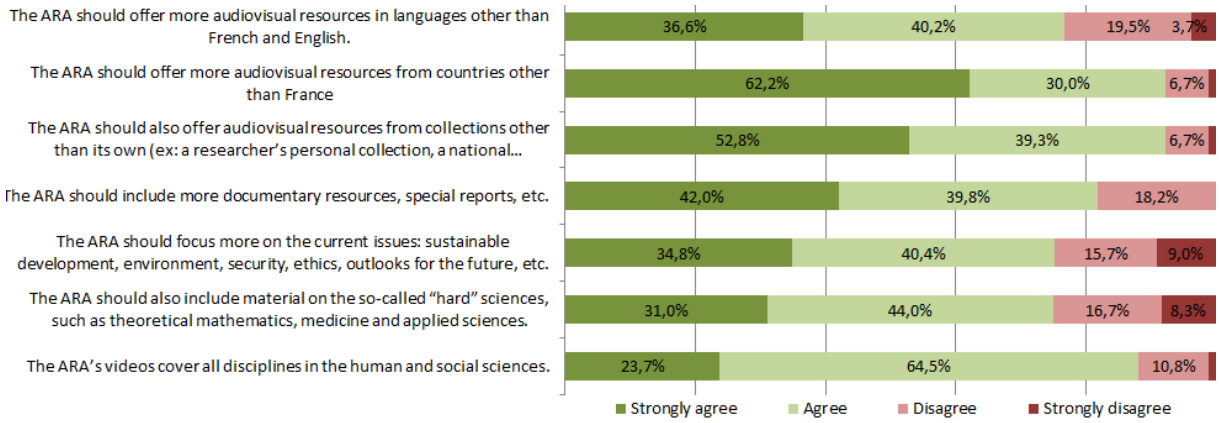


Fig.7: About ARA Audiovisual Content

Result 5) Concerning the appropriation ("lecture") of video content provided through the ARA portal, the respondents provide, among other, following interesting data (*figure 8)*:

- 73% of respondents confirm to try to proceed to "**a partial viewing (of a video) based on what you need to find**";
- 70% of respondents confirm to opt for a "full event video (reading)", i.e. the reading of the whole video of a lecture, a conference, an interview, a documentary, etc.
- **Only 20%** of the respondents confirm "to flip through sets of videos as if you where changing T.V. channels".

These data are very important for the ARA Campus project because they show that *the targeted "consumer public" is extremely different from that of the standard passive "TV consumer"*.

Indeed, videos are used here for professional activities (in research, in education, in heritage management, etc.) and constitute a **genuine "working resource"** for the concerned public. ARA Campus has to provide therefore the necessary tools in order to enable the targeted public to effectively work with videos.

One specific question pointed out here is the *particular access problem of long videos*: as the 73% of respondents confirm, they access (try to access) video resources with respect to specific ***themes*** they are interested in. This presupposes however that on a video portal not only an entire video has to be accessible but also *segments or sequences of it* which possess a specific thematic profile.

Once more again, for developing such accesses, tools have to be developed enabling the owner of an archive to segment and to index his/her videos. As already shown in section 2, this is another main objective of the ARA Campus.

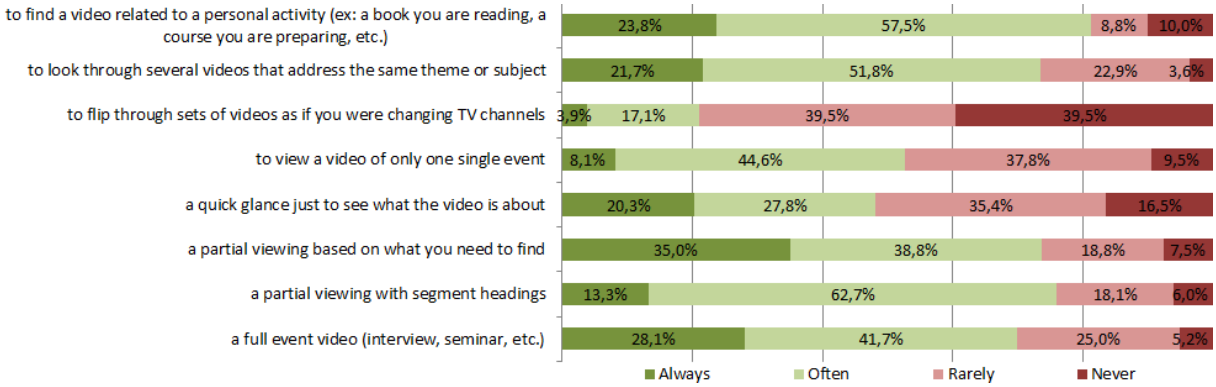


Fig. 8: Visiting the ARA, user want…

Result 6) As far as the question "video as a working resource" is concerned; the respondents of the survey have produced a rich set of data that go along with the definition of the main objectives of the ARA Campus (*figure 9)*:

- 62,4% of the respondent strongly believe that the ARA videos "can serve as teaching aids in the university classroom" (only 2,5% disagree or strongly disagree);
- 61,1% of the respondent strongly believe that the ARA videos "are a way of fostering dialogue between science, culture and the citizen" (only 6,5% disagree or strongly disagree);
- 54% of the respondents strongly believe that the ARA videos "are a way of improving the diffusion of information and of increasing scientific exchanges among researchers" (10% disagree or strongly disagree);
- 53,4% of the respondent strongly believe that the ARA videos "can serve as teaching aids in lifelong learning" (only 9,1% disagree or strongly disagree);
- 52% of the respondents strongly believe that the ARA videos can serve as "incubators for new research themes or issues" (11% disagree or strongly disagree);
- 42,5% of the respondents strongly believe that the ARA videos can "be used for vulgarizing research in the human and social sciences" (15% disagree or strongly disagree).

These data (and again a series of other, thematically related one) show more precisely potential uses of videos such as those of the ARA portal – uses as imagined or experienced by the respondents of the survey.

Indeed, this does not mean necessarily that the video as such published on the ARA portal is already a "working resource" in this or that direction but that it can be a working resource. In any case, *publishing tools have to be provided for adapting, transforming existing videos in "real" resources*. And this, as already argued in section 2, one of the main objectives of the ARA Campus.

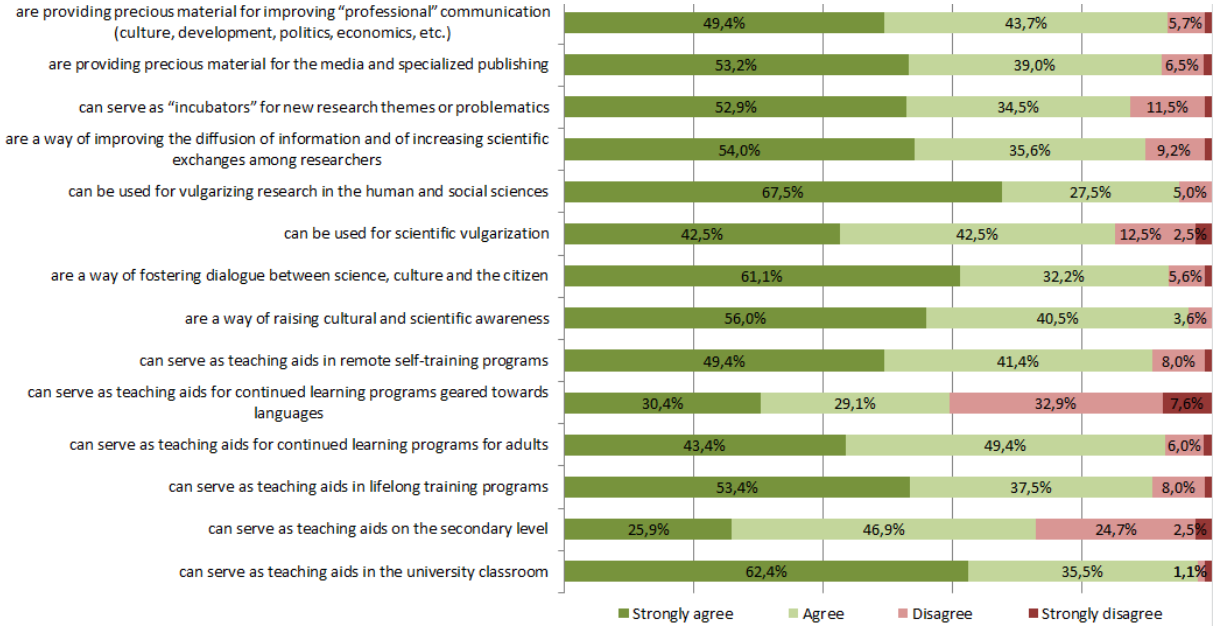


Fig. 9: ARA Audiovisual Content Objectives

Result 7) Indeed, in being asked about their preferred publishing formats of online videos, the reactions of the respondents of the online survey are once more again very instructive (*figure 5.5.10):*

- 48,2% strongly agree and 42,2% simply agree on "theme-based browsing that links several independent videos in one narrative path" (9,6% disagree; 0% strongly disagree);
- 53, 8% strongly agree and 33,8% simply agree on "online video-encyclopaedia to one issue, one domain" (12% disagree; 0% strongly disagree);
- 45, 6% strongly agree and 39,2% simply agree on "interactive video-book" (13,9% disagree; 1,3% strongly disagree);
- 45% strongly agree and 40% simply agree on "enhanced video (with comments, suggestions, links, etc.)" (13,9% disagree; 1,3% strongly disagree);

In order to satisfy these and related expectations, one of the main objectives of the ARA Campus project is, as explained in section 2, to provided users of the ARA Campus with a *publishing service of single videos and/or video segments as well as of video corpora* in form of *predefined but adaptable publishing models*.

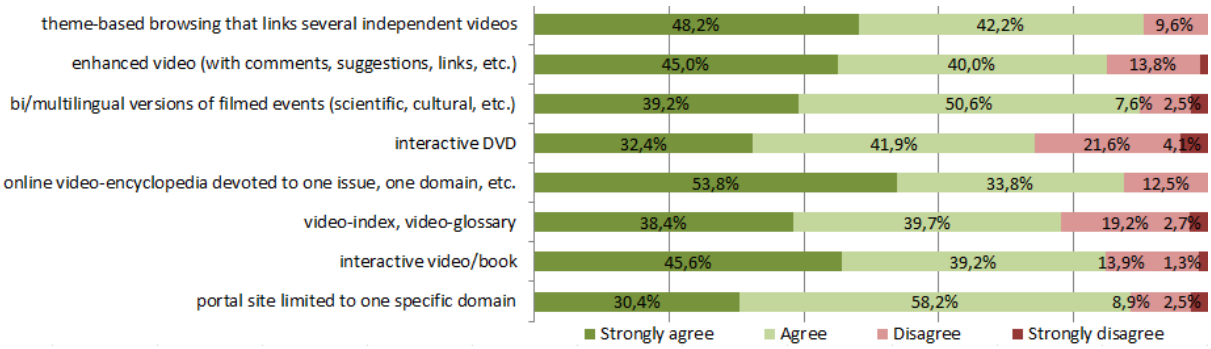


Fig. 10: Formats and Genres of Publication

Result 8) Concerning their expectations and needs as far as specific *services* for a better use or exploitation of videos or videos corpora are concerned, the respondent of the online survey have produced following data (*figure 11)*:

- Service enabling users to download lists of video segments (!!) provided by third party video collections (54,7% strongly agree and 30,2% simply agree; 12,8% disagree; 2,3% strongly disagree);
- Personal web space for working with videos (43,7% strongly agree and 34,5% simply agree; 18,4% disagree; 3,4% strongly disagree);
- Service for building my own audiovisual archives containing my own videos and those from third parties (42,7% strongly agree and 28,4% simply agree; 22,2% disagree; 7,4% strongly disagree).

These and related expectations concern more particularly the role of the (individual or collective) user as a producer and manager of an audiovisual archive (or channel) including activities such as creating and managing a web portal, up/downloading own or third party-videos, etc. The objective of the ARA project is to provide such a service.

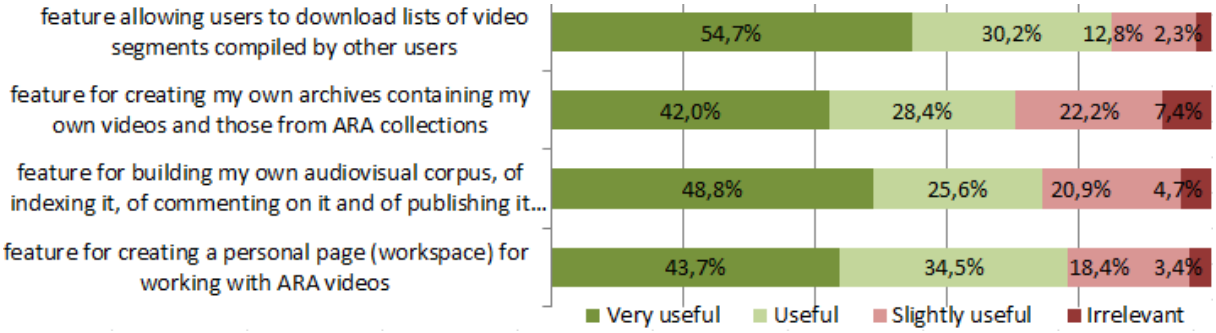


Fig. 11: Expected services

In summary, the 8 quoted results of the ARA online survey, conducted between 2009 and 2010, shows the relevancy of the services and the content the ARA Campus intends to provide:

- The use of *multilingual resources*, as more than 1/3 of users are working out of France and speak more than 25 different languages.

- Developing the loyalty and interest of customers by providing *personal subscription and notifications features*.

- Better help end users to find content of their interest by the use of *semantic queries*, direct access to relevant video segments, and the development of advanced access such as *theme-based videos, video-encyclopedia*, etc.

- Taking into consideration the needs of users, mainly coming from Research, Education and Culture, who are more concerned about the *intellectual value* than the commercial value of their content, by providing features for tracing the usages of their resources.

- *Securing the sharing* of videos and, this way, giving guarantees to third party videos owners.

- Providing *tools for building analysis and publication templates* dedicated to specific themes and contexts of use: support for teaching, promoting sciences and culture, improving the exchanges between researchers, teachers and students.