



REGNET

Cultural Heritage in REGIONal NETWORKs

Deliverable Report D3

Enterprise Engineering and Market Analysis

Project acronym	REGNET	Contract nr.	IST-2000-26336
Type and Number	D3 – REGNET – Enterprise Engineering and Market Analysis		
Work package	WP1 - Analysis of the State of the Art and Development of Concepts		
Task	T 1.5 Set-up of a Legal Framework and Partnership Model T 1.6 Definition of supported business Functions T 1.7 Identification of Market (Segments) and User Groups		
Date of delivery	2001-09-28		
Code name	RN_D3v01	Version 01	draft <input type="checkbox"/> final <input checked="" type="checkbox"/>
Objective	Report		
Distribution Type	Public		
Authors (Partner)	AIT, IAT, ICCS, TINC, CC, MUS, VALT		
Abstract	The deliverable contains the results of Work Area C which covers the Enterprise engineering (business process engineering, definition of work flow) and the set up of a legal framework. Other aspects deal with business functions and processes within the organisations in the cultural heritage area. First characteristics of markets, segments, the definition of different user groups and their requirements are provided.		
Keywords List	REGNET partnership model, legal framework, business functions, business processes, market analyses, user requirements		





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Executive Summary

This document includes those activities of Work Package 1 (Analysis of the State of the Art and Development of Concepts) which have been carried out within Work Area C (Business Engineering) of the REGNET project. There are three parts, one dealing with "Set-up of the Legal Framework and Partnership Model", the second with "Definition of supported Business Functions", and the third is related to "Identification of Market (Segments) and User Groups".

Part 1 describes new forms of co-operation and describes best practice models in this area as developed by the "Art Museums Image Consortium (AMICO)" or by the EU-Project within the TEN-Telecom Framework "MOSAIC-Museums Over States and Virtual Culture". Another source contributing to the concept of the future REGNET-company was the MAGNETS Study, carried out within the Telematics Application Programme of the European Union. Intellectual Multimedia Property Rights Models are discussed on basis of the "IMPRIMATUR"-Project; a reference to other relevant projects in this area is included. The international perspective related to the legal framework for the future REGNET-business includes – amongst others: The Bern Convention, World Intellectual Property Organisation (WIPO), etc. Special chapters deal with the Legal Framework in the European Unions' and CEEs' Environments. Based on this material a "Synopsis of Agreements and Recommendations" has been elaborated on which the final "REGNET-Legal-Framework" will be built upon (Work Package 2).

In part 2 high level definitions of supported Business Functions are included. Business Opportunities for European Cultural Heritage (CH) organisations and the REGNET Product Position Statement include first "Leitlinien" for the future REGNET-enterprise. The Business Modelling is done on a sound methodology (UN/CEFACT Modelling Methodology) using UML language. The Domain Analysis (Work Area D of the REGNET-Project) includes Business Areas for Museums, Art Galleries, Archives, and Libraries and the International Supply Chain as Support Area. Use Case Diagrams have been developed and include in the Museum Domain: Collection Management, Tourism, Education, Recreational Economics, Shop, Services; in the Library Domain: Collection Management (Cataloguing), Loan, Science, Research and Education scenarios. In the Archives' Domain business modelling refers to Archive management and Archive services, in the Art Gallery Domain to: Artwork promotion, Artist resources and to Research and Education scenarios.

Part 3 refers to the "Identification of Market (Segments) and User Groups" and deals with the "Cultural Sector in the EU (characteristics, volume and trends of employment)" and "ALM (Archives – Libraries – Museums) ICT (Information and Communication Technology) cultural services" amongst others. A survey of online products/services offered by museums is also included as an "initial identification of REGNET user groups" which is an early attempt to identify and describe the user groups which are potentially interested in REGNET. In the "Methodology and Roadmap chapter" the achieved results are critically analysed and a roadmap to achieve a more complete market assessment in the next phase (Work Package 2 – Work Area C) of the REGNET Project is included.

The Appendix to this document includes examples of agreements (e.g. AMICO), downloads from different WEB-Sites (e.g. auction and payment systems), surveys regarding to on-line products and services and a glossary on marketing and business terms.



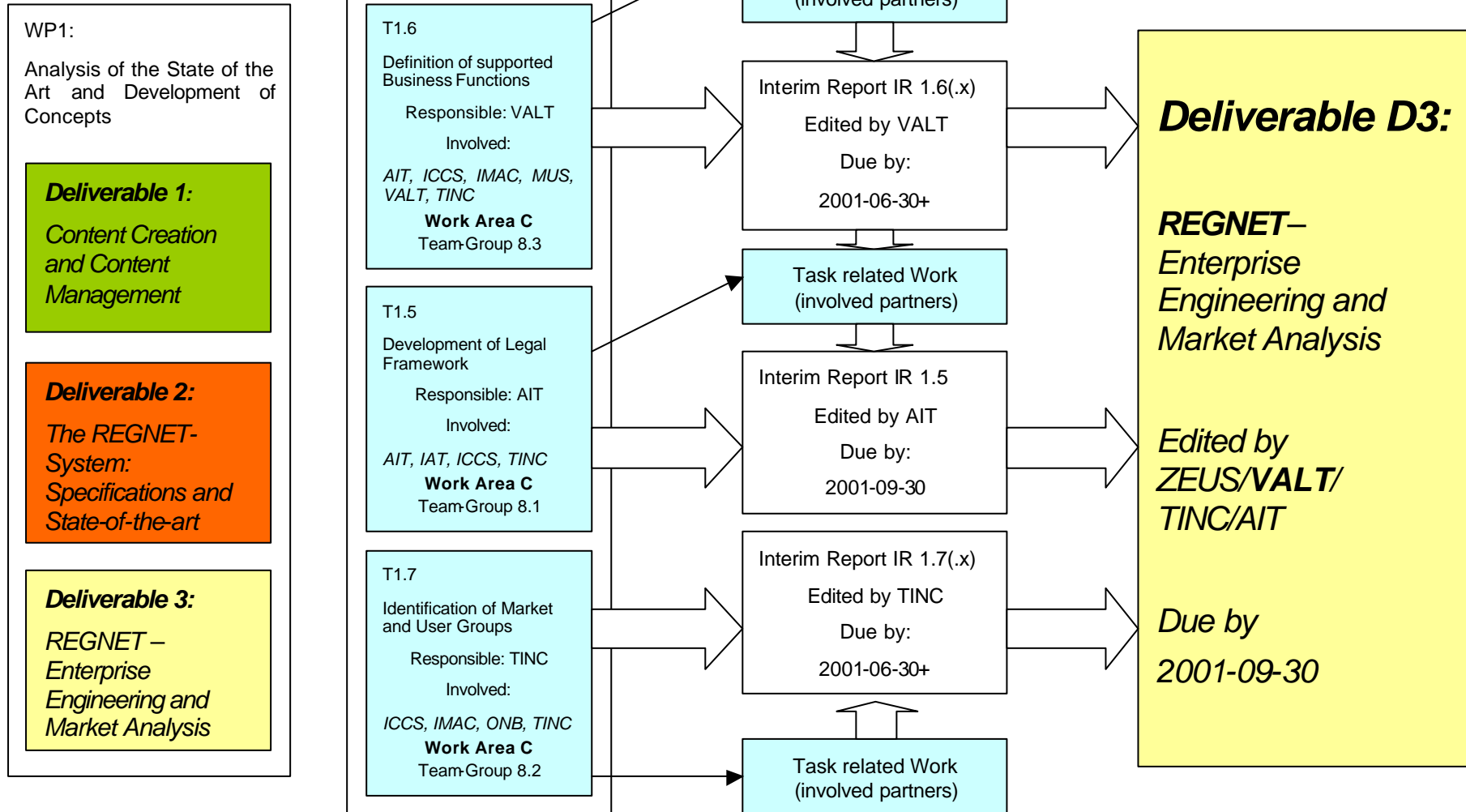
Situation

	<i>Analysis of the State of the Art (WP1)</i>				<i>Implementation of the System and Preparation of the Demonstration (WP2)</i>			
	Task	Leader	Document	MM	Task	Leader	Document	MM
Set-up of the legal framework and partnership model	1.5	AIT	IR 1.5 → D3	4	2.3	AIT	IR 2.3 → D6	6
Definition of supported business functions	1.6	VALT	IR 1.6 → D3	9				
Business process (re-) engineering					2.4	VALT	IR 2.4 → D6	11
Identification of Market	1.7	TINC	IR 1.7 → D3	6				
Market preparation					2.5	TINC	IR 2.5 → D6	7

The table shows that Task 1.5 will be followed by Task 2.3, Task 1.6 will be followed by Task 2.4 and Task 1.7 by Task 2.5.



BUSINESS ENGINEERING





Part 1 Set-up of a Legal Framework and Partnership Model



1 Introduction

1.1 Purpose

In order to set up an operational eBusiness network any future cooperation in the cultural heritage field has to be based on sound agreements among the stakeholders doing business within this area. Existing networks have to be investigated in the light of the experience already made in practice. An important issue here is be the mixture of profit and non-profit enterprises. REGNET intends to introduce a layer between content holders and distribution and service channels.

In part 1 of this deliverable, which presents the results of the Interim Report 1.5, first a comprehensive overview of already existing partnership models in the cultural heritage/multimedia domain will be given. Research will later lead to a concise partnership model for REGNET and a first legal framework for the REGNET virtual enterprise concept.

A set of agreements on international level for contractual issues will be defined. This set of agreements can be recommended also for requirements on national level.

Consistent terms for participants should create common, transparent and formula-based agreements and facilitate transaction between the players/members of the REGNET model.

1.2 Overview and document structure of Part 1

The REGNET business area – e-Business, m-Business

The 2001 edition of the EITO Report (European Information Technology Observatory - <http://www.eito.com/>) offers a comprehensive picture of the Information and Communications (ICT) industry and market in Europe. As to the report the main factors driving the evolution of Europe towards the Net Economy are the huge investments in bandwidth capacity, the emergence of competitive digital content players, the new initiatives of e-government and local e-communities, the development of B2B portals and marketplaces for the competitiveness of SMEs. More and more European companies are successfully implementing e-Business structures with a corresponding impact on productivity, cost saving and general effectiveness. Awareness is growing that B2C, B2B and B4B are closely interrelated and that the Net Economy is not just a simple application of ICT, but implies a radical restructuring.

According to the EITO Special Report on Mobile commerce, European m-Business users are expected to reach 100 million in 2003 and 175 million in 2005. M-Business will represent one of the most challenging opportunities for the future of the Internet economy in Europe, with expected revenues of € 38 Billion in 2003 and of € 86 Billion in 2005. Mobile offices, mobile jobs, mobile training, mobile communities, mobile government, mobile entertainment, mobile music, mobile gambling are some of the drivers which can successfully bring Europe into the M-scenario. The EITO experts estimate that the number of Western European mobile eBusiness users will grow from 7 million in 2000 up to 157 million in 2005. Most of the growth will be in the B2C market, which in 2005 will represent 57% of European mobile commerce. Comparing the estimates for the US (expected M-commerce revenues 2005: EUR 47.8 billion) and Japan (EUR 29.8 billion), Western Europe is going to be by far the largest m-Business market in the world. In 2000 the number of the European web users grew by 46% to 120 million, representing some 31% of total population and is expected to reach 215 million or 55% of the population in 2003. More than 250 million Europeans are wireless phone users (60% more than the year before), and half a billion users are forecast for 2003, including Central and Eastern Europe.

Source: "The European Information Technology Observatory – EITO 2001", 9th edition

Having in mind this development and the growing demand for Information Technology skills and services the importance of successful partnership models in this area becomes clear.

Hereto research starts with a comprehensive overview of already existing partnership models in the cultural heritage/multimedia domain resulting from EU-projects or other international initiatives.



Part 1 is structured in the following way:

- Introduction
- Presentation of Best-Practice examples (relevant projects and initiatives)
- The Legal Framework (international perspective, EU and CEE environment)
- The REGNET Partnership Model
- Synopsis of agreements and recommendations
- Recommendations for further development and to do actions

2 Best Practice

2.1 Introduction

Traditional forms of organisations and business processes vs. virtual enterprise concepts

Organisations, operating in the field of Cultural Heritage are mostly accustomed to traditional ways how to do their day to day business. The global market and new possibilities of doing business open also new forms of co-operations and activities for that organisations. Besides the enabling (e-business) technologies it is essential to introduce new ways of partnerships.

Within the demonstration phase of REGNET a network of different partners (Content Providers, Regional Poles/Business Access Points, Service Providers) will be established. One of the partners has already set up a 'service centre' based on the basic ideas of one of the TEN-Telecom Projects (MOSAIC: Museums Over States and virtual Culture). MOSAIC was probably too ambitious and too early (1996), but the basic idea to form a network of cultural service centres was very appropriate to support organisations (especially small and medium sized) in the Cultural Heritage domain. REGNET will provide the technical infrastructure to set up even low cost service centres which can be integrated in a 'service network'. The REGNET Legal Framework will govern this network which should enable income to the different stakeholders. Within this framework REGNET will be the 'layer' between Content Providers and Distributors or Value-added Resellers. The membership concept of the REGNET-service centres will generate a critical mass of digital or physical goods contained in Content Provider's organisations. To demonstrate the benefit of business to business (B2B) relationships the process of generating an electronic publication (e.g. CD-ROM) will be modelled and implemented.

New forms of cooperation

As basis and starting point for the task the AMICO (<http://www.amico.org/>) and MOSAIC (Museums of States and virtual Culture – <http://mosaic.infobyte.it/>) approach are appropriate. It is essential that contracts and agreements will be available on a national and international basis. Different types of relationships (member ship agreement, licenses, contracts, etc.) will eventually coexist. As thumb rule some type of subscription might provide a small basis income. This will make commitment and high quality work necessary on which a potential customer can rely on.

The MAGNETS-study (<http://www.vasari.co.uk/magnets/wp4/>) on "market and general economic issues of relevance to museums and galleries" and the IMPRIMATUR Project (Intellectual Multimedia Property Rights Model And Terminology for Universal Reference) <http://www.imprimatur.net/index.htm> will offer another basis for research work on partnership models.

2.2 Best practice examples and related projects

2.2.1 AMICO - Art Museums Image Consortium

<http://www.amico.org>

A first example of a possible 'partnership model' is the one worked out within the AMICO framework (Art Museums Image Consortium). This model integrates different stakeholders (content providers/creators, Compiler Warehouse/Wholesale Licensee, Distributor/Value-added Reseller, Licensee Retailer, User/Consumer) via a legal framework and is targeted to enable income to the different partners of the system.

AMICO: The Art Museum Image Consortium (AMICO) is a not for profit association of institutions with collections of art, collaborating to enable educational use of museum multimedia. Together, AMICO Members are building. The AMICO Library, a joint digital library that is a licensed educational resource available to universities and colleges, public libraries, and kindergarten through 12th grade schools.

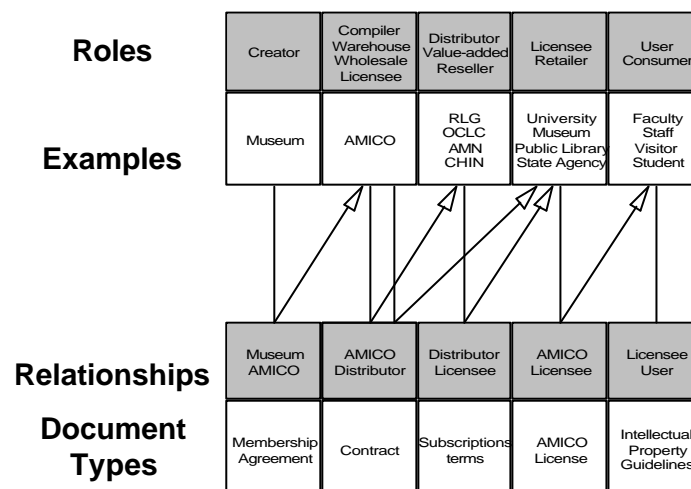


Figure 1: The AMICO partnership/contracting model

The AMICO partnership model describes five different roles for partners: The creator, the compiler, the distributor, the licensee and the user. The creator, here in the above example the museum, has a membership agreement with AMICO. AMICO organisation in its function as a compiler or wholesale licensee can have contracts with distributors or value-added resellers. The distributors will have business relations with licensee retailers under subscription terms, and the AMICO license can then be given to users and consumers.

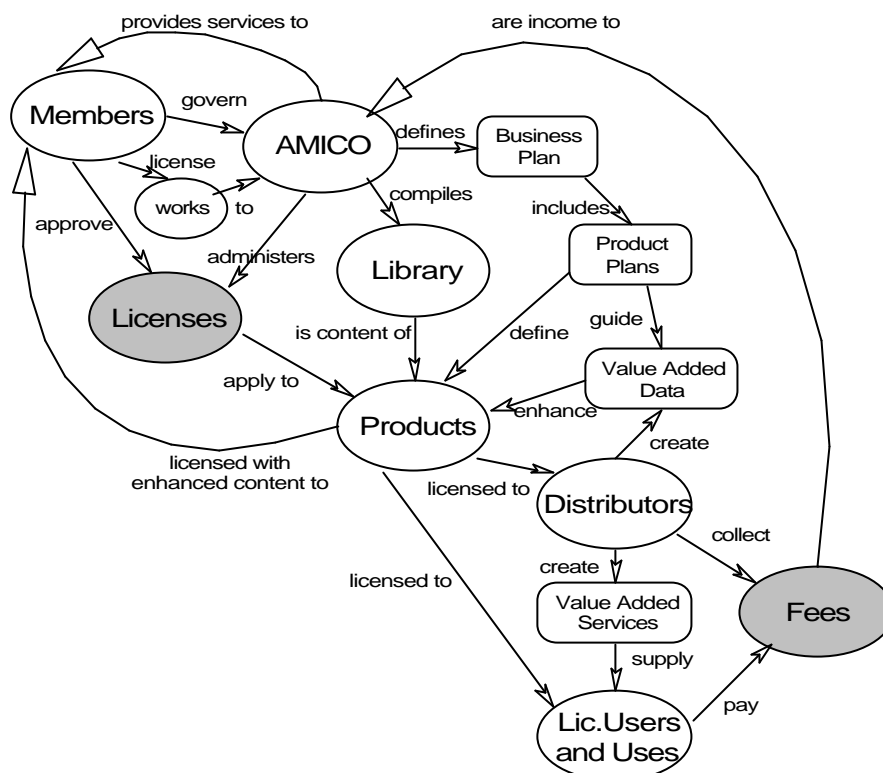


Figure 2: AMICO Content distribution operational

model

The members of AMICO govern the AMICO framework and also license works to AMICO. AMICO administers these licenses, it compiles a library of products and defines a Business plan with product plans for the end products. The products are enhanced with value added data and are then licensed to the distributors. The distributors collect fees from the licensed users and supply to the users value added services. The products which were first licensed to AMICO will finally be licensed back enhanced with content to the AMICO members. The fees collected by the distributors generate the income for AMICO organisation. And AMICO itself also provides services to its members (eg. digitising support).

Today the Art Museum Image Consortium (www.amico.org) is a growing not-for-profit membership organisation (currently with 31 members) dedicated to enabling educational access to museum multimedia by shaping, sharing, and standardizing data about members' collections to create a collective digital library of works. The AMICO Library™ is offered under license to educational subscribers worldwide, including colleges, universities, schools, public libraries, art galleries, and museums. It is accessible through three distributors: RLG, OhioLINK (Ohio Library and Information Network), and SCRAN (a cultural heritage network based in Edinburgh).

AMICO offers its member *technology information services* (best practise, FAQ, standards etc.) *data enhancement services* (e.g. Watermarking, subject indexing, metadata augmentation, mark-up to SGML), *catalogue management services*, *rights management services* (writing model licensing agreements, right metadata systems etc.), *customer services* (identifying user needs etc.), and *collaborative partnering* including with technology firms, standard organisations and others.

The core of the AMICO framework is the AMICO library which is the compilation of digital multimedia documentation of works of art contributed by the AMICO members. It was launched in July 1999 with documentation of over 50,000 works. The AMICO members make annual contributions to the Library.



Agreements

There are different types of agreements and applications used within AMICO:

Membership Agreements

- AMICO Full Membership Application
- AMICO Associate Membership Application
- AMICO Full Membership Agreement (this document can be found in the Annex)
- AMICO Associate Membership Agreement

AMICO Library License Agreements

All users of The AMICO Library sign a license agreement, agreeing to use the AMICO Library for educational, non-commercial purposes.

- AMICO Library University Agreement
- AMICO Library Short University Agreement
- AMICO Library Museum Agreement
- AMICO Library Schools Agreement
- AMICO Library Public Library Agreement
- AMICO Unaffiliated Scholar Agreement

Distributor Agreements

The AMICO Library is distributed by a range of information providers.

- AMICO Model Distribution Contract
- AMICO Distributors Development Agreement
- AMICO Distributor Specification
- AMICO Public Access Catalog Specification

Technical Documents

Technical details on the format of The AMICO Library.

- AMICO Data Specification
 - A. AMICO Text Data Specification
 - B. AMICO Image Data Specification
 - C. AMICO Data Dictionary version

Sample AMICO Records

Samples of the AMICO agreements documents can be found in Appendix I.

2.2.2 MOSAIC – Museums Over States And virtual Culture

<http://mosaic.infobyte.it/>

MOSAIC - Museums Over States And virtual Culture has been a TenTelecom Project in the years 1997 to 1998. This project introduced a new approach to organisation, maintenance and promotion in the field of art and museums. This approach was mainly based on a couple of cool interactive technologies: Hypermedia and Telecommunications and applies to museums, art galleries, architecture and other kinds of works of art. Network access to museums and galleries offered both easier access to Europe's heritage and new revenue for its preservation and display from access and re-use fees.

REGNET uses the partnership model developed within the AMICO project and the concept of a Cultural Service Centre introduced by the MOSAIC project but will offer a wider range of different functions than both projects do like e-Business or media publishing.



© Mosaic Consortium

Figure 3: The MOSAIC International organisation

The MOSAIC International organisation coordinates the activities of three types of CSC:

- **Excellence CSC:** they are in charge to develop new tools (h/w or s/w) or update already existing application; its main target is the production of instruments to facilitate and improve the cultural heritage fruition
- **Technological CSC:** they have as main target the studies of technical aspects in the field of art culture (Universities ...), telecommunications and promote the exchange of knowledge and results promoting workshops and conferences
- **Exhibition CSC:** their main target is to diffuse the cultural heritage knowledge by exhibitions to allow interaction between new technologies and wide public (Virtual Teatres, CyberCafé, Exhibition areas ...)

The creation of a Consortium of different subjects coming from: Museums, Universities, Software Market Leader, Hardware Producer, Telecommunication and/or Entertainment Company, will be studied during the trial phase in order to manage each CSC.

The MOSAIC Organisational Structure

The MOSAIC international organisation had the task to dictate guide lines for services in terms of requirements and qualitative level. It was planned to be an association or at least a non-profit organisation with all of the CSC adhering and all Museums being institutionalised partners. The associative quota should have been established every three years based on the structure's organisational costs.

The technical scientific committee of the organisation had the task to draw up and emit indications as well as MOSAIC guide-lines. It verified the quality of the various service centres and selected new associates. It would send warnings in case the guide-lines and quality are not respected.

The MOSAIC international organisation also should have the task to point out reference standards, reaches agreements with structures, suppliers and institutions at world level. It pointed out the application elements of interest and suggests them to the CSC of Excellence which had the task to produce the appropriate SW or HW products. These Excellence centres were those which would better interpret the needs of the final user and thus due to their sector experience they would produce the appropriate tools to distribute within the CSC. The latter should be extremely variable in structure. Some technological CSCs who privilege network services were planned, and areas of formation and debate (e.g. University) or CSCs within exhibit areas (museums, libraries) that have services with access to the local public and therefore specialize in value added ...

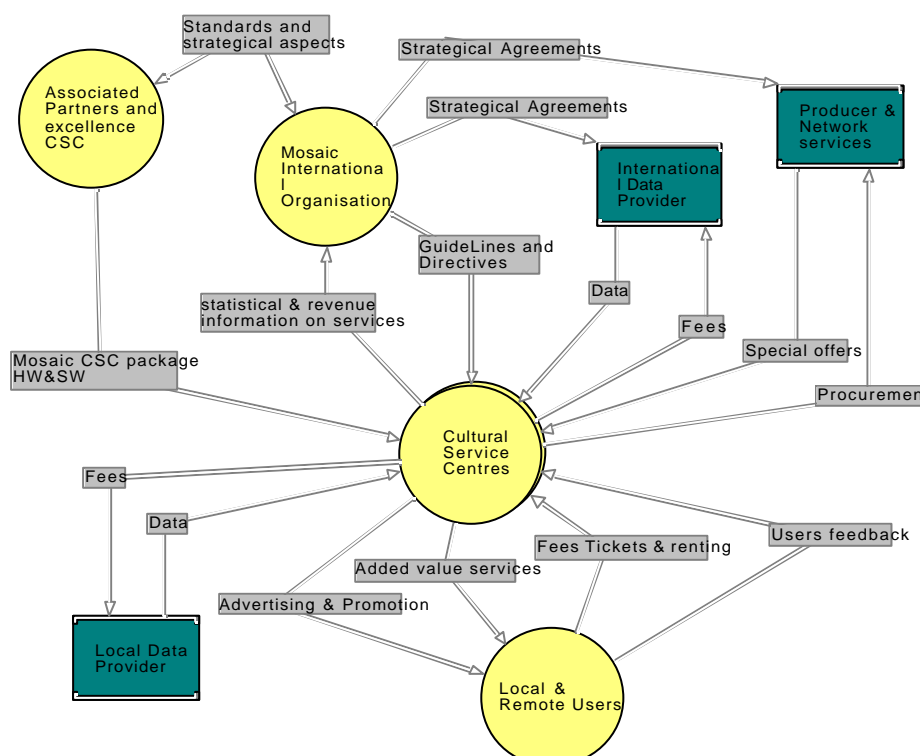
The main basic logic was to not create a pyramidal vertical structure but a WAN, meaning a network in which everybody can join and find the right indications to dialogue (standards), the accords to enhance one's own services and the structure to organize one's own service centre. The logic was therefore very similar to the Internet. There should be no control on data but a spreading of information within specific agreements and non homogenous area interest. Like in a network each new user increases the value added and significance but nobody is essential. There is no hierarchy but different potential thus heterogeneity in content.

The economic return of each CSC was based partly on the existence of other CSCs (presence of data in the network and ability to sell value added associated services) and in part to the specific capacity of the CSC (exhibit areas, specific application content, thematic services). A CSC could be a profit or a non-profit private organisation. In particular the CSC may be a consortium of many private and institutional structures that have as main goal common objectives for the enhancement and exploitation of cultural heritage.

The Mosaic International Organisation:

- Would manage the mosaic network domain – mosaic.org
- Allow the introduction of new partner and CSC in the network by means of a specific sub-net address
- Manage all the international agreement with other International Organisation
- Support the new CSC to create the centre in term of financial and technical support
- Organise the communication and organisation of Mosaic

A preliminary logic schema of the MOSAIC Organisation is illustrated in the following figure:



© Mosaic Consortium

Figure 4: MOSAIC Organisation logic scheme

The International Organisation would have to predispose a plan of consultancy, formation and quality for each CSC. The latter would depend on the former to acquire the financial, technological and



organisational aspects needed to create the different CSCs. As far as the network was concerned the organisation would control and supervise the flow of information and statistics on accesses to the service. All this information and the organisational and technological directives was to be published on the MOSAIC site and should be a point of reference for all the associates. The MOSAIC secretariat would take care of the organisation of the technical direction committee meetings and the issue of guide lines and news on reached agreements. The project promotion and communication side would be taken care of by the International Organisation but would be executed by the single CSC at local or national level.

The MOSAIC CSC management team

The CSC organisation had foreseen the followings profiles:

- **The CSC director:** is responsible for the CSC activity
- **The Marketing director:** is in charge to increase the number of the users and the supplied services of the CSC
- **Curator**-who is in charge to:
 1. manage the temporary and permanent aspects
 2. to better answer to the users requests and their needs
 3. assure the respect of the local laws for the public fruition of the services and infrastructures
- **The operative staff:** is in charge to perform all the CSC activities supply the following functionality:
 1. management and security of all the infrastructures
 2. manage the function e.g. of the air conditioning system
 3. activate the simultaneous translation service
 4. assure all the services in the CSC

It should be composed by: **Executors and a Publishing team** (researchers, editors, graphics, programmers, system manager and educators).

The Publishing Team: which shall supply the following functionality:

1. maintain the CSC business activity
2. manage the users access permission
3. produce statistics on Tools, Services and Forum access
4. elaborate raw data (images, text, sound) to produce multimedia products
5. produce and disseminate advertising material
6. support the curator during new exhibition creation
7. support to visitors in infrastructures

Moreover the management staff shall:

- guarantee the utilization of the CSC profits to promote the cultural wealth
- guarantee the management of the rental contract, the client relationships
- guarantee the Mosaic agreements in the area of responsibilities

The MOSAIC Legal Framework

MOSAIC intended to set up a legal framework by transforming intentional letters into contractual agreements and this way enlarging the cooperative network.



The legal framework under which MOASIC aimed to run was outlined as follows:

1. Purpose and Goals

This clause outlines the nature of the MOSAIC Collaboration.

- MOSAIC

The Museums Over States And vrtual Culture (MOSAIC) is a project founded by the E.C. DG-XIII Ten-telecom to provide educational access to and delivery of cultural heritage information by creating, maintaining and licensing a collective digital library of images and documentation of works in their collections («Library»).

- License to MOSAIC is non-exclusive

Members will make images and documentation of works in their collection available to MOSAIC under non-exclusive license.

- MOSAIC members can use Library

- MOSAIC will enable its members to continue to develop their own uses of digital images and information, and to share in the use of the collective product.

2. Parties

This clause identifies the signatories of the agreement.

- MOSAIC members are Museums and Art Galleries, Libraries, Archives, Education and Culture Industries, Communications and Service providers, Telecom Operators, CATV, Media IT-Companies, New Media Industry, Publishers, Other with a legal status, Non-governmental Organisations, Governmental or Regional Government, Private.

3. Benefits

Benefits which MOSAIC confers on its members include:

- Access to the MOSAIC Library and licensed use of its educational resources

Members may use the collective resource for educational purposes under licenses and without fees beyond those of their membership dues.

- Services of the MOSAIC staff

MOSAIC Member Services will include:

Technology Information Services,

Including "best practice" guidelines, "frequently asked questions", standards for data capture, advice on hardware and software, application guidelines, training and research and liaison with developing standards.

Data Enhancement Services,

Including data value standardization, the addition of unique identifiers and watermarking of images. These services may also include subject indexing, metadata augmentation, provision of on-line authorities, thesaurus explosion of terms in controlled vocabularies, markup of text to SGML, quality control and mapping institutional data to export standards.

Catalog Management Services,

Including creating an integrated, publicly accessible directory with many access points and different interfaces for different users which enables educators to identify works which they have licensed and may use through MOSAIC and allows the public to seek further rights including commercial use rights from the individual museum members.

Rights Management Services

Including defining the minimum rights management data requirements, creating searchable rights metadata systems, negotiating rights with individual rights holders and their collectives, writing model licensing agreements, providing a forum for the development of licenses for schools and



school districts, museum education departments, and public libraries, and developing and disseminating end-user responsibility training materials.

User Services

Including monitoring and analysing uses and users, conducting focus groups to identify users needs, and promoting innovative educational uses of museum digital content.

Collaboration with other MOSAIC Participants

Collaborative Partnering, including with technology firms, funding sources, standards organisations, telecommunication providers, and others.

The use of infrastructure and technology areas to launch personalised and autonomously run Internet debates.

A ready solution for the development of cultural technologically advanced service centres at a reduced cost for those who adhere to MOSAIC. This solution may be limited to the simple feasibility study to be used as a technical-economical prospect for the formulation of requests of regional or community financing.

A Multilanguage home page and museum or gallery references inside the MOSAIC network. In case there is no home page the consortium will provide one and introduce it in the on-line culture browser. With this action the museum improves its world visibility.

The possibility of non-exclusive selling of scientific-cultural images via MOSAIC's on-line sale service in respect of current regulations and within agreements which take IPR (Intellectual Property Right) into consideration.

The possibility of publication of specifically organised events on cultural issues to all partners, to the list to the adherers of the Memorandum of Understanding on cultural heritage to the users connected to Internet services and afferent on Mosaic.

Visibility on all the international and national cultural events and the insertion of an information-based mailing list for the up-date of the state of technological art and on the new existing tools finalised toward the cultural heritage sector.

Whoever has an existing project and wants to exploit it internationally within projects of the European Union, Mediterranean or G7 areas.

For whoever wishes to create a cultural service centre: a reference model (cost, technological architecture, realisation times, etc.), a quick, complete, low cost and competitive solution, a number of tools to exploit the work of the experts and to increase the use of the services by final users, a number of services and derived products which will be able to increase the level of involvement of users and aimed at increasing the amount of time spent in the museum infrastructures offering a value added in education and tourism.

For whoever has the possibility to find programmed funds but does not have a reference plan: the possibility to save the investment and seeing a modular modern and very ambitious project grow at many levels in stages and with fractionated financing.

For whoever has products (multimedia or virtual reality) and wishes to find space for their promotion and spreading.

4. Membership Terms

This clause identifies the conditions for membership in MOSAIC.

- Members contribute to joint library

Members agree to contribute digital documentation, including at least text and images, of works of art from each of their collections to a joint collection, known as the MOSAIC Library. The digital documentation about each work of art from a member's collection comprises a one work in the MOSAIC Library.

- Members assign MOSAIC rights to license



Members assign MOSAIC rights to reproduce, redistribute and publicly present (in part or whole) all works contributed to the MOSAIC Library, under licenses as agreed by MOSAIC.

- MOSAIC may create derivative products

Members grant MOSAIC the right to offer products incorporating (in whole or in part) works in the Library as approved in product plans adopted by a vote of the membership.

- Members may use Library without charge

Members may have access to works in the MOSAIC Library, under the term of any approved License.

- Works provided without additional restrictions

Members agree not to place terms and conditions on submitted works beyond those of the artist, or copyright holder of the original work of art. If in the experience of MOSAIC, licensees express a willingness and MOSAIC can support the technical requirements to administer item level restrictions imposed by the museum, donors and others, this limitation may be lifted for subsets of the Library in the future.

- Works Contributed

Members contribute

MOSAIC Members agree to contribute a defined number of digital works to the MOSAIC Library, annually, based on and subject to exception by MOSAIC's governing authority.

Members follow MOSAIC Standards

Members agree to abide by the technical and documentation standards established by a vote of the membership.

5. Governance

This clause outlines the way MOSAIC will be governed.

- MOSAIC Governed by Board

MOSAIC will be governed by the Board (coordinator and contractors) as per the EC law.

- MOSAIC Board legally responsible

The Board is legally responsible for the activities of MOSAIC.

- Board responsible for Administration

The Board will be responsible for overseeing the administration of MOSAIC.

6. Indemnification

This clause specifies who will take responsibility for possible infringements of intellectual property rights.

- Museums Guarantee They Have Rights

Museums guarantee the rights they assign to MOSAIC are unencumbered, except as specifically indicated.

- MOSAIC Will Insure Membership, Collectively

MOSAIC will collectively indemnify members against any infringement of underlying rights that occurs as a result of participation.

7. Income allocation

Income from the license of works in the MOSAIC Library will be used to support MOSAIC programs and redistributed to the owners.

- Furthering The Educational Mission Of Member Museums



Income from all sources will be expended on MOSAIC operational expenses in furthering the educational mission of MOSAIC.

- Directed Expenditures

Income will be allocated, based on annual recommendations of management and approved by the Board.

- Income

The Board will guarantee the royalty to museums, owners of images, as the existing Law of the Country in which the museum is located. The end-user will be charged of an extra fee in addition to the price being already established by the museum.

8. Withdrawal from Membership

This clause specifies how members can leave MOSAIC.

- Members Can Withdraw Anytime

Members may withdraw from MOSAIC at anytime.

- Licensing status of withdrawn members works

No new licenses will be issued for rights to a withdrawn member's works. After a member has withdrawn, works it has contributed to the MOSAIC Library will continue to be made available under terms of existing licenses, until the term of those licenses has expired.

1. Various and Others.

2. Services Definition, Licenses, User Requirements and distribution Methods

- Purpose and Goals

This clause outline the rules in Mosaic about services and their licenses, user requirements and distribution methods

- Mosaic objectives

This clause outline the main Mosaic objectives

- Users and User Needs

This clause outline the Mosaic users typologies and their needs

- Mosaic services

This clause outline the Mosaic services

- Licenses

This clause outline the License terms of a Mosaic service

- Mosaic services distribution

This clause outline the rules in Mosaic services distribution

3. Process trace ability in Mosaic

- Purpose and Goals

This clause outline the rules to trace the process activities in Mosaic (costs, estimates ...)

- Assumptions

This clause outline the general assumption in Mosaic

- Mosaic Operational environment: costs/revenues

This clause defines relations with other initiatives, Members costs/revenues estimation methods, Mosaic costs/revenues estimation methods, thirdly parts costs/estimates estimation methods



4. A framework of standards in which Mosaic Processes run

- Purpose and goals

This clause outline the standards in Mosaic

- Criteria for standards assessment

This clause outline the standards in Mosaic

- Criteria for Recommendations assessment

This clause outline the Recommendation in Mosaic processes

Source: MOSAIC Museums over States and Virtual Culture (TenTelecom Project Nr. 45527) – Market Plan WP1200

The MOSAIC project of 1998 also elaborated a legal framework and IPR problems in Europe which can well provide a basis for the REGNET legal framework. In order to strengthen synergies between the projects we point out to MOSAIC work package 1200 “Market Plan” chapter 7 “Risk and Dependencies”.

A copy of the membership agreement for MOSAIC Organisation is provided in Appendix II.

Appendix III shows the agreement to join MOSAIC project.

2.2.3 The MAGNETS Study

(<http://www.vasari.co.uk/magnets/>)

The MAGNETS-study (<http://www.vasari.co.uk/magnets/wp4/>) on “market and general economic issues of relevance to museums and galleries” aimed to provide an in-depth study of User Requirements, selected critical Market and Technology issues based on an international survey of the needs and experiences of Museums. The project was carried out in the period January 1997 - January 1998 within the EC DGXIII Telematics Applications Programme.

The 'Visions' work in the MAGNETS project concentrated on reviewing and analysing ten key points for the future and developing recommendations specifically with regard to future EC supported projects. In particular, attention was concentrated on the purpose and use of new technologies in museums including awareness and dissemination for end-users especially the public and schools.

Where museums are concerned, the question of intellectual property rights is a vast area embracing at one and the same time:

- The national legislation governing a particular establishment, particularly in relation to the protection of cultural heritage (with the notable exceptions of Greece and Italy which lay claim to rights on reproductions of their heritage).
- Rights on works held by a museum.
- Rights on photographic or digital reproductions of museum objects, and on any digitisation of photographic reproductions.
- Rights on audio-visual recordings and their digitisation.
- Rights on documentation built up by the museum on its collections.
- Rights on multimedia creations, whether artistic works, editorial products or dissemination reports.

Specific issues are as follows:

The basic differences between the UK (and the USA) and Continental Europe, the former taking an approach based on economic considerations in reproduction and exploitation whereas the latter is founded in Author's moral rights.

The urgent need for training and information, ideally in the form of model contracts and case studies as already developed in certain countries (e.g. UK and USA).

The high legal and other costs and time required to resolve copyright issues

The risks of piracy (e.g. Russia and China)

The Internet has put these issues into sharp relief, and now there are pressing needs for legal harmonisation across the EC and ideally internationally geared to the particular situation of cultural

heritage. Fortunately, technical approaches to assist against piracy are becoming available such as watermarking.

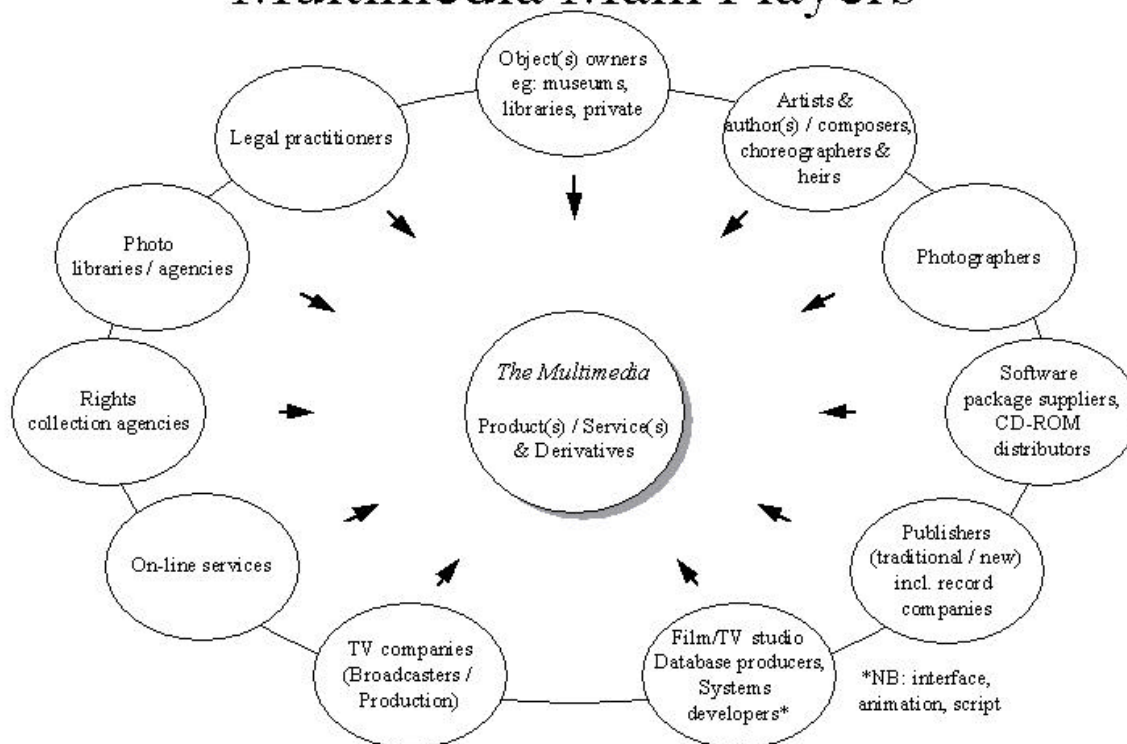
A number of EC projects, notably IMPRIMATUR, are developing approaches and solutions with international collaboration including attention to WIPO, the Worlds' Intellectual Property Organisation. Moreover, a Memorandum of Understanding Working Group has been conducting a detailed analysis of these issues.

A crucial point is that technology change is proceeding at a more rapid rate than the legal system. However, in other fields such as music and general multimedia publishing, 'best IPR practice' is well ahead of the museum field except for special cases such as RMN and the National Gallery, London, which have taken pioneering roles. Issue (b) above on training and information across Europe is thus of particular importance.

Source: <http://www.vasari.co.uk/magnets/VMAG1.html>

In MAGNETS work package 04 section IV an outline of Multimedia main players is given.

Multimedia Main Players



© MAGNETS consortium

Figure 5: MAGNETS Multimedia players

Object(s) Owners e.g. Museums, Libraries, Galleries

Traditionally museums and galleries have been used essentially by visitors who come to look at the collections exhibited and take advantage of any possibilities offered to carry out scientific work in the archives and deposits. In this area, well established relations of co-operation have existed for a long time with publishers, television producers and producers of audio-visual recordings.

As museums and galleries embrace emerging new technologies these traditional relations do not transfer easily. Multimedia has raised legal implications which are not fully understood by the interested parties. It is essential that museums and galleries grasp these implications so that their and the legitimate interests of authors are not undermined.



Artists & Author(s), Composers, Choreographers, Interpreters & Heirs

The author of a copyrighted work retains his author's right unless a contract stipulates otherwise. Museums and Galleries do not own author's rights. "Were the galleries and museums to own author's right on the works physically in their possession, they would be in an extremely favourable position, since the multimedia producer would then be obliged to obtain their authorisation and accept their terms."

Authors are entitled to moral rights essentially being:

- the right to be identified as author- 'the right of paternity'
- the right to object to 'derogatory treatment' of the author's work- 'the right of integrity'
- the right not to have a work 'falsely attributed'
- the right of privacy in relation to photographs and film commissioned for private and domestic purposes.

Database Producer, Systems Developers

The database producer is an organisation that creates databases, which are sold in part or in whole, or more usually licensed to other organisations to allow users access to them. Database producers can be commercial organisations, learned societies, not-for-profit organisations, government departments, etc. Database producers do not always own the copyright of the material they put into the database.

Computer Hardware and Software Companies

The development of various information retrieval software was crucial to the development of the On-Line information industry as a whole. The most significant involvement to date is that of Microsoft. It has a well-published policy of buying up the rights to digitised images world-wide, and its Windows 95 operating system includes bundled software access to the Internet and to its own Microsoft Network (MSN).

Publishers / Producers

Publishers and Producers are embracing Multimedia in order to exploit it. As yet there are no internationally recognised guidelines to help multimedia publishers and content owners reach straightforward agreements. Identifying and obtaining the appropriate consents is time consuming and sometimes costly. There is a book available called the "Practical Guide to Copyright for Multimedia Producers" produced by the European Commissions' Legal Advisory Board for the Information Market (LAB). It should be noted that some publishers (e.g. Microsoft) regard the copyright problem as 'solved'. (This is not however the view of most museums, especially small ones.)

On-Line Services

The service provider or On-Line host is an organisation that makes a number of databases available to clients through its own computer. The host may own some or all the data on offer (in which case, one usually talks of the database producer acting as its own host), but frequently it does not own the data networks, and must license them. The host can be in the private sector, can be not-for-profit organisations or can be government subsidised, either explicitly or implied.

Service providers are becoming increasingly responsible for content available on line. This is evident from (failed) legislation in the US and numerous codes of practice being drawn up throughout Europe.

Museums themselves are increasingly providing on line services. There is a growing global community of museum computer network users and utilisation of the Internet global telecommunications facilities. Access to the Internet for Museums has the following advantages:

Improve and facilitate communications between Museum staff in national countries and abroad. (Through email teleconferences, On-Line searches etc.).

Help to enhance the efficiency of research projects by providing fast and reliable access to the collections of the museums (text, images).

Facilitate curatorial work and preparation of national and international exhibitions from collections of different museums.

Rights Collection Agencies

Authorisation needs to be obtained for the reproduction of a pre-existing work protected by copyright to be used in a multimedia publication. This can be an extremely complex process. This is due to the large number of individuals, agencies and societies which are often involved in the negotiations for authorisation. A multimedia producer may need to negotiate with any number of the following: Photographers, picture libraries, composers, software designers, film studios, authors, book publishers, record companies and so on. This list is by no means exhaustive.

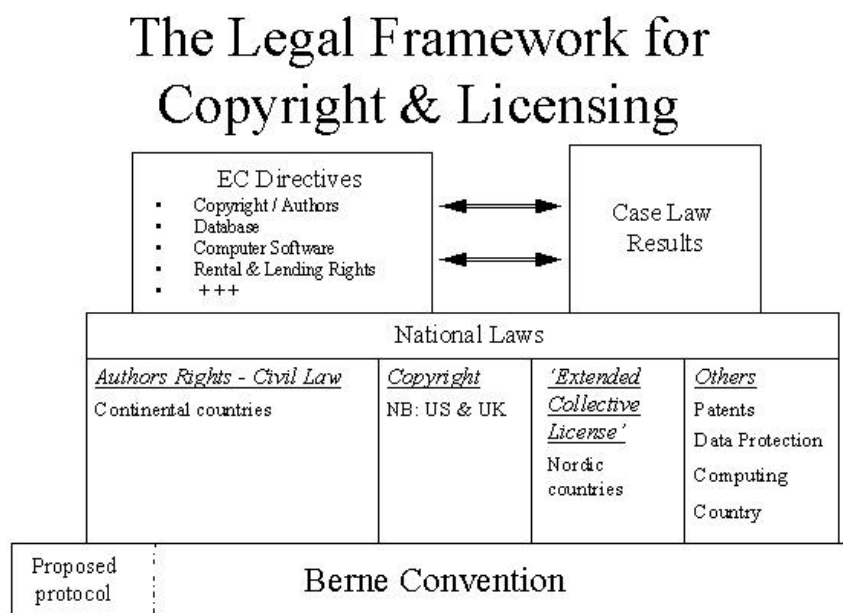
The individual is also faced with right owners who are often from different segments of the entertainment and information industries with different mentalities and licensing practices. The end result is that for multimedia producers, to identify the many different rights owners for the works he wishes to use, it can be a very difficult and slow process. Licensing agencies and collection societies therefore have a very useful role to play. The numerous right owners and players in the entertainment industry including the collection societies, are trying to establish fair and workable remuneration schemes that can be applied to multimedia products.

Collection Agencies or Societies are a convenient way of enabling a user of copyright material to negotiate a single licence with respect to a range of works rather than having to agree separately with all the individual owners. Collection Societies are a relatively easy but sometimes expensive way to secure rights in works to be incorporated into a multimedia work.

Legal Practitioners

The emergence of lawyers offering specialist services for multimedia to the Arts world in general, and museums in particular, indicate the opportunity for financial gains and losses.

The following figure shows the Bern convention underlying laws, which must comply with EC Directives as and when they are adopted.



© MAGNETS consortium

Figure 6: The Legal framework for copyright and licensing, Bern Convention

An important input for REGNET provides the conclusion list of MAGNETS to the copyright and author's rights issue. The complete list is indicated in the following:

Conclusion 1:

The gradual harmonisation of the legal framework at international, EU and national levels makes long-term policy decisions less difficult and risky. However, the move to simplified worldwide mechanisms



for image registration and rights management will take considerable time and effort although the latest WIPO efforts (December 96) appear promising.

Conclusion 2:

At senior management level in museums, there is now increasing appreciation of the risks and legal complexities involved. Appreciation of the complexities regards not only the legal domain but also the financial, political social consequences. There is a great fear of losing rights by early agreements with electronic publishers, especially strong ones- in particular MICROSOFT / CORBIS. Fears of US cultural imperialism are particularly strong in some countries in Europe (and elsewhere) especially France.

Conclusion 3:

There is in consequence, inter alia, the beginning of a movement to establish means and ways to help museums (and others) through the Electronic Publishing Jungle (e.g. UK Museums Association leaflet, dissemination of leading practice (e.g. National Gallery) and development of model contracts/licences.

Conclusion 4:

Currently there are grounds to believe that after initially undervaluing museums electronic rights, these are now being overvalued by some museums and that the pendulum will swing back to a more moderate position- this may take 3 - 5 years. The key issue is 'share of the cake'.

Conclusion 5:

The importance of the US market for museum object images both in terms of size and speed make consideration of their copyright and licensing developments critical.

Conclusion 6:

The emergence of lawyers offering specialist service for multimedia to the Arts world in general and museums in particular indicate the opportunity for financial gains and losses.

Conclusion 7:

For owners of IPR, collective licensing can only be acceptable when it is purely based on voluntary arrangements and involves no compulsory licensing. This is because owners of IPR want to maintain maximum control over the way in which their works are used in multimedia environments. Furthermore, they will want to be able to negotiate individually the remuneration for the use of their works. However, there is no doubt that the role of Collecting Societies and multimedia will increase. What is perhaps evident is that if Collection Societies do not provide a licensing, royalty collection and distribution and policing service at a cost effective price to the copyright users an alternative will be found.

Conclusion 8:

The digital revolution should not be seen as an unmitigated disaster for authors. While it is accepted that the possibilities it puts in the hands of users are fraught with dangers for example, plagiarism, derogation, and manipulation, technology can also provide the solution. Technology can be used to enable an author to check the use of his works, even if such systems are not one hundred per cent reliable. For another, it can provide tools for education and rights management. Moral rights continue to be important and are increasingly being relied upon by authors to protect their works.

Conclusion 9:

It is anticipated that technical enforcement through the use of watermarking, electronic tagging and the such like will complement law enforcement to provide a comprehensive protection of copyright and author's rights.

Conclusion 10:

All EC Cultural Systems projects need to take copyright issues into account and major projects focusing on copyright such as IMPRIMATUR and COPEARMS should be taken advantage of to provide latest information and advice since the field is so complex and continually moving.

Conclusion 11:



Museums, especially small ones, need assistance and information on copyright issues if they are to enter the multimedia business area. National and EC government initiatives are vital to help in this as for example reflected in a 1996 confidential study to the UK Department of National Heritage / Museums & Galleries Commission / Museums Documentation Association.

Source: MAGNETS work package 04 section IV "Copyright & Author's Rights".

MAGNETS also focused on the Museum-Business relationship. The document was called public museums and galleries & business sector relationships "feasting with panthers" – giving in the title already a hint towards the fears of many cultural heritage organisations. The project worked out a "Ladder Model of Increasing Technology-Based Collaboration between Museums and Businesses" finally leading up to the inspiration of new products, technologies and services by the museum sector!

Conclusions in this area sum up to the following:

- Successful collaboration between museums and business is possible despite the cultural 'gap' but is by no means certain
- There is no simple recipe for achieving successful collaboration but a good inter-organisational relationship is one of the critical success factors for successful museum-business partnerships
- The sustainability of successful museum-business collaboration is not yet clear from the limited evidence available since few have had a lifetime of over five years
- Reliably assessing the probability of success a priori is not yet possible
- Since successful collaborations have proved very rewarding for the partners in the cases cited above, we believe that the potential benefits are worth the effort involved in building and maintaining collaborative initiatives between museums and businesses. But there should be no illusions regarding the downside risk and the effort required on both sides.
- More General Conclusions are as follows:
 - The rapid flux of the Information Revolution is heading to a 'Culture Economy' in which Museums can and should play a key role. This will require new museum business.
 - The Options appear to be 'leadership', 'partnership' or 'lunch' for some of the 'Panthers'.
 - Museum-Museum Collaboration is vital for most museums i.e 'Hang Together' or 'Hang Separately'.
 - Museum Management Awareness & Training is crucial.
 - Link not only with business sector but with education, library and other Cultural Heritage sectors.
 - Future research activities should include Social Science Research into Museum/Business collaboration results as well as Market & User Research plus Technology R&D with museums in an active an ideally an inspirational role. Relevant disciplines include:
 - Economics
 - Education
 - Psychology
 - Sociology
 - Anthropology
 - Ethnography
 - Organisational Behaviour
 - Management, including the case study approach from the management field and linking to management education as practised in particular at the Harvard Business School.

Source: MAGNETS work package 04 section V "Public museums and galleries & business sector relationships "feasting with panthers".

2.2.4 IMPRIMATUR Project

(Intellectual Multimedia Property Rights Model And Terminology for Universal Reference)

<http://www.imprimatur.net/index.htm>

The Imprimatur project was concerned with methods of buying and selling creative works on networks. Most people would like to use words, pictures and music to enhance their own work -- the question is how can it be done easily, legally and (we all hope) cheaply? Whether you are a buyer or



a seller, it is in your interest that content is transmitted securely and fairly. The Imprimatur acronym spells out: Intellectual Multimedia Property Rights Model And Terminology for Universal Reference. This is because the project aimed to finish its life with a prototype (the rights model) that will work across all platforms together with internationally agreed standards defining its use (universal terms).

The project was co-ordinated by the Authors' Licensing and Collecting Society (ALCS), an organisation in Britain which represents the interests of authors. In English law, the term Author embraces a wide variety of creative disciplines. The project was launched by The European Commission DG III under the ESPRIT programme and closed end of 1998. By operating across a very broad spectrum, the project hoped to establish consensus among various interests. Prototype model software to stamp digital works with a series of invisible watermarks (imprimatura) has been developed. The essential aim of Consensus Building in the Imprimatur Project was for all sections of the community to agree on how to trade in electronic versions of works of art -- whether written, composed or otherwise created. Without agreement amongst all those involved in the processes, any solutions are likely to fail. Imprimatur has spent three years in honing down the most important issues from a long list of concerns.

The key issues for IPRs, as initially identified by the scenario-analysis, were:

1. Eavesdropping - *Encryption*
2. Ownership - *Watermarking*
3. Primary Access - *Browsing - Acquiring*
4. Manipulation - *First copying - Retransmitting*
5. Confidentiality - *Defamation - Pornography*
6. Commercial - *Transaction system - Collection*
7. Legal - *Existing law - New laws*

The IMPRIMATUR Business Model

IMPRIMATUR developed a Business Model in which certain roles and role relationships were defined.

The roles within the IMPRIMATUR Business Model are summarised in the table.

Role	Fundamental Activity/Defining Characteristic
Creator	Creation of Information and therefore IPR's
Creation Provider	Makes creation available for commercial exploitation
Media Distributor	Distributes creation
Rightsholder	Holder of IPR's
Purchaser	Acquires the information
Unique Number Issuer	Provides unique number for creation
IPR Database	Retains current information on IPR ownership and restrictions
Monitoring Service Provider	Check legal/illegal use of information
Certification Authority	Authenticate users (media distributors, purchasers)
Unique number issuer	Provides a mechanism for uniquely identifying digital objects
Bank	Facilitates payments

Each role can carry out a number of functions relating to its fundamental activity/defining characteristic.

© IMPRIMATUR

Table 1: Roles in the IMPRIMATUR business model

IMPRIMATUR evaluated the European Directive on distance Contracts on its effect to the project and business model. The Directive on distance Contracts was adopted on May 20,1997. It entered into force on June 4, 1997, when it was published in the Official Journal of the European Communities. It has to be implemented into national legislation of all Member States ultimately on June 4, 2000.

The rights ensured by the Directive are:



- The right to receive information
- The right to receive the information confirmed in a durable medium available and accessible to the consumer
- The right of withdrawal
- The right to performance

If a consumer orders a media work on-line from a media distributor the Directive on Distance Contracts is applicable. IMPRIMATUR here found availability of information via hyperlink should be considered an acceptable method of confirmation of information.

The IMPRIMATUR Common Reference Set

The Imprimatur Common Reference Set was developed as a tool to assist the analysis of information trading.

It should provide an informative and educational resource for people involved in IPRs in the digital world, because it:

- standardises IPR terminology between the different content industries;
- is a significant step in understanding and analysing the context in which Electronic Copyright Management Systems (ECMS) are to be developed;

There is nothing particular special about the Imprimatur Common Reference Set as a modelling tool. It attempts to simplify the domain in terms of a set of key ideas and represent them in an appropriate and visible manner. However, the process of modelling requires key important ideas to made explicit and can highlight inconsistencies and gaps that need to be dealt with if the reference set is to satisfy the requirements to be complete, accurate and consistent.

The relationships within the Imprimatur Common Reference Set are defined in terms of a series of 3 'flows'. These are:

- Rights
- Information
- Payments

Often the flows will be dependent on each other but the important thing is that they are not necessarily so. It does not follow, for example, that every time there is a flow of information there will also will be a flow in payments. This quality of independence is essential if the analysis of real situations is to be carried out using the Imprimatur Reference Set.

Tangibility

In an Electronic Copyright Management System (ECMS) there must be a tangible way to express each of the 'flows' so it is possible to trade. This is an important point because while the debate about Intellectual Property Rights often takes place at the level of relative intangibles the practical implications for ECMS is that there is a creation defined by the actual product that has a price and a set of terms and conditions that govern the sale. Both the intangible and the tangible property must exist to be able to claim an intellectual product has been created and to be able to trade it.

Flow Type	Intangible	Tangible Quality
Rights	Ownership	License/contractual agreements
Information	Creation	Content/Product (Information Asset)
Payments	Value	Price

Table 2: Tangibility of the electronic copyright management system, IMPRIMATUR

- Rights

The flow or rights is defined by contracts, licenses and copyright law. There are a number of different types of right (reproductions, modification, distribution, performance rights) but the important thing is



that the rights can transfer between one actor and another within the Imprimatur Common Reference Set.

- Information

Information cannot legally be owned and is probably better to talk about products (information assets, digital objects) than information because it is the packaged version of information that is of interest in an ECMS system. In an ECMS system the information is distributed electronically.

- Payments

Payments are a major part of the trade in information assets. In order for information or rights to go in one direction between two actors then money often flows in the opposite direction.

The IMPRIMATUR Trials

The project has developed equipment to allow it to demonstrate electronic trading in some practical situations. The project includes some technical development of a basic Electronic Copyright Management System. This is based on a trading or business model developed by the project and information from practical trials which are currently running.

There are five main trials and their aim is to validate the operational and commercial aspect of the system to determine whether it is usable and capable of commercial exploitation.

These external trials have been set up:

1. Digital image protection trial (Images)
Trial Liaison Partner: University of Florence
External Client: Fratelli Alinari (also a REGNET partner)
2. Journalism licensing trial - ByLine
Trial Liaison Partner: Croft Communication Consultants
External Client: ALCS Rights and Media
3. Music trial
Trial Liaison Partner: MCPS/PRS
External Client: Liquid Audio
4. Virtual marketplace (Educational material)
Trial Liaison Partner: British Library
External Client: UNI-C (The Danish Computing Centre for Research and Education)

Source: <http://www.imprimatur.net/final/index.htm>

In carrying out their research the Imprimatur team noted that "privacy is a fundamental human right" and that a necessary consequence of that was that "in society the default should be privacy rather than no privacy". They determined that "A reader should only be identified in a transaction if it is required to be so by a specific law" and "When a reader is presented with a screen demanding personal data for further access the fact that he refused to go pass that screen should not be recorded". This has important consequences for ECMS systems. By default no such system should collect or maintain information that is attributable to a specific source without the specific (as opposed to implicit) permission of that person. Imprimatur introduces the concept of a *privacy enhancing technology* that will mask the true identity of users from the system and replace this with an *authorized pseudo-identity*,

Source: <http://www.diffuse.org/iprguide.html#AV>

2.2.5 Other relevant EU-projects in the field of copyright protection

A number of other European Commission sponsored (4th Framework) projects have assessed various proposals for copyright protection of electronic data, including:

COPEARMS -- Co-ordinating Project for Electronic Author's Rights Management Systems

<http://www.bl.uk/information/ifla/copearms.html>

CITED -- Copyright in Transmitted Electronic Document



COPICAT -- Copyright Ownership Protection In Computer Assisted Training (extends CITED)

<http://www.newcastle.research.ec.org/esp-syn/text/8195.html>

FILIGRANE --FlexIbLe IPR for Software AGent ReliANcE

<http://www.filigrane.org/>

OSPREY -- Open Structure for Protecting Rights Electronically

CopySmart -- CITED-based multimedia IPR management on cost effective smart device

<http://www.cordis.lu/esprit/src/ep20517.htm>

AMIDE -- Advanced Multimedia Information Dissemination Environment.

<http://newcastle.cabernet.esprit.ec.org/esp-syn/text/8265.html>

TALISMAN, Tracing Authors rights by Labelling Image Services and Monitoring Access Network

<http://www.tele.ucl.ac.be/TALISMAN/index.html?id=6782&page=description>

MUSE, Mutlimedia Networks, which includes research and development of digital media management systems in the European music sector including methods and systems for embedded signalling and encryption

http://dbs.cordis.lu/cordis-cgi/srchidadb?ACTION=D&SESSION=13531999-6-4&DOC=2&TBL=EN_ACRO&RCN=EA_RCN:7381&CALLER=ACROADVANCEDSRCH

OKAPI, Open Kernel for Access to Protected Interoperable Interactive Services.

<http://www.tele.ucl.ac.be/OKAPI/>

Source: <http://www.diffuse.org/iprguide.html#AV>

TECUP, The intention of the TECUP project is to analyse the feasibility of practical mechanisms for the distribution, archiving and use of electronic products from different types of content owners and involving different types of libraries. The project elaborates business and usage models, that are regarded best in meeting the needs and interests of users, providers and rights owners.

<http://gdz.sub.uni-goettingen.de/tecup/index.html>

3 The Legal Framework - an international perspective

The main topics in the REGNET legal framework concern questions regarding Intellectual property rights, internal market rights and provision of license agreements in the cultural and economic sector and within an international context.

IPR, intellectual property right, is a general term covering patents copyright, trademark, industrial design, geographical indications, layout design of integrated circuits and protection of undisclosed information (trade secrets). These are '**intellectual property**' that the owners have acquired either through artistic or commercial creation, invention or purchase. Protection of these rights is a basic feature of democratic legal systems and market economies. There exists a multitude of national laws in regards to Copyright Law, Patent Law, Trademark Law and Intellectual Property Laws, etc.

Appendix IV provides a short overview of online available national law in this area.

Copyright protects literary, musical, artistic and sculptural works, performances, films and broadcasts, and other similar creative output, but not ideas or concepts.

Copyright does not require any merit in the work. Therefore even a website enjoys copyright.

No merit being necessary, it has been possible to "stretch" the original concept of copyright to cover even more categories. Thus, for example, literary works now include computer programs and database compilations.

Electronic commerce is generally understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means. In most of the present commerce transactions delivery takes place by traditional means. A new means for distribution is emerging, and networks are



used increasingly for delivering products to users. Only those transactions that can be conducted through electronic delivery of digitised information may be carried out entirely through networks. In this case we can talk about "true electronic commerce".

Electronic transactions include three stages: the searching, the ordering and payment, and the delivery.

The increasingly worldwide use of literary, musical and performance rights puts many owners of creative works into a new situation, namely, how to pursue the legal and administrative enforcement of their copyrights in the network environment. The establishment of collective management organisations has been a growing trend in many countries. These organisations can provide members the benefits of the organisation's administrative and legal expertise in collecting, managing, and distributing royalties gained from international use of their works.

Collective management organisations meet today new challenges, and electronic networks can play an important role in facilitating the management of copyrights. The technology used for electronic commerce can also be used to modernize and improve the management, administration and enforcement of rights.

Source: "From Physical Product to On-line Delivery: Electronic Delivery of Publications, Music, Films and Software", Ms. Tarja Koskinen-Olsson, Chair International Federation of Reproduction Rights Organisations (IFRRO) Chief Executive Officer, Speech at the International WIPO Conference on Electronic Commerce, September 1999.

3.1 The Bern Convention

Private international law is the body of conventions, model laws, legal guides, and other documents and instruments that regulate private relationships across national borders. Private international law has a dualistic character, balancing international consensus with domestic recognition and implementation, as well as balancing sovereign actions with those of the private sector.

There is no such thing as an International Copyright that will automatically protect an author's writings throughout the entire world. Protection against unauthorized use in a particular country depends, basically, on the national laws of that country. However, most countries do offer protection to foreign works under certain conditions, and these conditions have been greatly simplified by international copyright treaties and conventions. There are two principal international copyright conventions, the Bern Union for the Protection of Literary and Artistic Property (Bern Convention) - <http://www.law.cornell.edu/treaties/berne/overview.html> - and the Universal Copyright Convention (UCC) - <http://www.tufts.edu/departments/fletcher/multi/texts/UNTS13444.txt>.

The Bern Convention was first adopted on September 9, 1886, in Bern, Switzerland, and was later revised at several conferences: Paris, 1896; Berlin, 1908; Bern, 1914; Rome, 1928; Brussels, 1948; Stockholm, 1967; and Paris, 1971. The agreement grew out of a perceived need in the late nineteenth century to protect authored works from international pirating, or unauthorized copying. A growing demand for new printed materials during this era was motivating many publishers to reprint unauthorized versions of foreign works. Authors whose works were pirated had little recourse against the publisher because copyright laws were typically enacted on a national basis. Such laws gave copyright protection only to authors who were nationals of the country in which the laws were enacted.

The Bern Convention has four main points: National treatment, preclusion of formalities, minimum terms of protection, and minimum exclusive rights.

- National treatment: Under Bern, an author's rights are respected in another country as though the author were a national (citizen) of that country. For example, works by Greek authors are protected by Austrian copyright in Austria, and vice versa, because both the Austria and Greece are signatories to Bern.
- Preclusion of formalities: Under Bern, copyright cannot be dependent on formalities such as registration or copyright notice. However, this provision apparently does not prevent a member nation from taking adherence to formalities into account when determining what remedies apply.



- Minimum terms of protection: Under Bern, the minimum duration for copyright protection is the life of the author plus 50 years. Signatory nations may have provide longer durations if they so choose.
- Minimum exclusive rights: Under Bern, a nation must provide for protection of six rights: translation, reproduction, public performance, adaptation, paternity and integrity.

The Bern Convention has recently been extended to protect works in digital form.

Generally, the works of an author who is a national or domiciliary of a country that is a member of these treaties or works first published in a member country or published within 30 days of first publication in a Bern Union country may claim protection under them. There are no formal requirements in the Bern Convention.

Bern copyright lasts for at least 50 years (EU: 70 years) from the end of the year of the death of the creator, or from first dissemination in cases where the creator cannot be identified

3.2 The Universal Copyright Convention

The Universal Copyright Convention was originally written in 1952 in Geneva under auspices of the U.N. Educational, Scientific, and Cultural Organisation UNESCO. It became effective in 1955. Under the UCC, any formality in a national law may be satisfied by the use of a notice of copyright in the form and position specified in the UCC. A UCC notice should consist of the copyright symbol (C in a circle) accompanied by the year of first publication and the name of the copyright proprietor. This notice must be placed in such manner and location as to give reasonable notice of the claim to copyright.

There are four main differences between Bern and UCC . First, the UCC permits (but does not require) member states to require formalities such as copyright notice and registration as a condition of copyright. Second, copyright duration must be until least 25 years after the author's death or after the first publication, depending on whether a nation calculates duration based on the author's life or on publication. Third, the UCC's provisions on minimum rights are less demanding than Bern's; the UCC demands recognition only of the rights to reproduce, adapt, and to publicly perform or broadcast the work. Furthermore, the UCC expressly permits a nation to make exceptions to these rights, as long as the exceptions do not conflict with the spirit of the treaty. Finally, the UCC recognizes the Bern Convention. This means that, between two nations which are signatories to both Bern and the UCC, the Bern Convention controls and the UCC does not apply. Furthermore, if a nation is a signatory to both conventions, and withdraws from Bern, it will not be protected by the UCC.

An author who wishes copyright protection for his or her work in a particular country should first determine the extent of protection available to works of foreign authors in that country. If possible, this should be done before the work is published anywhere, because protection may depend on the facts existing at the time of first publication.

If the country in which protection is sought is a party to one of the international copyright conventions, the work generally may be protected by complying with the conditions of that convention. Even if the work cannot be brought under an international convention, protection under the specific provisions of the country's national laws may still be possible. There are, however, some countries that offer little or no copyright protection to any foreign works.

3.3 International Organisations

3.3.1 WIPO

WIPO, the World Intellectual Property Organisation, was established in 1967 and charged with promoting the protection of intellectual property throughout the world and ensuring administrative cooperation among the various agreements dealing with intellectual property. WIPO is part of the UN system, and has been the sponsoring entity for many of the important conventions in this area. The texts of treaties administered by WIPO can be found at the WIPO website (<http://www.wipo.org/eng/iplex/index.htm>). This website includes ratification information (<http://www.wipo.int/eng/ratific/index.htm>). WIPO is also involved in collecting the intellectual property



laws of its member states (more on this below in the section on foreign law). WIPO publishes compilations of laws and treaties:

- Industrial property laws and treaties. (Geneva: WIPO, 1978 updated)
- Intellectual property laws and treaties. (Geneva: WIPO, 1998-current)

Other WIPO agreements regarding distribution of multimedia information include:

- Rome Convention, 1961 International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations (26th October 1961)
- Geneva Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms (29th October 1971)

The WIPO Copyright Treaty (WCT) has been published in 1996.

WIPO offers an on-line collection of foreign laws translated at: <http://clea.wipo.int/>

The WTO, the World Trade Organisation, and the WIPO are working together. There is an Agreement between the World Intellectual Property Organisation and the World Trade Organisation (<http://www.wto.org/wto/intellect/17-wipo.htm>) where WIPO agrees to facilitate the WTO implement TRIPs. The WTO Trade-Related Aspects of Intellectual Property Rights Agreement (TRIPs), is the first international agreement requiring all WTO members to enact and apply a comprehensive set of laws to protect intellectual property rights. TRIPs covers a wide area, including copyright, trademarks, geographic indications, industrial designs, patents and semiconductor topographies. It includes binding disciplines on the provision of custom authorities and of civil, administrative and criminal procedures to support their enforcement.

In May 2000 WIPO has published a Primer on Electronic Commerce and Intellectual Property, that addresses the main issues of e-Commerce, as they impact upon intellectual property, and the role of intellectual property in facilitating e-Commerce. The Primer focuses on the traditional fields of intellectual property (copyright, trademark, patent, etc.), as well as the particular challenges that face developing countries in engaging in e-Commerce. The Primer outlines some of the steps that WIPO is taking to address these issues and challenges.

This Primer on Electronic Commerce and Intellectual Property Issues is part of WIPO's ongoing mandate to examine the evolving relationship between electronic commerce and intellectual property.

Chapter I focuses on the new digital phenomena that comprise electronic commerce, providing definition to the term as well as general background on its scope and growth.

Chapter II provides an introduction to a series of issues –electronic contracts, jurisdiction and applicable law, and enforcement – that have broad implications beyond the immediate precincts of intellectual property.

Chapter III addresses the impact of electronic commerce on intellectual property, namely, copyright and related rights, patents, and trademarks and unfair competition, as well as some of the responses that have developed to date. The Chapter also includes a topic that has become integral to any discussion of intellectual property and digital networks: domain names and their relationship to trademarks.

Chapter IV examines the issues as they relate to developing countries, such as the disparities in infrastructure development, the different levels of awareness, and the resulting differential levels of participation in electronic commerce and ability to benefit from intellectual property. It also discusses the opportunity that awaits those developing countries that undertake to facilitate the development of electronic commerce for their constituents, and highlights WIPO's initiatives in this regard.

Chapter V discusses progress being made toward the electronic delivery of intellectual property services by WIPO, focusing in particular on the implementation of the WIPOnet and other systems being developed for the administration and delivery of WIPO's services. While these activities may not be considered electronic commerce *per se*, similar conceptual approaches and technical systems are being used to bring networked access to intellectual property services.

Chapter VI closes with the WIPO Digital Agenda, a set of guidelines and goals first outlined by the Director General of WIPO at the International Conference on Electronic Commerce and Intellectual Property in September 1999.

Source: <http://ecommerce.wipo.int/primer/introduction.html>



3.3.2 UNCITRAL

The United Nations Commission for International Trade Law (UNCITRAL) (<http://www.uncitral.org>) , which was established by the General Assembly in 1966, is the active catalyst for some of the most significant work in the progressive harmonization of private international law. The UNCITRAL site contains primary documents and status information about established instruments such as the United Nations Convention on Contracts for the International Sale of Goods (CISG). The work of UNCITRAL is furthered through specialized working groups. There is also one Working Group on Electronic Commerce (http://www.uncitral.org/english/workinggroups/wg_ec/index.htm).

3.3.3 UNIDROIT

UNIDROIT (<http://www.unidroit.org/>), the International Institute for the Unification of Private Law, traces its origins to the League of Nations and is today an autonomous international organisation active in the harmonization of private international law. One of the best-known accomplishments of UNIDROIT in recent years is creation of the UNIDROIT Principles of International Commercial Contracts (<http://www.unidroit.org/english/principles/pr-main.htm>).

3.3.4 Hague Conference on Private International Law

The Hague Conference on Private International Law (<http://www.hcch.net/>), which traces its origins to a 1893 conference convened by the Government of the Netherlands, is active in the development of conventions in various areas of private law, addressing topics ranging from traditional topics such as conflict of laws and judicial assistance to contemporary issues such as inter-country adoption and child abduction.

3.3.5 International Commercial Arbitration

International commercial arbitration is recognized as an important component of private international law, largely through the wide acceptance of the 1958 "New York" Convention on the Recognition and Enforcement of Foreign Arbitral Awards. International commercial arbitration may either be "ad hoc" pursuant to the UNCITRAL Arbitration Rules, or "institutional", following the rules of arbitration promulgated by private organisations such as the International Chamber of Commerce (ICC), the American Arbitration Association (AAA), or the LCIA, inter alia.

The International Court of Arbitration of the ICC (http://www.iccwbo.org/index_court.asp) is a major source of expertise in international commercial arbitration.

The American Arbitration Association (<http://www.adr.org>) is the primary private arbitral authority in the United States.

3.4 Private International Law in the United States

The State Department Office of the Assistant Legal Adviser for Private International Law (L/PIL) has primary responsibility for coordinating US efforts in the development of private international law. Practitioners, corporate counsel, scholars, and government attorneys participate in the private international law harmonization process through membership in the Secretary of State's Advisory Committee on Private International Law, specialized study groups, and delegations to UNCITRAL, UNIDROIT, the Hague Conference, and the OAS Inter-American Conferences on Private International Law (CIDIP). L/PIL draws heavily on the private sector for sector expertise and works closely with the National Conference of Commissioners on Uniform State Laws (NCCUSL) (<http://www.nccusl.org/>) and members of the American Law Institute (ALI) (<http://www.ali.org/>), among others.

Rather than joining the Bern Convention, the United States lobbied for the Universal Copyright Convention. The United States became a member of the UCC in 1955. The Copyright Act of 1976 brought several important features of the Bern Convention into U.S. law, including relaxed standards on the formalities of copyright registration, deposit, and notice, and new provisions that extended the duration of copyright protection to the Bern minimum of the author's life plus fifty years. Finally, when the US had to realize that refusing to join the Bern Convention resulted in eroding its position in



reaching other trade agreements concerning intellectual property they became a party to the Bern Convention at the beginning of 1989.

The author's right in the US and Canada lasts for 50 years after his death and 75 years after the publication. This is shorter compared to the European Community.

4 The Legal Framework in the European Union Environment

4.1 Introduction

The European Union is seeking to forge ever closer links between the States and peoples of Europe, to ensure economic and social progress.

The internal market comprises an area without internal frontiers in which the free movements of goods, services and the freedom of establishment are ensured; the development of information society services within the area without internal frontiers is vital to eliminating the barriers which divide the European peoples

The challenge posed by global competition, the changing business environment in the information society, and the crucial importance of information and communication technologies for the competitiveness of European industry (and thus for the creation of new employment) justify the need for a favourable legal and regulatory framework for all European companies in the EU environment.

The proper functioning of the internal market (EU) must be improved. The increasing share of services in the economy, the provision and free circulation of services - especially new ones (in the areas of electronic commerce and multimedia content) - is of particular importance to be regulated by a strong legal framework.

Legal Framework for REGNET Project is centred on these aspects:

- Internal Market.
- Intellectual Protection Law and Heritage Protection.

The European Union has been active in passing legislation on intellectual property. The *Directory of Community Legislation in Force*, available on the web, has a listing of all Community legislation on intellectual property (http://europa.eu.int/eur-lex/en/lif/reg/en_register_1720.html) - with links to the full-text of some legislation. The administration of Community law is the responsibility of the Directorates General ("DG") of the Commission. The DG handling intellectual property is DG XV, the DG for the Internal Market (http://europa.eu.int/comm/internal_market/en/index.htm).

The intellectual property related legislation of the European Union is found in the CLEA database (<http://clea.wipo.int/>) under European Community. The Legal Advisory Office website (<http://www2.echo.lu/legal/en/ipr/ipr.html>) has news about current developments among EU countries with regard to intellectual property, as well as links to legal documents

4.2 Internal Market

4.2.1 E-Commerce

The Directives in this sense have the purpose of ensuring a high level of Community legal integration in order to establish a real area without internal borders for information society services.

The objective is to create a legal framework to ensure the free movement of information society services between Member States and not to harmonize the field of criminal law as such.

Information society services span a wide range of economic activities which take place on-line; these activities can, in particular, consist of selling goods on-line; activities such as the delivery of goods as such or the provision of services off-line are not covered; information society services are not solely restricted to services giving rise to on-line contracting but also, in so far as they represent an economic activity, extend to services which are not remunerated by those who receive them, such as those offering on-line information or commercial communications, or those providing tools allowing for



search, access and retrieval of data; information society services also include services consisting of the transmission of information via a communication network, in providing access to a communication network or in hosting information provided by a recipient of the service.

The place at which a service provider is established should be determined. The place of establishment of a company providing services via an Internet website is not the place at which the technology supporting its website is located or the place at which its website is accessible but the place where it pursues its economic activity; in cases where a provider has several places of establishment it is important to determine from which place of establishment the service concerned is provided; in cases where it is difficult to determine from which of several places of establishment a given service is provided, this is the place where the provider has the centre of his activities relating to this particular service. The definition of "recipient of a service" covers all types of usage of information society services, both by persons who provide information on open networks such as the Internet and by persons who seek information on the Internet for private or professional reasons.

Information society services should be supervised at the source of the activity, in order to ensure an effective protection of public interest objectives; to that end, it is necessary to ensure that the competent authority provides such protection not only for the citizens of its own country but for all Community citizens. Moreover, in order to effectively guarantee freedom to provide services and legal certainty for suppliers and recipients of services, such information society services should in principle be subject to the law of the Member State in which the service provider is established.

The sending of unsolicited commercial communications by electronic mail may be undesirable for consumers and information society service providers and may disrupt the smooth functioning of interactive networks; the question of consent by recipient of certain forms of unsolicited commercial communications is not addressed by this Directive, but has already been addressed, in particular, by Directive 97/7/EC and by Directive 97/66/EC; in Member States which authorise unsolicited commercial communications by electronic mail, the setting up of appropriate industry filtering initiatives should be encouraged and facilitated; in addition it is necessary that in any event unsolicited commercial communications are clearly identifiable as such in order to improve transparency and to facilitate the functioning of such industry initiatives; unsolicited commercial communications by electronic mail should not result in additional communication costs for the recipient.

This Directive complements Community law applicable to information society services without prejudice to the level of protection for, in particular, public health and consumer interests, as established by Community acts and national legislation implementing them in so far as this does not restrict the freedom to provide information society services.

In addition to other information requirements established by Community law, Member States shall ensure that the service provider shall render easily, directly and permanently accessible to the recipients of the service and competent authorities, at least the following information:

- (a) the name of the service provider;
- (b) the geographic address at which the service provider is established;
- (c) the details of the service provider, including his electronic mail address, which allow him to be contacted rapidly and communicated with in a direct and effective manner;
- (d) where the service provider is registered in a trade or similar public register, the trade register in which the service provider is entered and his registration number, or equivalent means of identification in that register;
- (e) where the activity is subject to an authorisation scheme, the particulars of the relevant supervisory authority;

In addition to other information requirements established by Community law, Member States shall at least ensure that, where information society services refer to prices, these are to be indicated clearly and unambiguously and, in particular, must indicate whether they are inclusive of tax and delivery costs. Member States shall ensure that the taking up and pursuit of the activity of an information society service provider may not be made subject to prior authorisation or any other requirement having equivalent effect.

Placing of the order

1. Member States shall ensure, except when otherwise agreed by parties who are not consumers, that in cases where the recipient of the service places his order through technological means, the following principles apply:



- the service provider has to acknowledge the receipt of the recipient's order without undue delay and by electronic means,

- the order and the acknowledgement of receipt are deemed to be received when the parties to whom they are addressed are able to access them.

2. Member States shall ensure that, except when otherwise agreed by parties who are not consumers, the service provider makes available to the recipient of the service appropriate, effective and accessible technical means allowing him to identify and correct input errors, prior to the placing of the order.

3. Paragraph 1, first indent, and paragraph 2 shall not apply to contracts concluded exclusively by exchange of electronic mail or by equivalent individual communications.

No general obligation to monitor

1. Member States shall not impose a general obligation on providers, when providing the services covered by Articles 12, 13 and 14, to monitor the information which they transmit or store, nor a general obligation actively to seek facts or circumstances indicating illegal activity.

2. Member States may establish obligations for information society service providers promptly to inform the competent public authorities of alleged illegal activities undertaken or information provided by recipients of their service or obligations to communicate to the competent authorities, at their request, information enabling the identification of recipients of their service with whom they have storage agreements.

The eCommerce directive, Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce'), entered into force June 5, 2000 after being published in the Official Journal. Member States have to implement the directive into their national laws by January 17, 2002.

The European Union member states are currently implementing the eCommerce Directive into their national laws.

4.2.2 Electronic Signature

Definition. Electronic signature means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication.

Electronic communication and commerce necessitate "electronic signatures" and related services allowing data authentication.

A clear Community framework regarding the conditions applying to electronic signatures will strengthen confidence in, and general acceptance of, the new technologies; legislation in the Member States should not hinder the free movement of goods and services in the internal market;

The purpose of the Directives in this sense, is to facilitate the use of electronic signatures and to contribute to their legal recognition. It establishes a legal framework for electronic signatures and certain certification-services in order to ensure the proper functioning of the internal market. It does not cover aspects related to the conclusion and validity of contracts or other legal obligations where there are requirements as regards form prescribed by national or Community law nor does it affect rules and limits, contained in national or Community law, governing the use of documents.

Electronic signatures will be used in a large variety of circumstances and applications, resulting in a wide range of new services and products related to or using electronic signatures, such as registration services, time-stamping services, directory services, computing services or consultancy services related to electronic signatures.

The legal recognition of electronic signatures should be based upon objective criteria and not be linked to authorisation of the certification-service-provider involved; national law governs the legal spheres in which electronic documents and electronic signatures may be used;

This European framework about electronic signature is without prejudice to the power of a national court to make a ruling regarding conformity with the requirements of this Directive and does not affect national rules regarding the unfettered judicial consideration of evidence.



Requirements for qualified certificates. They must contain:

- (a) an indication that the certificate is issued as a qualified certificate;
- (b) the identification of the certification-service-provider and the State in which it is established;
- (c) the name of the signatory or a pseudonym, which shall be identified as such;
- (d) provision for a specific attribute of the signatory to be included if relevant, depending on the purpose for which the certificate is intended;
- (e) signature-verification data which correspond to signature-creation data under the control of the signatory;
- (f) an indication of the beginning and end of the period of validity of the certificate;
- (g) the identity code of the certificate;
- (h) the advanced electronic signature of the certification-service-provider issuing it;
- (i) limitations on the scope of use of the certificate, if applicable; and limits on the value of transactions for which the certificate can be used, if applicable.

4.3 Intellectual Property Law and Heritage Protection

4.3.1 Copyright Protection

The Directives provide for the establishment of an internal market and the institution of a system ensuring that competition in the internal market is not distorted. Harmonization of the laws of the Member States on copyright and related rights contributes to the achievement of these objectives.

They concern the legal protection of copyright and related rights in the framework of the internal market, with particular emphasis on the information society.

Moreover it shall leave intact and shall in no way affect existing Community provisions relating to:

- (a) the legal protection of computer programs;
- (b) rental right, lending right and certain rights related to copyright in the field of intellectual property;
- (c) copyright and related rights applicable to broadcasting of programs by satellite and cable retransmission;
- (d) the term of protection of copyright and certain related rights;
- (e) the legal protection of databases.

Rights and exceptions

- *Reproduction right*

Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part:

- (a) for authors, of their works;
- (b) for performers, of fixations of their performances;
- (c) for phonogram producers, of their phonograms;
- (d) for the producers of the first fixations of films, in respect of the original and copies of their films;

- *Right of communication to the public of works and right of making available to the public other subject-matter*

1. Member States shall provide authors with the exclusive right to authorise or prohibit any communication to the public of their works, by wire or wireless means, including the making available



to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them.

2. Member States shall provide for the exclusive right to authorise or prohibit the making available to the public, by wire or wireless means, in such a way that members of the public may access them from a place and at a time individually chosen by them:

- (a) for performers, of fixations of their performances;
- (b) for phonogram producers, of their phonograms;
- (c) for the producers of the first fixations of films, of the original and copies of their films;
- (d) for broadcasting organisations, of fixations of their broadcasts, whether these broadcasts are transmitted by wire or over the air, including by cable or satellite.

3. The rights referred to in paragraphs 1 and 2 shall not be exhausted by any act of communication to the public or making available to the public as set out in this Article.

- *Distribution right*

1. Member States shall provide for authors, in respect of the original of their works or of copies thereof, the exclusive right to authorise or prohibit any form of distribution to the public by sale or otherwise.

2. The distribution right shall not be exhausted within the Community in respect of the original or copies of the work, except where the first sale or other transfer of ownership in the Community of that object is made by the right holder or with his consent

Obligations as to technological measures

Member States shall provide adequate legal protection against the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products or components or the provision of services which:

- (a) are promoted, advertised or marketed for the purpose of circumvention of, or
- (b) have only a limited commercially significant purpose or use other than to circumvent, or
- (c) are primarily designed, produced, adapted or performed for the purpose of enabling or facilitating the circumvention of any effective technological measures.

4.4 European contract law

The European Commission has just started an initiative to find out whether the divergences of national contract laws obstruct the functioning of the Internal Market and if so, to what an extent. For example lack of knowledge of other contract law regimes might be a disincentive against cross-border transactions for SMEs and consumers.

Therefore the European Commission has adopted a Communication launching a broad debate on problems for the functioning of the Internal Market resulting from the divergence of national contract laws and on the need for further-reaching Community action in this area. It would in particular like to examine whether the existing approach of sector harmonisation is able to solve all problems which can arise. In addition the Commission is seeking information on potential practical problems for the uniform application of Community and national contract law across the European Union. Such problems can hinder business and consumers in fully exploiting the potential of the Internal Market and may mean that they do not have access to the same legal rights and economic chances across borders that Community legislation is intended to offer them. The Communication sets out four different options for improvement and is intended to form the basis for a broad consultation of business interests, legal practitioners, consumer groups and academics over the coming months. It is a joint initiative of Commissioners David Byrne, António Vitorino, Frits Bolkestein and Erkki Liikanen and follows requests for action from both the European Parliament and the European Council.

The four options for discussion are:

- to let market forces deal with any problems that may exist;



- to identify the elements common to most national contract law rules and to use them as guidelines for national legislators when drawing up legislative initiatives, national courts and arbitrators in their decisions and contractual parties in drafting their contracts;
- to review and amend all relevant legislation in view of its simplification and of improving its quality;
- to create a new legal instrument at Community level which could, for example, be an optional model chosen by the contractual parties or a safety net of fallback provisions in case parties have not foreseen a solution for an eventual problem in the contract.

The full text of the Communication is available at: http://europa.eu.int/comm/off/green/index_en.htm; contributions to the debate should be sent before 15 October 2001 to: European-Contract-Law@cec.eu.int.

The Communication will be discussed by the European Parliament in autumn 2001. It will be also on the agenda of the Internal Market/Consumer affairs Council on 26 November and the Justice and Internal Affairs Council on 67 December 2001. The European Council in Laeken is expected to take a decision as to the follow-up of the Communication.

Source: http://europa.eu.int/comm/dgs/health_consumer/library/press/press167_en.html

5 The Legal Framework in the CEE Environment in Reference to EU Standards

5.1 Introduction

Both, organisations and individuals operate in the field of the Culture Heritage. They cover activities as:

- art creation;
- distribution;
- sellers;
- presentation and dissemination;
- critics and special editions;
- property right control;
- museums and galleries;
- users/consumer needs.

The aim of this analysis is to estimate peculiarities which exist on the national level and which can influence the international negotiations in the field of Cultural Heritage.

5.2 Harmonization of the Legislation with EU directives

The national legislation in the CEE countries is harmonized according to requirements, insisted by the European Union Authorities. The intellectual property rights are protected with copyright law, which is conformed with the following international documents:

- Council Directive 91/250/EEC of 14 may 1994 on copyright protection of computers programs;
- Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and certain rights, related to copyright;
- Council Directive 93/83/EEC on 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission;
- Council Directive 93/98/EEC on 29 October 1993 on harmonization the terms of the copyright protection and the neighbouring rights;
- Council Directive 96/9/EEC on 11 mars 1997 of Council of Europe on copyright protection of data bases;



Additionally the national legislation is in harmonization with international approved and ratified agreement and conventions, which are for the area of Culture as follows:

- Bern convention on protection of the literature and the artworks;
- The Universal Copyright Convention about the intellectual property rights;
- Rome Convention on protection of artist performance, producers, recording and broadcasting organisations;
- Geneva Convention on protection of audio recording organisations and their database records;
- Convention for the establishment of the World Organisation for Intellectual Property Rights (WOIPR);
- Ratified agreement with WOIPR on copyright protection;
- Ratified agreement with WOIPR about broadcasting audio records.

This suite of international ratified and/or approved documents explicitly is related to the national legislation. Thus the National legislation on CEE basis is harmonized with the European Union standards.

The Russian Federation

The Russian Federation is a member of the Bern and the Universal Copyright Convention. In its capacity as a legal successor to the Soviet Union, Russia has been a signatory to the Universal Copyright Convention since May 27, 1973 (the 1952 treaty) and the Bern Convention since March 9, 1995 (the 1971 treaty). Moreover, since March 13, 1995, Russia has been a member of the Convention for the Protection of the Interests of Soundtrack Producers; and since May 27, 1974, a member of the Convention for the Distribution Of Satellite Transmitted Program Signals.

The USSR as early as July 14, 1967 joined the founding convention of the World Intellectual Property Organisation (WIPO).

5.3 Strategic Directives: Towards e-Europe/e-Europe+

At the European Ministerial conference held in Warsaw on 11-12 May 2000, the candidate countries recognized the strategic goals agreed at the Lisbon European council and undertook to take up the challenge set by the EU Member States by developing their own eEurope-like Action Plan – eEurope+ - that would adopt all the strategic goals and objectives of eEurope, but contain their own specific national measures and target dates.

http://europa.eu.int/comm/enlargement/pas/ocp_index.htm

Source: <http://europa.eu.int/ISPO/ecommerce/>

5.4 Intellectual Property Rights

The intellectual propriety rights of the artists are preserved by the legislation. The intellectual rights and the control of their preservation are stated in the "Law of intellectual propriety rights", Pro., SG, No56/29.7.1993, amendments SG, No63/1994, SG, No 10/1998, SG, No 28/2000 and SG, No 107/2000.

This law regulates all matters related to the acquisition and loss of intellectual propriety rights, concerning the works of literature, science and arts. Intellectual objects, which are regarded by the law, are:

§ 3

- (1) works on literature, sciences, including technical sciences, computer programs,
- (2) music works,
- (5) works of fine arts, design, folk arts.



The intellectual propriety rights are acquired by individual as a result of his creative work and by making the artefact with appropriate mark, sign, name (§ 5).

The author is the leader of the copyrights of the artefact. He can sell it and allow use of other people.

5.4.1 Property Rights

§ 20

- (1) For second time selling and every next sell of the artefact, the author possess copyrights assessed to 5% of the selling price, if something different is not stipulated.
- (2) The reseller or the distributor must inform the author in two months period about the sale and have duties to pay the appropriate amount of the copyrights, according to §20(1). The payment can be performed directly to the author or by the organisation , engaged in controlling the intellectual copyrights.

5.4.2 Duration of the Property Rights

§27

The duration of the copyrights is while the author live and 70 years after his dead.

5.4.3 Inheritance of the Property Rights

§32

- (3) After the dead of the author, the inheritors possess the copyrights of the artefact till the end of the copyright duration (§27).

The management and the protection of the intellectual property rights can be performed collectively by the authors (§40). Such organisation must be registered as non-profit organisation. The last will negotiate the use of the artefact, created by the authors and to distribute the payments to his members.

Such an organisation, affiliated to the Union of Bulgarian Artists is IZA-ART agency. It was established in 1994 and has been registered by the Ministry of Culture. The agency is the sole association entitled to manage and to protect the copyrights in the field of fine arts for Bulgarian residents or for foreign artists, working and staying in Bulgaria. The IZA-ART Agency is affiliated to the UBA since 1997. The agency has been in charge in issuing the Tariff for the Compensation of Creative Works for 2000. This Tariff was registered in front of the State Commission of Trade and Consumers Protection as well as in front of the Ministry of Culture. Now IZA-ART gathers more than 250 members. The agency prepares and deals contracts with artists' Union, publishing houses, and advertising agencies on National area. The membership in the agency is individual. The collective protection of copyright is performed after signing a contract between the author and the agency.

The "Law of Intellectual Property Rights" is in concordance with the European Union Standards. This has been done by the amendments from 1998 and 2000.

6 The REGNET partnership model

6.1 Partnership model based on AMICO

REGNET aims at setting up a network of cultural service centres throughout Europe: a distributed database network accessible through a portal and sub-network organisation of regional poles. Service centre operators and system developers will provide the technical and service infrastructure for organisations and users in the field of Cultural Heritage, Leisure and Tourism, Education and Publishing.

A legal framework will also be developed to define and establish a set of agreements at an international level to handle contractual issues among the various stakeholders involved. The network

will integrate multimedia industries, content providers and service centre operators, exploiting existing cultural infrastructures and developing new ones where necessary.

The concept of a cultural service centre draws on the MOSAIC project and, as can be clearly seen from the diagram below, the networked organisational model to be evaluated is an extension and a variation on the existing - and successfully applied - AMICO model.

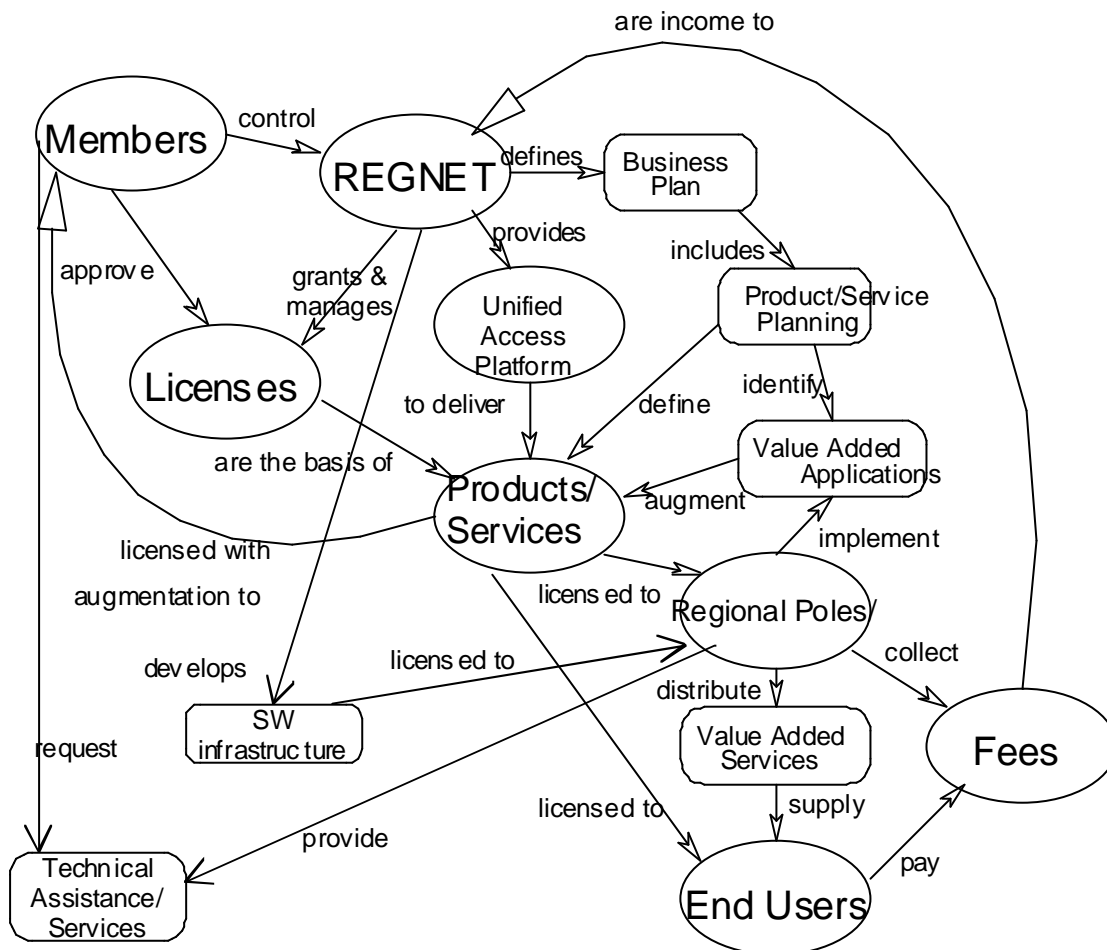


Figure 7: The REGNET partnership model based on AMICO

The Members include public and private CH institutions such as Museums, Art Galleries, Archives, Libraries and other cultural content providers/creators, who provide the content for the eventually enhanced products and services of the network. They participate in the global control of REGNET and grant and approve licences for their products and services. The control exercised by Members will be determined once the legal framework for REGNET has been decided: at which point a membership statute can be drawn up.

REGNET functions as a unified access point and through its portal (currently <http://www.regnet.org>), end users, whether individuals or organisations, have direct access to all of REGNET's personalized and interactive products and services. Products and services delivered through the unified access platform are also licensed to Regional Poles which can supply their end users with value-added services, distinguishing their offer from the basic standard offer available through the portal.

The fees from Licences approved by Members and managed by REGNET will constitute an important source of income sustaining REGNET operation. Users will be able to sign licensing agreements



tailored to their specific needs (educational or commercial) either directly through REGNET or through the Regional Poles.

REGNET will also have the responsibility of defining and regularly updating the overall Business Plan, carrying out market analysis, identifying present and future market segments, marketing and pricing products and services, identifying potential competitors, assessing risks, and compiling revenue projections. Product/Service Planning will identify the Value Added Applications which can augment Products and Services, which can be licensed to Regional Poles implementing these value-added elements, as well licensed with augmentation to Members.

The Products / Services and Value Added Applications may range from access to facilities for multimedia productions and database management, access to electronic catalogues, data entry, search and retrieval, personalized cultural information, interactive multimedia tools for educational and edutainment uses, e-loans, e-commerce in physical and digital items, online auctions, virtual exhibition tools, services for tourism and leisure (e.g. online ticketing), to eforums and discussion groups.

Alongside the licensed products and services, REGNET will be responsible for developing and providing (under licence) both the Regional Poles and Members with the SW infrastructure and technical solutions needed for a seamless integration of the network architecture and to enable e-business processes to take place. The technical infrastructure would enable even low cost service centres to be set up.

The service centres represented by Regional Poles will play a key role in terms of their multiple functions. As distributors/value-added resellers they will distribute and supply End Users with Value Added Services, as well as collect Fees paid, generating income for the REGNET organisation. They will also constitute language and user-friendly access points within each region to the system as a whole, whether in terms of business processes, licensing issues or IT consultancy. They would be in a privileged position to enrol small institutions or concerns lacking IT staff by giving assistance in terms of project management and setting up databases. They would be able to cater directly to a known environment and audience, providing access through an interface meeting their audience's needs and adding value to services appropriately tailored for the specific communities of users.

A further function of Regional Poles will be that of providing Members with Technical Assistance/Services as requested. These services could range from customised collection management, mapping into CIMI profiles, standards, data enhancement services (e.g. Watermarking, subject indexing, metadata augmentation, mark-up to SGML), to data hosting.

The role played by Regional Poles as autonomous actors handling regionally distributed databases constitutes the main difference with the AMICO operational model. They are not equivalent to the "Distributors" in the AMICO model in so far as that they are not just commercial players, but also, regional added value providers. AMICO is a centralized organisation, whereas REGNET is centralized only in terms of strategy and from a legal point of view. The concept of effectively autonomous regional actors and regionally distributed databases in the REGNET model leads to a conceptually different organisational model, whilst retaining certain features in common.

6.2 The SCRAN licensing model

Regarding models for licensing the SCRAN project (<http://www.scran.ac.uk>) - the Scottish Cultural Resources Access Network - has been investigated.

SCRAN represents a well-developed online licensing model in the cultural field. As a centrally coordinated network of digitised resources collated from a number of participating organisations accessible through a central portal, it is of clear relevance to REGNET.

The Scottish Cultural Resources Access Network (SCRAN) was founded by a partnership of the National Museums of Scotland, the Royal Commission on the Ancient and Historical Monuments of Scotland and the Scottish Museums Council in July 1996. SCRAN works with partners such as public, academic and national libraries, museums, galleries, archives and universities, collating and digitising selected parts of their collections, funding and managing the cultural content, and making it available online.



Their Advisory Board is composed of professional people from the Educational, Industrial and Technical sectors, setting up strategies according to perceived curriculum needs, market trends and technological possibilities.

SCRAN is also a member of the Scottish Steering Group for the UK's National Grid for Learning (NGfL) and features in the Virtual Teaching Centres for Scotland, England, Wales and Northern Ireland. It also chairs the UK Metadata for Education Group, which is harmonising standards for educational content between NGfL, the University for Industry and the New Library Network.

SCRAN's principal aim is education. Its mission is to foster the advancement of education through public access to cultural resources and related material, as well as build a networked multimedia resource base for the study and celebration of Scotland's cultural resources. Its searchable resource base currently contains over half a million records and is targeted to reach one million online text records and 120,000 multimedia resources by August 2001.

At present it has something like an 80% share of the Scottish educational market and is expanding into the UK market as a whole. In May 2001 it entered into a collaborative agreement with AMICO (Art Museum Image Consortium) to share knowledge and expertise in the networked delivery of cultural heritage, and in the future it plans to extend its user base beyond educational institutions by entering the commercial picture library market.

Digitised assets contributed to SCRAN are governed by a licence agreement protecting the contributors' rights. Within the licensing model, the contributor retains commercial rights, providing SCRAN perpetual, non-exclusive, worldwide right to non-profit, educational use. Unrestricted access to copyright cleared material is then made available to subscribing bodies, who pay an annual licence fee, allowing access free at the point of use for educational purposes. Users have the non-exclusive, non-transferable, institutional right to non-profit, non-proliferation, educational use of material.

Licence agreements with subscribing bodies are entered into by SCRAN IT Limited, the wholly owned trading subsidiary of SCRAN. SCRAN IT Limited employs all the staff and is liable for all overheads. SCRAN IT Limited derives further income from third party sales of CD ROMS and other services. Organisations wishing to use SCRAN images for commercial purposes must sign a Commercial Licence Agreement, for which an annual licence fee of £150 (+VAT) is charged.

Basic text and thumbnail images are available to everyone accessing their web site and licensed users are provided with enhanced text, tools, and extra facilities such as full size images, audio and video. The material may be downloaded for educational, personal and commercial use. As SCRAN's aim is primarily education, licensed educational users gain enhanced access and all materials can be downloaded copyright cleared, meaning that students and teachers can create reports, worksheets or even multimedia using any assets from the resource base.

Specific education sections include: educational news, worksheets, teaching packs, resource packs, and access to resource packs specifically designed to help teachers to deliver the national curriculum. They also produce a catalogue of resources, which is handled by Scottish Book Source, who are responsible for distribution and who keep the stock in their own warehouse.

SCRAN customers pay an annual licence fee, which funds the maintenance of its service. Multi-user licences are only conferred through the annual licence. At present charging is on a sliding-scale of payments for licensed access to material, with educational institutions paying the lowest charges. A licence allows users to access and use large size images and full text resources, as well as fully operational video and audio files.

The SCRAN licence scheme is available for individuals and organisations with fees based on how they use the resources. Once they become licence holders, they receive a unique username and password giving full access to the records available. In terms of prices, at the moment SCRAN applies reasonably low prices. They range from £25 a year for individuals up to £2000 for a large Higher Education Institute for a five-year commitment period where product documentation, discussion lists and 20 training sessions are included in the price.

The SCRAN licence model has allowed SCRAN to provide licences to a wide range of institutions throughout the UK including primary and secondary schools, colleges and universities, libraries and museums, corporate bodies and design houses and Government Departments.

In terms of marketing, SCRAN uses a direct targeted approach, with early adopter rates and trial offers. Advertising is used sparingly in publications used by the market segments. They also place



editorials in a range of magazines and other publications, often allied with discount offerings and product reviews. There is also a range of launches, presentations to client groupings and training sessions including marketing materials.

The backbone of funding for SCRAN has come from the UK's Millennium Commission and is due to end this year. SCRAN aims to continue as a self-financing organisation, using its licence income to fund ongoing costs. However, there is the need to pursue other sources of grant funding to allow the development of the resource base to continue. There is also the need to further penetrate the Scottish educational market and the need to increase the level of commercial income to allow further re-investment.

The further grant funding seems likely to come from bodies such as the New Opportunities Fund and the Scottish Executive. There is also a plan to attract soft venture capital to provide the opportunity to address the market for SCRAN's services amongst the general public. A combination of grant funding and commercial income should allow them to go beyond a minimum level of service maintenance and expand the resource base and develop new markets.

SCRAN has been successful in attracting and servicing licence holders from its core educational market in Scotland. A recent independent survey of users provided very positive feedback with 90% satisfied with ease of use, 80% confirming their satisfaction with products and services and 78% agreeing that the service provided a very valuable resource. SCRAN is also planning to take on additional staff and move to larger premises. The marketing budget has been increased in line with the need to develop more business and an on-line shop has been developed.

7 Synopsis of Agreements and Recommendations

7.1 Membership Agreements for Cultural Organisations

Below a draft REGNET Membership Agreement for Cultural Organisations is presented. In its current form is based on general indications by the Task Leader and no discussion about its content has been carried out, yet, with representatives of Cultural Organisations within the REGNET consortium, for lack of time.

As it is not in a legally verified/compliant form, and it is proposed only as a way to start discussion about the terms of the agreement, only the key articles are outlined.

Key articles

Scope of agreement

The Agreement will set forth terms and conditions under which cultural organisations (mainly Museums, Libraries and Archives) may receive access to and use the REGNET system.

Purpose of REGNET

REGNET encompasses a functional network of cultural service centres through Europe providing IT-services dedicated to cultural heritage organisations. The REGNET system has defined a technical and legal framework for such a service infrastructure.

The REGNET organisation, through associated service centres (the Regional Poles), offers services like data entry, search and retrieval, and e-Business.

REGNET is a non-profit enterprise. The purpose of REGNET is to assist its Members in:

- building and maintaining a distributed European Digital Library of visual and documentary resources documenting works of art;
- achieving a critical mass of digital or physical goods to be promoted through the REGNET portal;
- enabling them trading services/products to be offered and sold on-line through its eBusiness infrastructure.

Definitions

"REGNET System" means data, programs, standards, methods, processes, reports, instructions, materials, trade secrets, know-how or other information, whether or not reduced to writing or



computer software, belonging to the REGNET organisation and put in place for the deployment of the REGNET service infrastructure.

“REGNET Cultural Organisation Agreement” means the Agreement under which REGNET establishes the eligibility, rights and obligations of a cultural organisation to subscribe to and use the REGNET System, as provided by a Regional Pole.

“Regional Pole” means an organisation authorised by REGNET to provide access to and support services for the REGNET System.

“Designated User” means any person authorised to receive access to and is allowed to use the REGNET System under the terms and conditions of this Agreement.

“Cultural Organisation” means an organisation with a mission to collect, preserve and interpret culture through exhibitions which are open to the public.

“Cultural Organisation Subscriber” means a Cultural Organisation authorised by REGNET to receive access to and is allowed to use the REGNET System, through a Regional Pole, under the terms and conditions of this Agreement.

REGNET Cultural Organisation Membership

By completing enrolment and by accepting all of the terms and conditions of this Agreement, a qualified Cultural Organisation becomes a REGNET Member, entitled to all of the benefits of and subject to all of the responsibilities of Members.

The policies and procedures governing the qualifications, rights and obligations of Members are established by the Board of Directors of REGNET. Continued acceptance of all the terms and conditions is a condition of this REGNET Cultural Organisation Membership.

Intellectual Property

REGNET Rights.

The REGNET System, and all other allied materials related to the REGNET System are protected under EU copyright law and other applicable intellectual property and proprietary information laws.

The mark, REGNET, and other marks and trade-names used to identify the REGNET System and Organisation are or shall be protected by EU trademark law and other laws. Cultural Organisation Subscriber hereby acknowledges that REGNET is the sole and exclusive owner of the rights described in REGNET Cultural Organisation Agreement

Grant of Rights.

REGNET hereby grants to the Cultural Organisation Subscriber a non-exclusive, non-transferable, limited license to use the REGNET System for purposes to Designated Users under the terms of this Agreement.

REGNET hereby grants to the Cultural Organisation Subscriber a non-exclusive, non-transferable, limited license to use the REGNET mark to promote the use of the REGNET System within its Designated User community.

All other uses of the REGNET System, related REGNET materials, and the REGNET Mark requires the permission of or a separate license from REGNET.

Users

Designated Users.

Cultural Organisation Subscriber may designate categories of users that may receive access to and use the REGNET System under the terms of this Agreement.

Cultural Organisation staff, researchers and scholars, trustees, volunteers or teachers, visitors to the Cultural Organisation facility, students in non-degree granting programs offered by the Cultural Organisation, visiting Cultural Organisation professionals and others officially affiliated with the Cultural Organisation Subscriber may become Designated Users.

Universities and other Degree Granting Institutions.



University and other degree granting institutions officially affiliated with the Cultural Organisation Subscriber may gain access to and use the REGNET System by entering into a separate REGNET University Agreement.

Use For Education, Research, and Scholarship

Permitted.

Access to and use of the REGNET System under this Agreement is exclusively for education, research and scholarship.

Designated Users may receive access to and use the REGNET System for:

- classroom instruction, public lecturing, gallery talks and similar educational interpretation,
- research,
- student assignments,
- display in a public gallery, including use in exhibit labels and other didactic components of the exhibit,
- public display or public performance as part of a professional presentation at a seminar, conference, or workshop, or other such similar professional activity);
- use in educational materials created in support of Cultural Organisation programs, provided these materials are not made available for sale or free distribution to the general public;
- use in a student or faculty portfolio, including non-public display thereof, if such use conforms to the customary and usual practice in the field; and
- incorporation into Cultural Organisation records as part of the on-going work of the Cultural Organisation (as for comparison in collection acquisition, conservation, curation).

Prohibited.

Access to and use of the REGNET System under this Agreement for any and all purposes other than education, research and scholarship is prohibited. Without express authorisation from the copyright holder, the Cultural Organisation Subscriber and Designated Users are prohibited from:

- publishing any part of REGNET System in any medium or format,
- redistributing any part of REGNET System by any means beyond the Designated User community, and
- storing any part of REGNET System, in whole or in part, beyond the term of this Agreement, unless expressly permitted.

In no event may a Cultural Organisation Subscriber or its Designated Users use any part of REGNET System, or any adaptation thereof, in a commercial or business related manner. The Cultural Organisation Subscriber, or persons acting on behalf of the Cultural Organisation Subscriber, is prohibited from using any part of REGNET System for fund-raising, marketing promotion, or public relations.

Required Notices.

Any and all publicly displayed parts of REGNET System must carry appropriate REGNET copyright notice.

Adaptations

Integrity of REGNET System.

The Cultural Organisation Subscriber must take all reasonable steps to ensure the preservation of the integrity of REGNET System. Any adaptation, alteration, addition to, deletion from, manipulation, or modification (together "adaptations") of the REGNET System, in whole or in part, must be undertaken exclusively for education, research or scholarship. The Cultural Organisation Subscriber must maintain, subject to audit by REGNET, complete and accurate records of all institutionally created or



systematic adaptations of REGNET System created under this Agreement, including a record of the specific educational, research, or scholarly purpose served by the adaptation.

8.2 Prohibited Practices.

In no event may a Designated User:

- reproduce or distribute any adaptation of an REGNET System, in whole or in part;
- publish any adaptation of an REGNET System, in whole or in part, in any medium or by any means, or
- redistribute any adaptation of an REGNET System, outside the Designated User community specified in this Agreement, in whole or in part, by any means.

Authorised Distribution.

Cultural Organisation Subscriber may receive access to the REGNET System through a REGNET Regional Pole. Designated Users may use the REGNET System at any access point that is controlled by Regional Poles' user authentication system.

Security

Every Cultural Organisation Subscriber is responsible for:

- complying with all computer security procedures required by REGNET's Regional Pole,
- monitoring, exercising control over, and certifying access to the REGNET System,
- taking all other reasonable steps to ensure the security of the REGNET System.

Cultural Organisation Policies and Procedures

Cultural Organisation Subscriber is responsible for establishing, monitoring, and enforcing controls for the proper use of the REGNET System, including:

- adopting and effectively disseminating policies and procedures governing the proper use of the REGNET System, including appropriate sanctions for knowing and wilful infringements,
- providing instruction to all Designated Users on the proper use of the REGNET System;
- fully investigating all known infringements and taking appropriate disciplinary action in cases of knowing and wilful infringements.

Unauthorised Use

Cultural Organisation's Responsibilities.

Cultural Organisation Subscriber shall not be responsible for the unauthorised use or infringement of the REGNET System by Designated Users provided that:

- Cultural Organisation Subscriber is in full compliance with the requirements of this Agreement;
- Such unauthorised use or infringement is without the consent of the Cultural Organisation Subscriber,
- Cultural Organisation Subscriber promptly notifies REGNET of any such unauthorised use or infringement of which it becomes aware;
- Cultural Organisation Subscriber takes all reasonable steps to cause such unauthorised use or infringement to cease immediately and
- the Cultural Organisation Subscriber takes appropriate disciplinary action against the Designated User. Cultural Organisation Subscriber shall co-operate fully with REGNET in any investigation of such unauthorised use or infringement.

REGNET's Rights.

REGNET shall have the sole right, at its discretion, to bring any legal action because of an unauthorised use or infringement of the REGNET System. Cultural Organisation Subscriber shall not



bring any legal action in connection with an unauthorised use or infringement without first consulting with REGNET.

Fees and Payment

Cultural Organisation Subscriber receiving access to the REGNET System through REGNET's Regional Pole is responsible for the prompt payment of all subscription fees as defined by a REGNET schedule, based on numbers of Designated Users, certified by the Cultural Organisation Subscriber. This fee, along with other applicable REGNET Cultural Organisation Agreement fees charged by the Regional Pole for provision of access, will be collected by the Regional Pole as a condition of providing that service.

7.2 Agreements and Recommendations for the Artist Sector

The business relations between the players on the market with artefacts must satisfy the peculiarities of the copyrights requirements. Shortly bellow is presented the specific recommendations, which influence the Artist sector.

- The copyright duration is relatively long. Particularly, for Bulgaria it takes 70 years after the author's dead.
- Every sell of artefact consists a share, which must be transmitted to the author or his heirs. Particularly, for Bulgaria this share is defined by the legislation as 5% of the selling price if another agreement between the seller and the author is settled.
- Each utilization of artefact must be subject to author's agreement.
- The agreement must define a time period for the utilization of the artefact. The maximal time period is fixed to 10 years. If no time period is settled in the contract, by default it is established to 3 years.
- By changing the propriety of an artefact, the new owner possesses the rights for showing and exhibiting it.

In general the sell of an artefact satisfy the normal business negotiations between buyer and seller. A sample of an agreement between the Agency of managing and protecting the Artists copyrights is given in Appendix VI.

8 Recommendations for further development and to do actions

Recommendation 1:

So far the REGNET partnership and agreement models are based on adaptations of the AMICO models: as the REGNET scope is wider than AMICO's, specific extensions have to be thought out, with special reference to the e-Business aspects.

Recommendation 2:

The roles/partnerships identified in the AMICO model are quite unwieldy even for a relatively straightforward content distribution organisation: adding extra-dimensions to the model to cope with extra aspects may require simplification of roles.

Recommendation 3:

The need to have specific agreements for Museums, Libraries and Archives is not evident at the moment: only direct discussion with representatives of these categories of Cultural Organisations within the consortium. It may result that just specific Annexes are needed rather than specific agreements.

Recommendation 4:

Intellectual Property Rights and related licensing agreements, especially when involving more than two parties and involving digital goods, tend to become of unspeakable complexity and are a major brake to practical advances: never indulge in highly sophisticated definitions or conditions!

Recommendation 5:

Further investigate the remarkable differences between AMICO and SCRAN licensing and pricing models to pick up and tune the best options for REGNET.

Recommendation 6:

Further investigate how the bias towards the educational sector has influenced basic choices of both AMICO and SCRAN models and estimate impact on wider scope of REGNET, with special reference to profit-oriented sales of products/services: if needed, introduce revisions.

Recommendation 7:

Let REGNET architecture and operational system be *distributed* and the legal entity deciding strategy and evolution be *centralised*.

Recommendation 8:

Let REGNET organisation be a non-profit organisation in terms of financial objective, but let it be governed as a commercial company: in other words, let the shareholders elect a fully-empowered Board of Directors, don't let stakeholders influence management.

Recommendation 9:

Confer the property and/or licensing rights which constitute its basic Intellectual Assets on REGNET as soon as possible, with a clear and understandable - i.e. not legalese only - act.

Recommendation 10:

Let all key contracts, licensing/partnership agreements and so on be negotiated and concluded with REGNET as one of the parties, in order to ensure coherency of the legal framework deployment.

To do action listAction 1:

Having as input the results of Task 1.5 and Task 1.6, extend the current REGNET model to cover specifically e-Business aspects, taking extra-care in keeping it simple enough to be practically manageable.

Action 2:

Exploiting the already stated availability of ONB, SUL and ALI, start bilateral discussion with them to identify eventually needed special conditions for, respectively, museums, libraries and archives.

Action 3:

Complete the collection of detailed information on AMICO and SCRAN licensing and pricing models, compare pros and cons of each model and come up with a specific proposal for REGNET model, sounding it for being viable for both profit and non-profit operations.

Action 4:

Complete paperwork needed for REGNET model (including: conceptual model; licensing agreements; indicative price setting) and start discussing it with key stakeholders within the consortium.

Action 5:

Draft an initial proposal describing the key features of the foreseen REGNET organisation: mission, legal nature, statute, country of incorporation, fiscal residency and regime, companies law of reference.



Part 2 Definition of supported Business Functions



9 Introduction

9.1 Purpose

REGNET aims to set up a functional network of service centres in Europe which provide IT-services dedicated to Cultural Heritage organisations. This will provide access and use of digital data (scientific and cultural) as well as of physical goods which are distributed in museum shops. Moreover it will be an enabler of ebusiness activities for CH organisations. It will integrate several multi media industries enabling e.g. the production of electronic publications.

9.2 Overview and document structure of Part 2

In this part, we present the results of our investigation about all relevant core and supported business processes and functions related to a cultural organisation. It contains the results of Task 1.6 - Definition of supported Business Functions.

To enable a wide range of services by a REGNET based service centre all relevant core and support business processes and functions related to a cultural organisation will be investigated.

A business model is developed regarding the marketing and procurement of digital goods with reference to following market segments: education, tourism, science & research, recreational economics, administration. The REGNET domain is large and complex, it comprises museums, libraries, archives, education, tourism, science and research, recreational economics, administration, arts. The different processes within these domain have to be elaborated. For example, the core processes of a museum contain acquisition, registration, making an inventory, cataloguing and exhibition. The support processes include payment system, watermarking and copyright management.

In addition, we have to model and describe the workflows of (new) media enterprises so as to integrate for example B2B processes related to them.

10 Definition of Supported Business Functions

10.1 Positioning

10.1.1 Business Opportunity

The aims are to:

1. Increase the competitiveness in the global market place of European CH organisations (libraries, museums, archives, galleries) by allowing them:
 - to manage their data collections,
 - to have facilities for multimedia production,
 - to offer access to their digital contents, services and products to their "clients",
 - to receive income for the services they offer,
 - to cooperate with other partners during creation of databases, generation of multi media products or creation of a virtual exhibition.
2. Boost the cross-cultural knowledge within European regions, increase the cultural stimuli of the citizen and contribute to a multicultural and more European awareness and identity.

10.1.2 The REGNET Product Position Statement

The following table summarizes what REGNET intends to offer to CH organisations:



<i>For</i>	Museum, Library, Archive, Artist, Art Galleries End User: Researcher, Teacher, Student, Tourist, ...
<i>Who</i>	Need access facilities to distributed heterogeneous catalogues of libraries, museums, archives and galleries, need to offer services and products to their clients, And need to co-operate in the Cultural Heritage domain (e.g. to produce a CD-ROM)
<i>The REGNET system</i>	Is a software tool
<i>That</i>	Provides facilities of management and access of the digital contents, services and products in the Cultural Heritage domain, and provides e-Business processes
<i>REGNET</i>	Consists of a - Distributed Search and Retrieval - Market Place - Shop Online

Table 3: REGNET product position

10.1.3 Stakeholder and User Descriptions

Name	Roles
<ul style="list-style-type: none"> • Osterreichische Nationalbibliothek, Wien • Lansmuseet pa Gotland, Visby • Naturhistoriska riksmuseet, Stockholm • Kungl. Vetenskapsakademien, Stockholm • Stad Mechelen, Mechlin • Fratelli Alinari I.D.E.A S.p.A., Florence • Ajuntament de Granollers, Granollers • Southern Ural State University /Regional Centre of FREEnet, Chelyabinsk • Stichting Museon (Museum voor het Onderwijs), Den Haag 	<p>Content Providers Provide content of different nature (library material, surrogates of museum objects and photographs, posters, art work. The clientele of these organisations act as end users to the system</p>
<ul style="list-style-type: none"> • Angewandte Informationstechnik Forschungsgesellschaft mbH, Graz • Salzburg Research Forschungsgesellschaft mbH, Salzburg • Institut für Informatik und Wirtschaftsinformatik der Universität Wien, Wien • IMAC Information & Management Consulting e.K., Berlin • TARX N.V., Hofstade • Motorola S.p.A., Turin • SPACE S.r.l., Prato • ZEUS Consulting S.A., Patras • Systema Informatics S.A., Athens • Centre for Research and Technology Hellas, Thessaloniki • Institute of Computer and Communication Systems, 	<p>Developers specialised IT companies develop the building blocks of the REGNET</p>



Name	Roles
<ul style="list-style-type: none"> • Sofia • VALTECH, Toulouse • Terra Incognita Europa, Edinburgh • Angewandte Informationstechnik Forschungsgesellschaft mbH, Graz • IMAC Information & Management Consulting e.K., Berlin • Stockholms universitet, Stockholm • TARX N.V., Hofstade • Stichting Museon (Museum vorr het Onderwijs), Den Haag • SPACE S.r.l., Prato • Consorzio Civita, Rome • Instituto Andaluz de Tecnologia, Sevilla • ZEUS Consulting S.A., Patras • Institute of Computer and Communication Systems, Sofia 	<p>Regional poles Provide access to the REGNET network and infrastructure and services the regional CH organisations</p>

Table 4: Stakeholder summary

Name	Description	Stakeholder
<ul style="list-style-type: none"> • Artist/Art Galleries 	<ul style="list-style-type: none"> • Needs an access for searching Artists or Artworks • Needs materials, looks for an atelier • wants to present, promote his/their work , sell his/their work 	<ul style="list-style-type: none"> • Institute of Computer and Communication Systems • Ajuntament de Granollers
<ul style="list-style-type: none"> • Museum 	<ul style="list-style-type: none"> • wants to present and promote its collections (events, virtual guided tour, search) • wants to offer educational material • wants to offer an access to museum shop 	<ul style="list-style-type: none"> • Stad Mechelen • Lansmuseet pa Gotland • Stichting Museon (Museum vorr het Onderwijs)
<ul style="list-style-type: none"> • Archive 	<ul style="list-style-type: none"> • wants to offer an access to its databases (search) 	<ul style="list-style-type: none"> • Fratelli Alinari I.D.E.A S.p.A • Osterreichische Nationalbibliothek
<ul style="list-style-type: none"> • Library 	<ul style="list-style-type: none"> • wants to offer an access to its collection (specially for researchers and students) 	<ul style="list-style-type: none"> • Kungl. Vetenskapsakademien



Name	Description	Stakeholder
	<ul style="list-style-type: none"> wants to offer services (scanning) to academics 	Stockholms universitet

Table 5: User summary

The user environment is illustrated in the Deliverable 1, Analysis of the State-of-the-art and Development of Concepts

10.2 Methodology and Business Modelling

The methodology is based on the UN/UCEFACT Modelling Methodology.

The language used is UML.

The purpose of business modelling is:

- To understand the structure and the dynamics of the business domain,
- To ensure that all users, standards developers and software providers have a common understanding of the business domain,
- To understand the daily processes in the business domain independently of any technical solution,
- To create categories to help partition the business domain that enables an iteration plan to complete model,
- To structure the model in the form of a Business Operations Map (BOM),
- To capture the justification of the project.

This activity is to understand the justification for the project and to determine the scope and categorization of the domain in preparation for modelling the project: REGNET SYSTEM

10.2.1 Domain Analysis

The Cultural Heritage domain is large and complex. The domain analysis yields a categorization of the domain into business areas, process areas, and business processes.

Business Area	Scope	Process Areas
MUSEUM	A museum is an establishment in which collections with historical, scientific, technical or artistic interest, are preserved, developed and displayed to the public.	Collection management
		Shop
		Recreational economics
		Education
		Tourism
ART GALLERY	A gallery selects, manages, promotes and sells works of artists.	Services
		Artwork promotion
ARCHIVE	A archive is a place where a set of documents about the history of a town, a family, a group of persons, a society, a place, a building, a state, ..., are preserved.	Artist resources
		Collection management
		Services

LIBRARY	A library is a place or an establishment where collections of books, printed matter, manuscripts are classified, managed and put at public's or special group's disposal for reading.	Collection management
		Loan
		Science & Research

Table 6: Business area

<i>Business Area</i>	<i>Scope</i>
INTERNATIONAL SUPPLY CHAIN	The supply chain considers the management of materials, information and funds from the raw material supplier to the ultimate consumer.

Table 7: Support area

10.2.2 Technical glossary for UML use-case modelling



Business Actor: Someone or something, outside the business that interacts with the business.



Business worker: represents a role or set of roles in the business. A business worker interacts with other business workers and manipulates business entities while participating in business use-case realisations



Business entity: A business entity represents a "thing" handled or used by *business workers*.



Business use case: A business use case defines a set of *business use-case instances*, where each instance is a sequence of actions a business performs that yields an observable result of value to a particular business actor. A business use-case class contains all main, alternate workflows related to producing the "observable result of value".



Business use-case realisation: A business use-case realisation describes how the workflow of a particular business use case is realized within the *business object model*, in terms of collaborating business objects

Business use-case model: A model of the business intended functions. The business use-case model is used as an essential input to identify roles and deliverables in the organisation.

Business use-case package: A business use-case package is a collection of business use cases, business actors, relationships, diagrams, and other packages; it is used to structure the business use-case model by dividing it into smaller parts.

11 Business Modelling



11.1 The MUSEUM

Process Area	Scope
Collection management	Processes to develop, to enrich, to conserve and to catalogue the museum's collection, to manage museum's exhibition.
Tourism	Processes around museum's visit.
Education	Processes to offer educational resources and programs developed from the museum's collection.
Recreational economics	Processes to develop and to offer leisure within and about museum.
Shop	Processes to sell physical manufactured products related to museum's collection (posters, reproductions, publications, games,).
Services	Processes to develop services that can offer the museum's infrastructure and the expertise of its employees.

Table 8: Museum process area

Museum's actors	Role
Museum manager	A museum manager is the administrative responsible of the museum.
Curator	A museum curator looks after, manages, organizes and develops museum collections, exhibitions and conducts related research.
Conservator	A conservator ensures (plan, organize and undertake) the long-term preservation of art and artifact by preventing and repairing damage and deterioration.
Museum Technician	A museum technician prepares specimens for collections, and construct and arrange museum and art gallery exhibits.
Registrar	A person responsible for the development and implementation of procedures and policies affecting the acquisition, management, and disposition of collections. A registrar also usually maintains all collection documentation, including inventory and loans.
Guide	A guide is a person who presents the museum and the museum's collection to the visitors.
Kiosk guide	A kiosk guide is a person staying at specific locations within the museum treating the exposed themes in the surrounding area.
Ticket officer	A person who is responsible for sale and calendar of all activities taking place within the museum (visit, workshop)



Museum's actors	Role
Educator	A person who develops and offers educational programs and resources about the museum
Organizer	The organizer develops recreational workshops about museum's themes
Shopkeeper	A person who manages the museum's shop
Schedule officer	A schedule officer organises and plans with the internal and external protagonists the educative, recreational and other activities which are developed in the museum

Table 9: Museum's actors

According to the museum's size, the same person could have several different roles in a smaller structure; the curator, the conservator and the registrar can be the same person, or several persons could have the same role in a large structure; there are a curator for one part of collections, and an other one for an other part.

11.1.1 Collection Management Museum

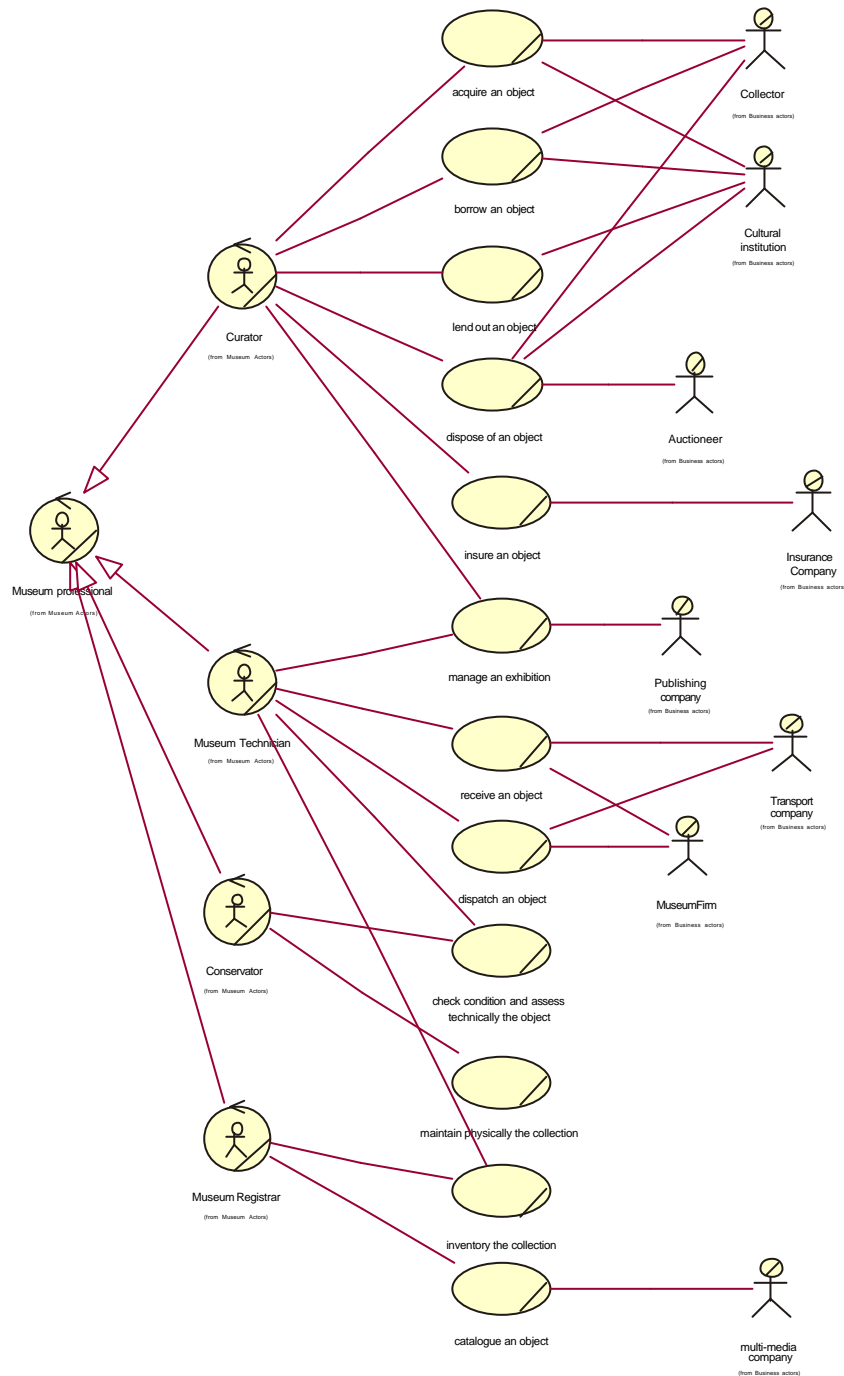


Figure 8: Use case diagram collection management museum



External actors	role
Collector	A private person who possesses cultural objects for his personal use.
Cultural institution	Another institution (museum, library, archives, ...) who borrows or lends an object for a temporary exhibition, research, ...
Auctioneer	An auctioneer is a person or a company who organises public sales.
Museumfirm	The museumfirm is a company which offers specialised fine arts services to museums and private collectors: e.g. install, storage, packing, shipping, display. So, when there is not one object but a very large collection involved, the museum can ask museumfirm for fulfilling all handling matters.
Multimedia company	A company who digitalises an object, develops multimedia objects according to cultural organisation specifications.

Table 10: Museum external actor's

Use case	Descriptions	Actors
Acquire an object	In order to develop the collection, the curator decides to acquire new objects. The museum becomes the new owner of the object; the legal title is transferred. The museum has to make sure of the legitimacy of the previous owner, it has to obtain unambiguous evidence of title to the object. In all relevant cases, the owner of the copyright and other rights associated with the object and its use are established and recorded.	Curator (Museum professional) Collector Cultural institution
Borrow an object	A museum borrows an object for a specific period of time and for a specified purpose, normally display, but including research, education or photography. Sometimes a collector or an institution asks museum for keeping his cultural objects During this period, the museum is responsible for the object.	Curator (Museum professional) Collector Cultural institution
Lend out an object	An object is lent to another institution for a specific period of time and for a specific purpose.	Curator (Museum professional) Cultural institution
Dispose of an object	When a museum wants to transfer, sale , exchange or destruct an object, it can propose to others institutions, or it can sale by auction.	Curator (Museum professional) Collector Cultural institution Auctioneer



Use case	Descriptions	Actors
Insure an object	Documenting and managing the insurance needs of objects both in an institution's permanent collection and those for which it is temporarily responsible.	Curator (Museum professional) Insurance company
Receive an object	The receipt of the object is organised: the transport, the future location. The Museum professional ensures that the receipt of the object is properly planned for and that appropriate long-term storage or display space is available for the object. When the object is received, it is registered (object number). the museum becomes responsible for the object	Museum Technician (Museum professional) Transport company
Dispatch an object	When a museum's object leaves the institutions premises (loan, digitising, sale, ...), it must be prepared for transport, and the transport organised. When the object goes out, the museum is no more responsible for the object.	Museum Technician (Museum professional) Transport company
Check condition and assess technically an object	identify the condition state of the object	Conservator (Museum professional)
Maintain physically the collection	The collection has to be carefully stored and packed. The conservator documents and manages information about interventive and preventive conservation activities. The measures needed are established: ranging from new special storage racks to acid-free boxes and special foam. And then the material is applied to the collection.	Conservator (Museum professional) Museum-collection-equipment-supplier
Inventory the collection	The maintenance of up-to-date information identifying all objects for which the institution has a legal responsibility.	Registrar (Museum professional)
Catalogue an object	Create a comprehensive record of an object, include the descriptive information (size, condition, ownership, location ...) and the associated information. Information can be obtained from the actual (loan) or previous (acquisition) owner, the curator and the conservator. The object can be digitised, sometimes a specialised firm can do it.	Registrar (Museum professional) Media firm
Manage an exhibition	A museum selects objects and associated documents exhibited for the permanent exhibition or for a temporary exhibition. It creates the exhibition's catalogue and can publish it with the help of a publishing company (paper or CD-ROM)	Curator (Museum professional) Publishing company

Table 11: Museum use cases

11.1.2 Tourism

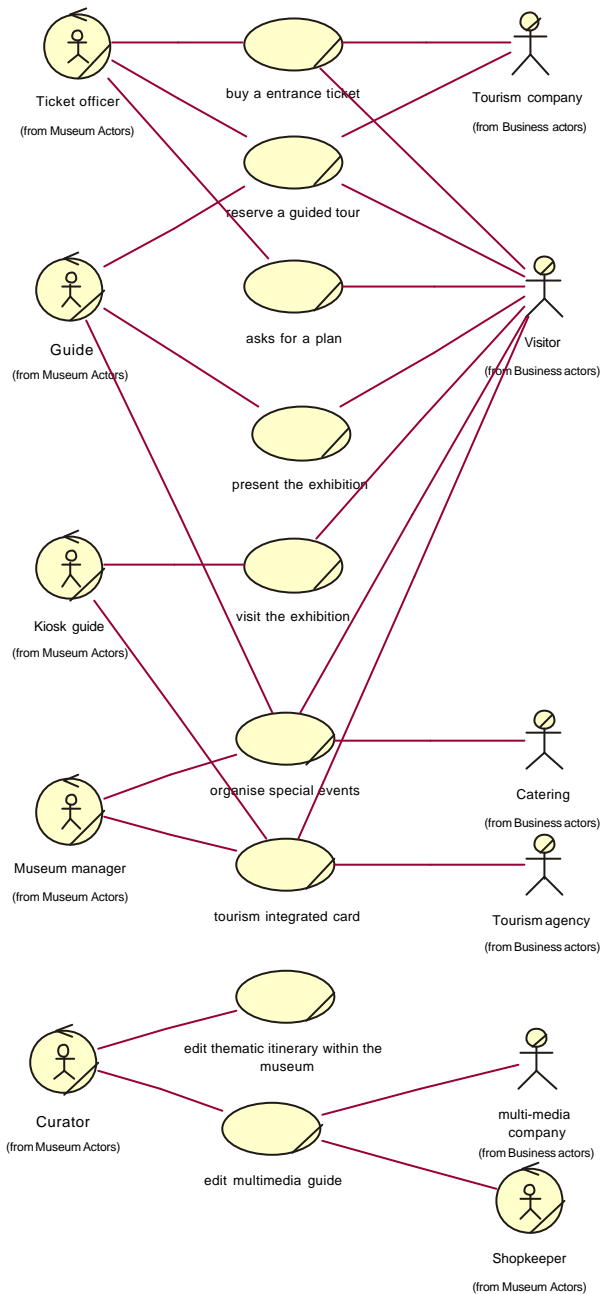


Figure 9: Use case diagram tourism



<i>External actors</i>	<i>role</i>
Tourism company	It is a company which offers to customers package tours in a country, a town with, in particular, museums guided visits.
Visitor	A visitor is a person who visits the museum's exhibitions.
Catering	It is a company which organises dinners, buffets lunch.
Tourism agency	it is an official organism which promotes a town, a region or a country.
Multimedia company	A company who digitalises an object, develops multimedia objects according to cultural organisation specifications.

Table 12: Tourism external actors

<i>Use case</i>	<i>Descriptions</i>	<i>Actors</i>
Buy an entrance ticket	A visitor has to pay an entrance fee.	Ticket officer Visitor Tourism company
Reserve a guided tour	A visitor or a group of visitors, or a tourism company for its clients, have to reserve a guide and to pay it, depending on calendar.	Ticket officer Guide Visitor Tourism company
Asks for a plan	The visitor needs a plan to visit.	Ticket officer Visitor
Present the exhibition	A guide presents, explains, answers to the audience about the objects of an exhibition.	Guide Visitor
Visit the exhibition	A visitor can decide to visit alone the exhibition. He can have some questions about an object, a theme, a location, ...; he asks the kiosk guide.	Kiosk guide Visitor
Organize special events	special "soirées" where people may buy a ticket to have guided visit of the museum with a thematic dinner at the museum with a thematic dinner at the museum premises and/or concerts, historical films, ...	Museum manager Guide Catering Visitor
Tourism integrated card	agreement with tour operator, national/local tourism agency to integrate within a tourist card a museum's entrance ticket with eventually guided visit and special events	Museum manager Kiosk guide Tourism agency Visitor
Edit thematic itinerary within the museum	A curator selects specific objects within the collection and edits thematic tours within the collection and can make them public on the web.	Curator
Edit multimedia guide	A curator together with a multimedia company edits a thematic museum's guide to promote the museum.	Curator Multimedia company Shopkeeper

Table 13: Tourism use cases

11.1.3 Education

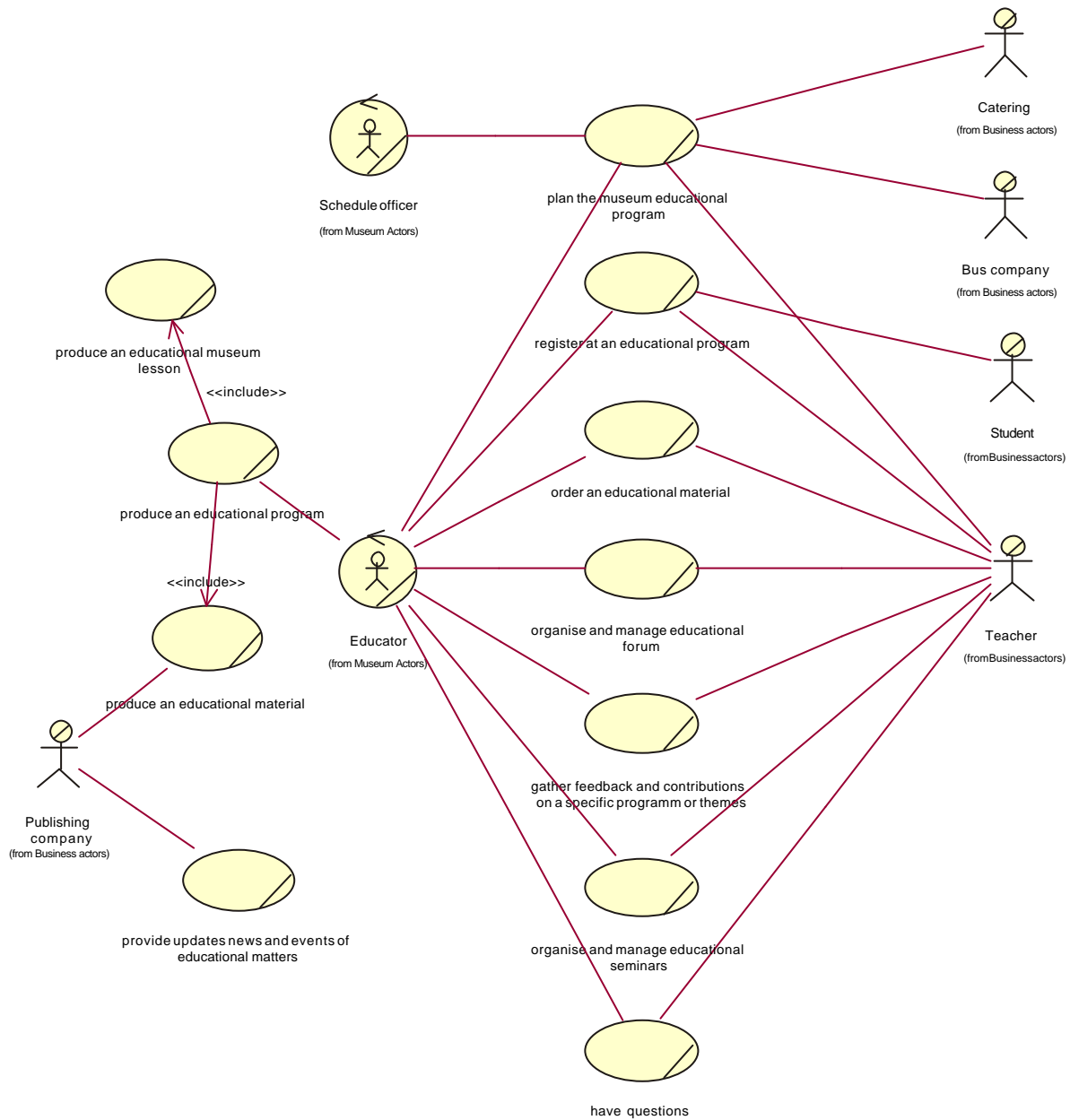


Figure 10: Use case diagram education



External actors	role
Teacher	A teacher is a person who gives an education in a school or an university.
Student	A student is a person who attends a teaching in a school or an university.
Catering	It is a company which organises dinners, buffets lunch.
Bus company	A company which carries people by bus
Publishing company	A company which produces material (e.g. books, brochures, CD-ROMs, ...) according to specifications.

Table 14: Education external actors

Use case	Descriptions	Actors
Produce an educational program	an educational program can be a classroom activity, an in-depth study on a theme, a period, an artist, ..., a teacher's guide about an exhibition.	Educator
Produce an educational museum lesson	In the scope of an educational program, an educator develops a lesson for a class visit for a specific exhibition	Educator
Produce an educational material	In the scope of an educational program, an educator can produces brochures, slides, CD-ROM, video, document about a theme	Educator Publishing company
Planning the museum lessons	A special museum employee makes a schedule for the visiting classes on which day they are given lessons by the different educators. A buss is arranged to pick up the class(es) from the school(s). If asked for catering is arranged.	Schedule officer Educator Teacher Bus company Catering
Register at an educational program	A teacher or a student searches for an educational program, selects and registers at it, a teacher for his classroom, a student for himself.	Educator Student Teacher
Order an educational material	A teacher searches for an educational material, selects and orders it. when it's possible, the material can be loaded electronically.	Educator Teacher
Organize and manage educational forum	An educator promotes a virtual forum among teachers/educators on specific themes.	Educator Teacher
Gather feedback and contributions on a specific program or themes	An educator may interact with teachers to update and expand specific educational programs of considerable interest. Contributions may be revised and eventually published on the web to make them available to a wider audience.	Educator Teacher

Use case	Descriptions	Actors
	A teacher may be willing to contribute on a specific subject with personal/public available supplementary documentation	
Organize and manage educational seminars	An educator organizes and holds educational seminars on specific matters to subscribed teachers.	Educator Teacher
Have questions	A teacher needs answers about specific educational subjects	Educator Teacher
provide updates news and events of educational matters	A multimedia publishing company may have subcontracted by the museum the delivery of daily news and related events of educational cultural programs to be published (on museum web site)	Publishing company

Table 15: Education use cases

11.1.4 Recreational economics

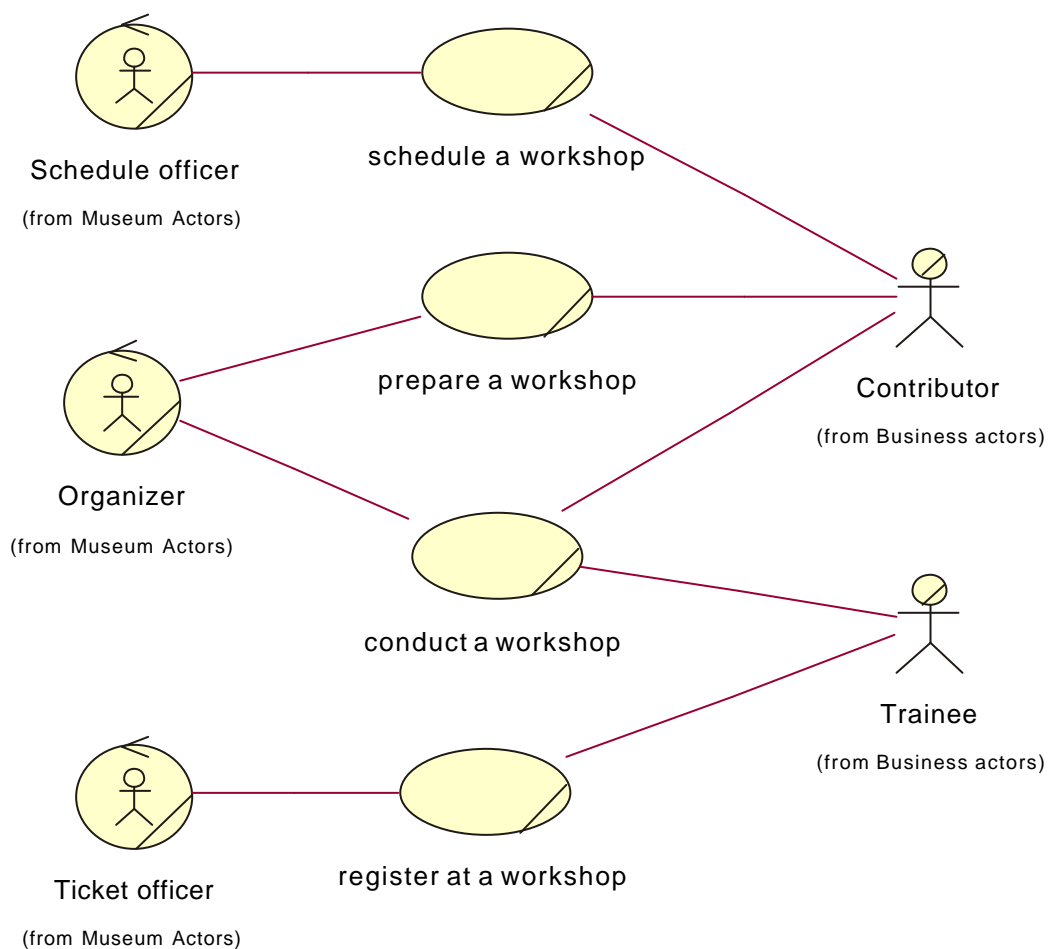


Figure 11: Use case diagram recreational economics



<i>External actors</i>	<i>role</i>
Contributor	A professional outside museum: architect, artist, writer, who takes part with the development and the conduct of a workshop
Trainee	An adult or a child who follows a workshop

Table 16: Recreational economics external actors

<i>Use case</i>	<i>Descriptions</i>	<i>Actors</i>
Prepare a workshop	The organizer defines the audience (adult or child), the content. For example, The Louvre proposes: initiation with the antique writings for adult To live in Egypt in Pharaoh's times for child	Organizer Contributor
Schedule a workshop	the schedule officer fixes the dates, checks the availabilities of all participants and reserves a room if necessary.	Organizer Contributor Ticket officer
Conduct a workshop	The organizer or an outside contributor (artist, architect, scientific, ...) conducts the workshop	Organizer Contributor Trainee
Register at a workshop	a trainee has to register at the workshop he selects	Ticket officer Trainee

Table 17: Recreational economics use cases

11.1.5 Shop

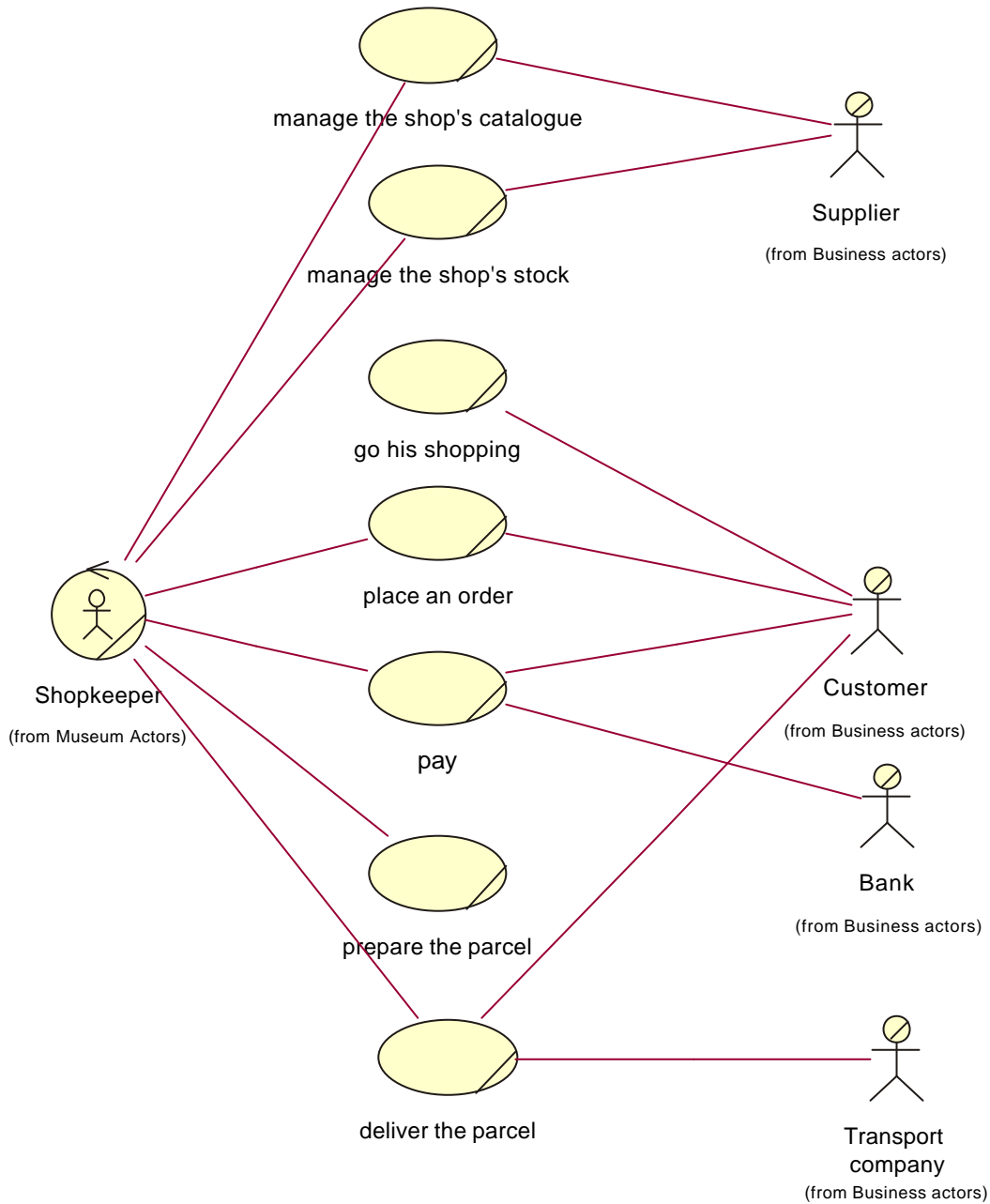


Figure 12: Use case diagram shop



External actors	role
Supplier	A supplier is a firm which provides goods or services: manufacturer, publishing company, ...
Customer	Buyer Payer
Bank	This actor represents the banking system
Transport company	A company involved in the logistics, e.g. postal services, parcel services. It delivers good from supplier to buyer.

Table 18: Shop external actors

Use case	Descriptions	Actors
Manage the shop's catalogue	He chooses shop's products, he registers them	Shopkeeper Supplier
Manage the shop's stock	The shopkeeper orders products from suppliers, makes shop's inventory	Shopkeeper Supplier
Go his shopping	A customer searches products, wants to see details about an item, chooses an item and put it in his (virtual) basket.	Shopkeeper Customer
Place an order	Once his shopping is over, the customer completes his order with his shipping address. The shopkeeper calculates the shipping cost and gives an detailed estimate, this is often performed automatically. The customer accepts the estimate	Shopkeeper Customer
Pay	the payment is executed through the banking or credit card-system, in a traditional or electronic way.	Shopkeeper Customer Bank
Prepare the parcel	the shopkeeper has to prepare the parcel corresponding to the order	Shopkeeper
Deliver the parcel	the shop asks a transport company for delivering the parcel	Shopkeeper Customer Transport company

Table 19: Shop use cases

11.1.6 Services

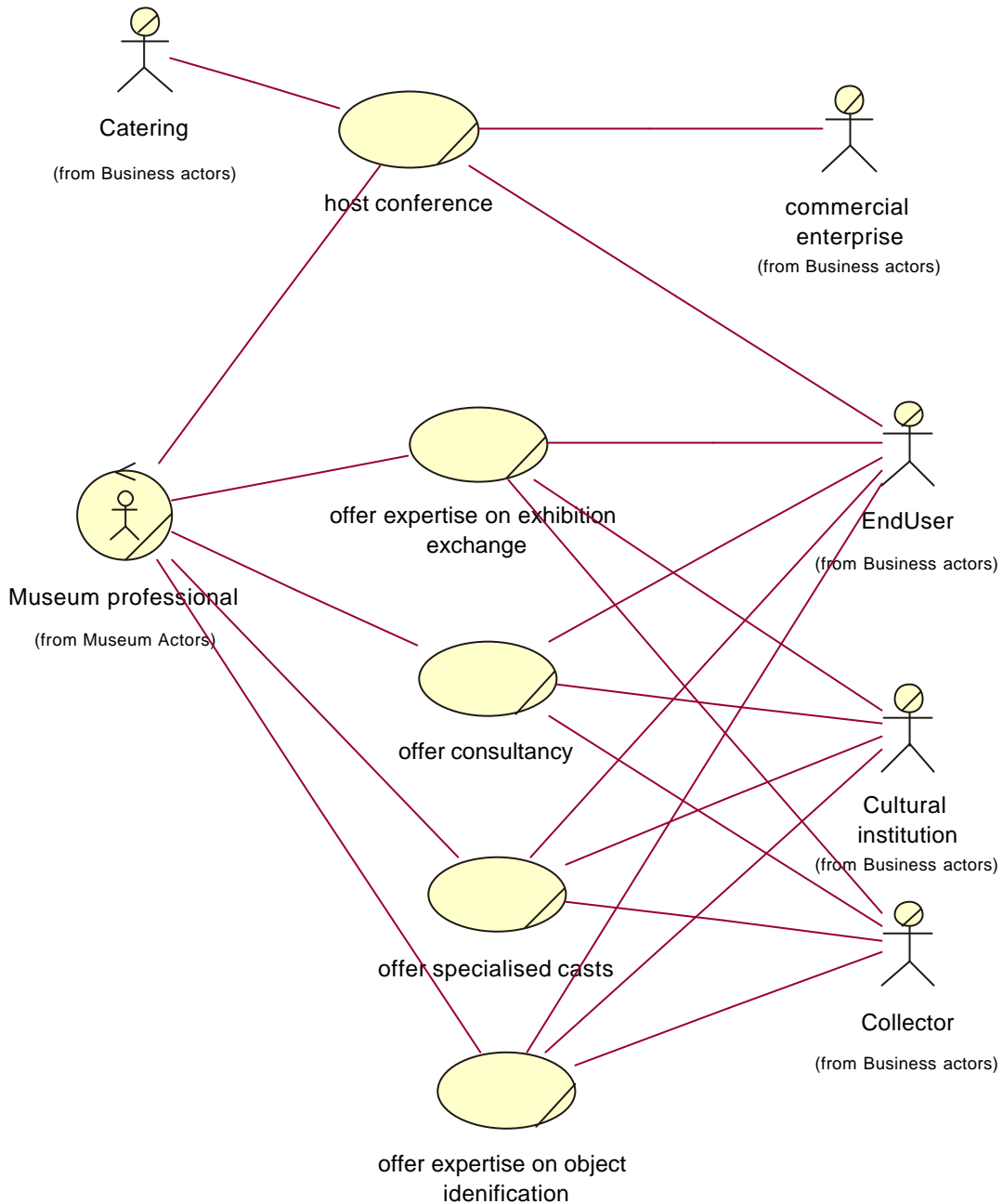


Figure 13: Use case diagram services



External actors	role
Catering	It is a company which organises dinners, buffets lunch, ...
Commercial enterprise	Companies which can use museum premises for business events
End user	visitor tourist nosy
Cultural institution	another institution (museum, library, archives, ...)
Collector	a private person who possesses cultural objects for his personal use

Table 20: Services external actors

Use case	Descriptions	Actors
host conference	Museums want to advertise their high standard facilities ranging from modern multimedia equipped conference-rooms to renting museum-exhibitions-rooms with distinguished art to add to a high cultural experience for the participants of the meeting. Also exhibition space can be offered to commercial enterprises for official dinners with high level catering	Museum's professional Catering Commercial enterprise End-user
offer expertise on exhibition exchange	Museums` professionals can support others in organising exhibitions; provide contacts.	Museum's professional End-User Cultural institution Collector
offer consultancy	about: museum concept development exhibition concept development exhibition design museum management exhibition project management collection management	Museum's professional End-User Cultural institution Collector
offer specialized casts	Museums` professionals can organise a collection for specific thematic aspect or for an event.	Museum's professional End-User Cultural institution Collector
offer expertise on object identification	Museums` professionals can provide studies, research and testimonies on objects.	Museum's professional End-User Cultural institution Collector

Table 21: Services use cases



11.2 The LIBRARY

<i>Process Area</i>	<i>Scope</i>
Collection Management	Processes of selection, acquisition, treatment of documents, and the organisation of collections.
Loan	Processes to manage loan of works and to administer library users
Science and Research	Processes to provide information for science and research

Table 22: Library process area

<i>Library's actors</i>	<i>role</i>
Librarian	The Librarian takes an active part in the management and conservation of the funds, selection, cataloguing, maintenance, acquisition. He receives the public. He manages the library's staff.
Librarian Assistant	The Librarian Assistant helps the Librarian with cataloguing, maintenance, the public's reception.
Storekeeper	The Storekeeper executes the tasks of works storing.

Table 23: Library actors

11.2.1 Collection management library

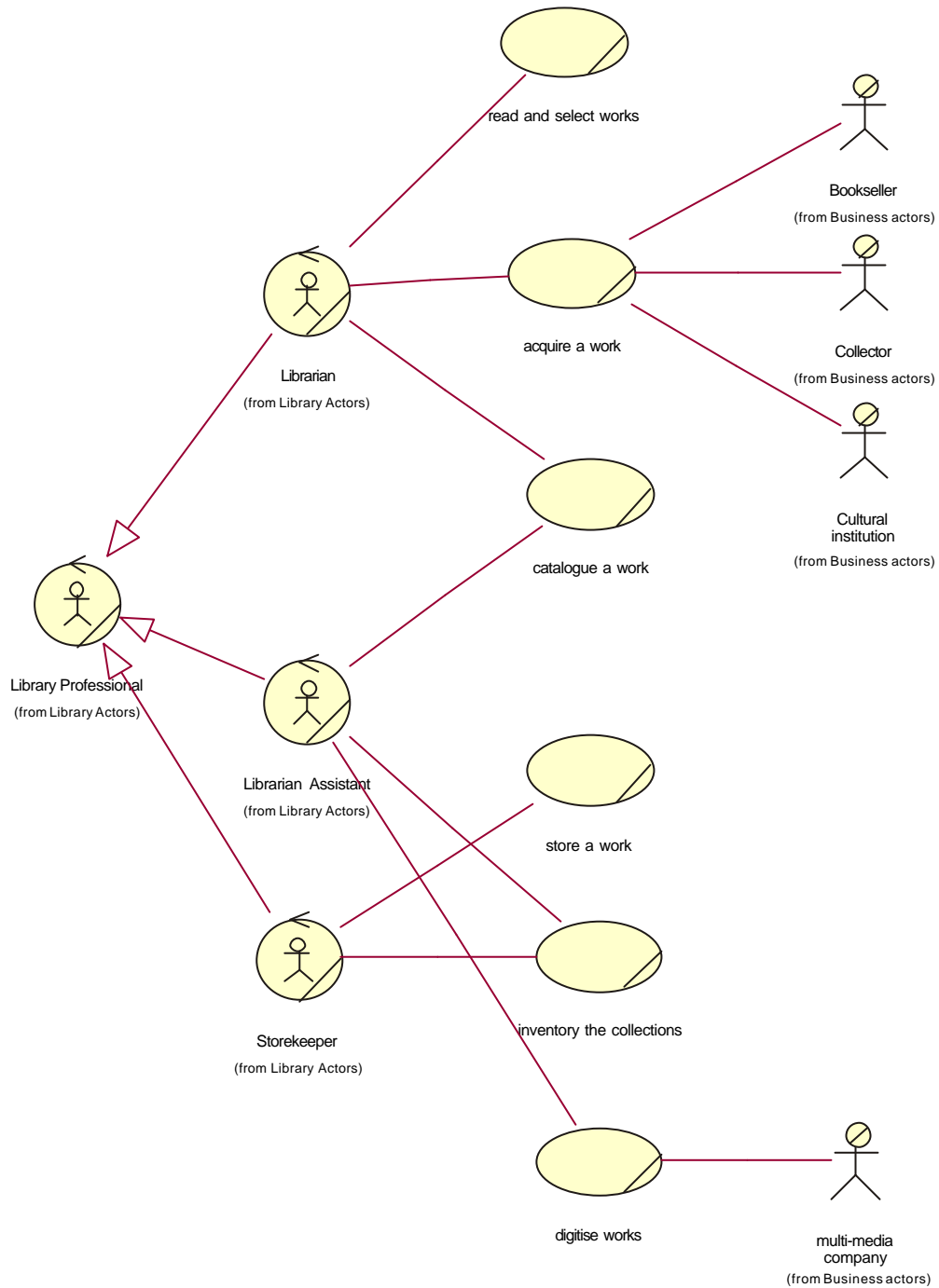


Figure 14: Use case diagram collection management library

External actors	role
Bookseller	It is a company which sells books, video, CD-ROM, ... example amazon.com
Collector	a private person who possesses cultural objects for his personal use
Cultural institution	another institution (museum, library, archives, ...) who borrows or lends an object for a temporary exhibition, research, ...
Multimedia company	A company who digitalises an object, develops multimedia objects according to cultural organisation specifications.

Table 24: Library external actors

Use case	Descriptions	Actors
read and select works	The Librarian processes the readership: he reads and screens works (books, periodical publications, ...). He focuses on a small number of works. The Librarian could specialize in a subject (scientific, historic, literary of 19 century, ...). The work can be an actual publication (the library has a mediation role between the common editorial production and the public) , the work can be part of written and graphic heritage (the library has a productive role by discovering unexploited resources)	Librarian
acquire a work	The library purchases the selected work. It can order it from a publishing company. If it is an rare work, as in museum, the legal title is transferred.	Librarian Bookseller Collector Cultural institution
catalogue a work	create a comprehensive record of the work including descriptive information and associated information. The work is registered in the different indexes.	Librarian Librarian Assistant
store a work	The work is stored. The storage is organized, the work has to be easily retrieved. The rare book could have a special storage with conservation's measures.	Storekeeper
inventory the collections	Maintain up-to-date information identifying all works.	Librarian Assistant Storekeeper
digitise works	the library professional digitises works to create digital texts and digital images in order to make easier the works diffusion, or to protect rare books.	Librarian Assistant multimedia company

Table 25: Library use cases

11.2.2 Loan

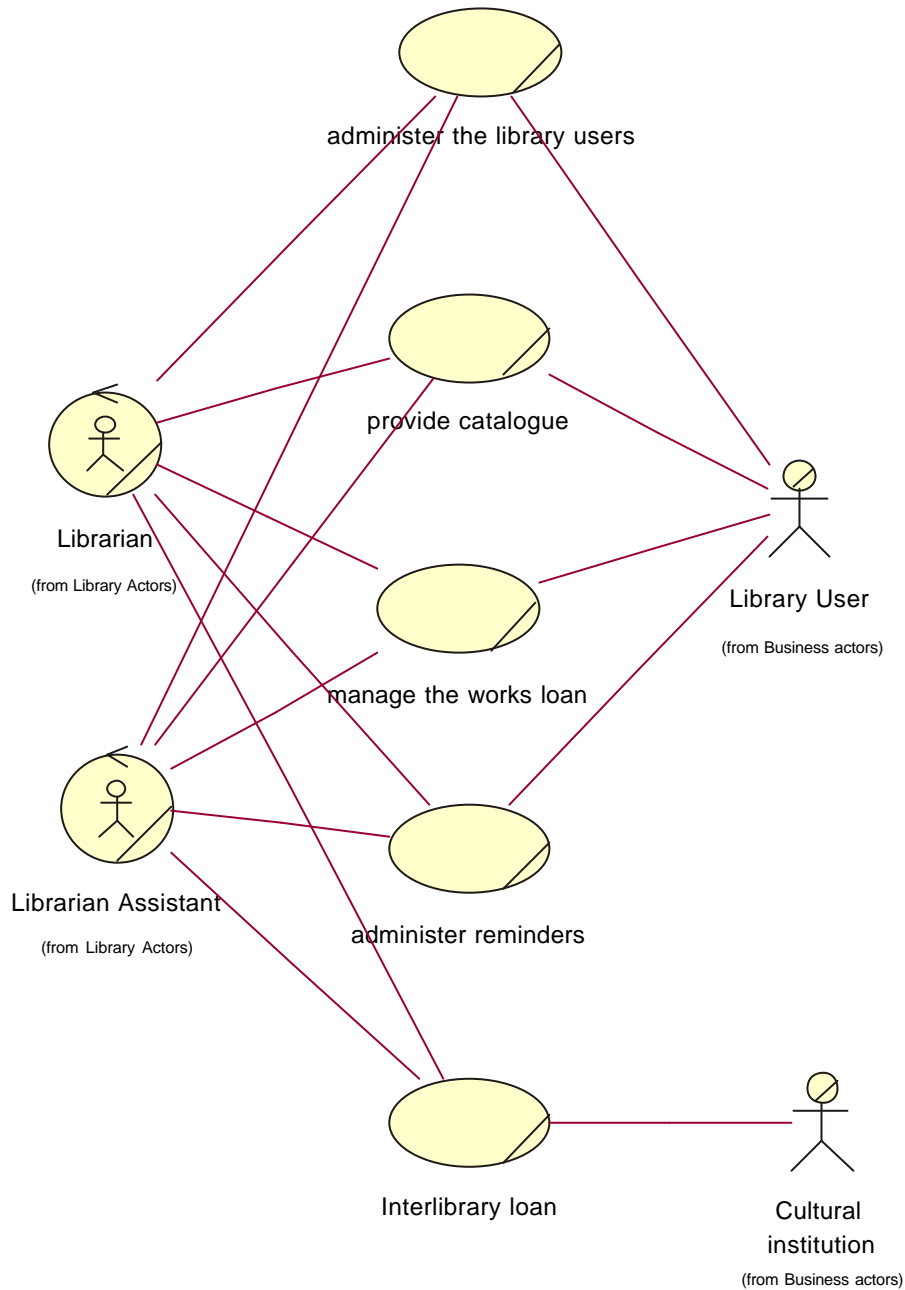


Figure 15: Use case diagram loan



External actors	role
Library User	It is a person who is registered as library user, so he has access to the library's works.
Cultural institution	another institution (museum, library, archives, ...) who borrows or lends an object for a temporary exhibition, research, ...

Table 26: Loan external actors

Use case	Descriptions	Actors
administer the library users	The Librarian manages the users registrations, it can be different users with reserved access.	Librarian Librarian Assistant Library User
provide catalogue	The librarian provides card catalogue and online catalogue to the users.	Librarian Librarian Assistant Library User
manages the works loan	The library user order a work for a loan. The librarian or an assistant retrieves the work from the storage and gives the work to the user (some works have to stay in the Library, so the user can just consult it in the reading room). The work is lend out for a period. The user has to give it back in/after this period.	Librarian Librarian Assistant Library User
administer reminders	If term is exceeded, the librarian prints a reminder and sends letter/email with reminder to the user. The librarian may charge reminder fee to the user.	Librarian Librarian Assistant Library User
Interlibrary loan	The library can lend out a work to an other library. In the same way, the library can borrow a work from an other Library	Librarian Librarian Assistant Other Library or cultural institution

Table 27: Loan use cases

11.2.3 Science and Research

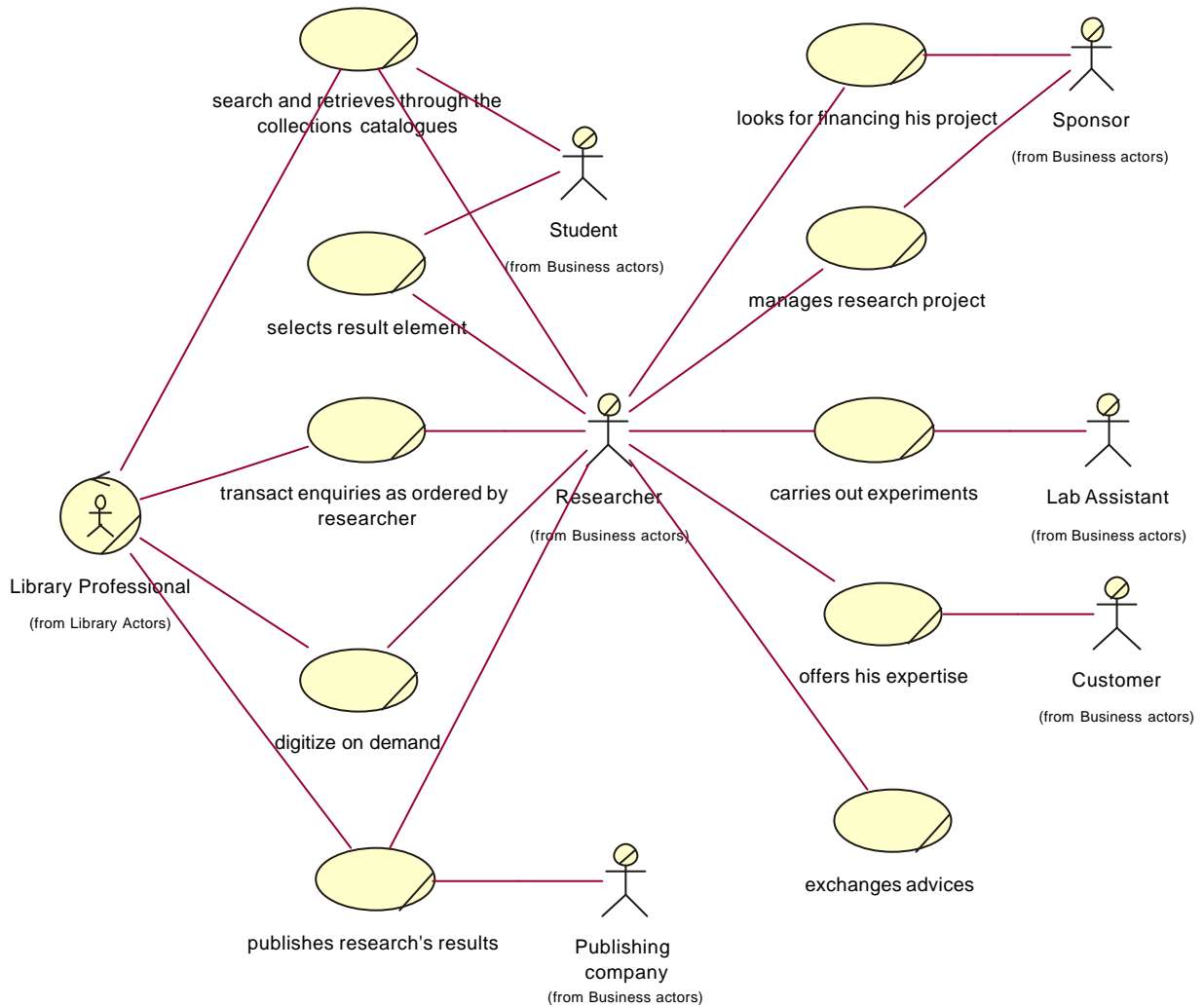


Figure 16: Use case diagram science and research



External actors	role
Researcher	<p>A researcher is a person who manages or participates in research projects.</p> <p>He needs experiments or surveys to verify his theory, to provide proof-of-concept, or to analyse an physical object.</p> <p>He needs thematic information related to his research project</p> <p>A researcher publishes research's results</p>
Student	A student is a person who attends a teaching in a school or an university.
Publishing company	It is a company which publishes books, produces music.
Sponsor	A person, an institution, an organisation who finances a project (artistic, research, educational, ...)
Lab Assistant	A person who assists researchers in conducting research.
Customer	<p>buyer</p> <p>payer</p>

Table 28: Science and research external actors

Use case	Descriptions	Actors
search and retrieve through the collections catalogues	The library provides search facilities.	<p>Library Professional</p> <p>Researcher</p> <p>Student</p>
selects result element	The researcher or the student needs thematic information related to his research project. He can select elements and place them on his "virtual desk"	<p>Researcher</p> <p>Student</p>
transact enquiries as ordered by researcher	The researcher can ask the Library to do enquiries as ordered.	<p>Library Professional</p> <p>Researcher</p>
digitise on demand	The library can scan works on demand for use of researchers.	<p>Library Professional</p> <p>Researcher</p>
publishes research's results	The results of research are published and diffused.	<p>Library Professional</p> <p>Researcher</p> <p>Publishing company</p>
looks for financing his project	a researcher needs fund to realize his research project	<p>Researcher</p> <p>Sponsor</p>
manages research project	a researcher manages a team, organizes the work of everyone, makes reports to the financing bodies	<p>Researcher</p> <p>Sponsor</p>

Use case	Descriptions	Actors
carries out experiments	a researcher needs experiments to verify his theory, to provide proof-of-concept, or to analyse an physical object.	Researcher Lab assistant
Offers his expertise	a researcher can express his expert advice about something (object, project, events), answer questions, or collaborate, intervene in a project	Researcher Customer
exchanges advices	a researcher wants to share research results, reflection with others researchers	Researcher

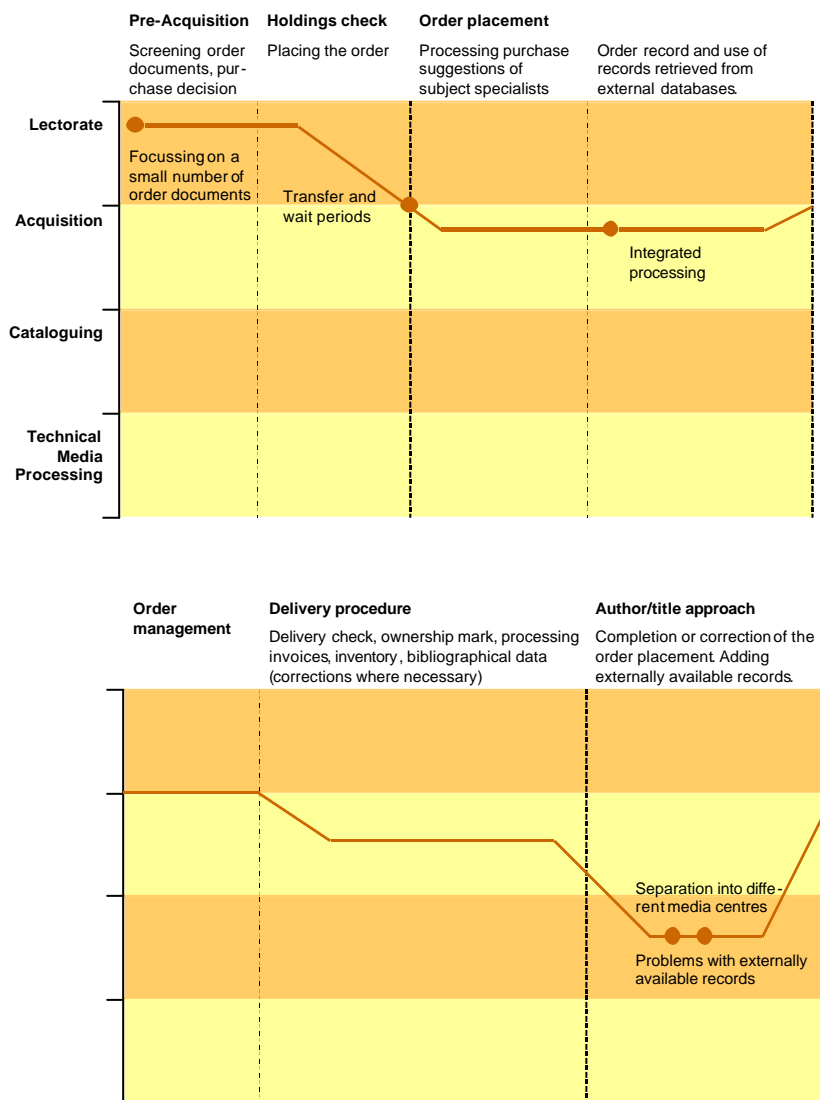
Table 29: Science and research use cases

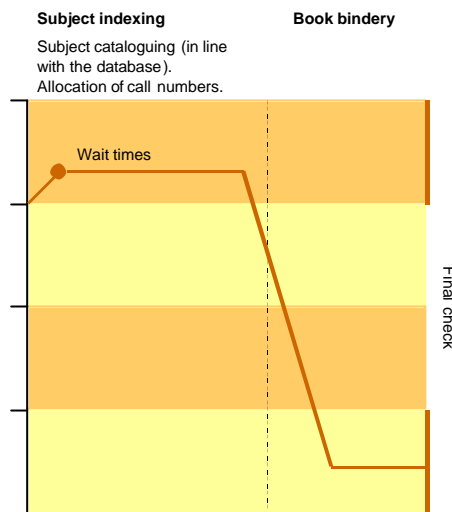
11.2.4 Additional Information

11.2.4.1 Standard Processes in Library (New Book Economy: Organisation im Wandel)

The standard workflow in acquiring new objects can be described as follows:

Workflow





11.2.4.2 Research and Education scenarios

A Set of scenarios, applied for research/educational purposes, related to REGNET functionality is provided.

Two main research/educational domains are considered: research/educational users (**REU**) and research /educational customers (**REC**).

Both domain categories concern as individual, groups, organisations, and business representatives.

These domain players are offered research/educational services, decomposed to: general information services (**GIS**); search and retrieval (**SR**); shopping services (**SS**); research educational specific services (**RES**).

The figures of the scenarios can be viewed in Appendix 9.

The appropriate content of the services and the domain users and customers are described in the following table.

Domain	Description
A. Research/ education B. user	a user searches through thematic keywords and browse through the results of a search; different search entries are available: terms, objects, keywords, date /period; content related keywords; research institution; collection /topic; a user wants to see detailed information about search object; a user wants to have contextual information; a user wants to save results, queries and personal selections of results; a user provides feedback, reference, suggestion; a user asks for support from REGNET; the user wants to see an image of object (thumbnail, full view); to see the prices of objects/services; information about coming and past events;



<p>B. Research/ education customers</p>	<p>customer search and retrieval; on-line shopping; condition of shopping /delivery/ utilisation; research /educational requests for training; vacancies in research projects; request for researches /technological survey and analysis</p>
<p>C. General information services</p>	<p>The educational/research division offers a wide range of programs and resources. It concerns: free-loan educational/research materials; programs and resources for teaching educational/research activities and events; Who we offer: general information about the CH repository; its collection and relationship with other collection; What's new ; About our site; Sign our guest book; Current art/research/education happenings; Links to other sites; Support and overview of most utilized items; Support of contextual and comprehensive information about CH objects; Establishing community with similar CH repositories insight in each others community members, cooperation on the preparation of common educational and training courses; Store feedback, reference and suggestions from users/customers Offers/supports to users/customers on request; Present object images to users/customers on request; Research/educational coming events; Information about volunteer opportunities; Conditions of use; Awards;</p>
<p>D. Search and retrieval</p>	<p>Performs searches through keywords, topics, items; Browsing through the search results; Allows searches through different search entries; Allows saving user search results; Guided tours; Listen online; Highlights; Reproduction search;</p>
<p>E. Research/</p>	<p>School tours; Thematic tours: they are designed to utilize strengths in the libraries`</p>



<p>educational specific services</p>	<p>collections and to offer links to national and local curriculum standards. A variety of artists, subjects, techniques, and styles are examined through inquiry-based tour and creative exercises.</p> <p>The school tour target specific grade levels, but may be adapted to meet the needs of any student. Suggested interdisciplinary curriculum connection are noted after each tour description;</p> <p>Elements of art, architecture and technique: colour, line, shape prepares young students to learn about the element of design;</p> <p>Art by country or period;</p> <p>Foreign language tours: intended for high school language or historical students;</p> <p>Special exhibition tours;</p> <p>High school days;</p> <p>Reservation/request form;</p> <p>Teaching resources: teaching packets, colour slide programs, films, videocassettes are available as free loans to researcher;</p> <p>Teacher workshops;</p> <p>Teacher institute: planning new electronic educational programs;</p> <p>Programs for education: facilitate teacher participate in library programs for education;</p> <p>Internships and fellowships for educational and research programs;</p> <p>Job vacancies;</p> <p>Art resources: technology zone, tools and technology labs;</p>
<p>F. Shopping services</p>	<p>Shows the prices of objects/services;</p> <p>Exhibition shop;</p> <p>Children's shop;</p> <p>Ordering information;</p> <p>View current shopping order;</p> <p>Educational division: offers a wide range of programs and resources. This section includes a complete listing of libraries free loan educational materials, programs and resources for teaching, educational activities and events;</p> <p>Books, prints, gifts;</p> <p>Materials to order: topics;</p> <p>Tools for students;</p> <p>Guides for teachers;</p> <p>Contemporary art/education/research objects for sale;</p> <p>Shopping category: framed reproduction, plaques, posters;</p>

Table 30: Research/education use cases



The relations between domain players and the domain services are given in the next table.

From	Description	To
REV1,REC1	Thematic searches/browse the results	SR1, SR2, SR5, SR8, RES1
REV2	Searches with variable entries	SR3, SR4
REV4	Detailed object description	GIS1, GIS2, GIS3, GIS4, GIS6, GIS7
REV5	Saving query results	GIS17, SR7
REV6	User's feedback	CIS5, GIS8, GIS11
REV7	Asking support from REGNET	GIS9, GIS10, RES2, RES3
REV8	See image of object	SR6
REV9	See prices	SS1
REV10	Soon coming events	GIS14
REC2	On-line shopping	RES7, SS2, SS3, SS8, SS9, SS11, SS12
REC3	Conditions of shopping	SS4, SS6, SS7
REC4	Request for training	GIS12, GIS13
REC5	Vacancies	GIS16, RES5, RES6
REC6	Request for surveys/analysis	RES4, SS10

Table 31: Negotiations between research/education domain user and research/education services

11.3 The ARCHIVE

Process Area	Scope
Archive Management	Processes to deal with new entrants, to catalogue them, to manage the existing catalogue, to preserve originals, to store them.
Archive Services	Processes to provide originals to internal or external user (online or within the archive), provide further contextual information and help.

Table 32: Archive process area



Archive actors	role
Archivist	<p>The Archivist collects and arranges the documents in order to enrich the heritage he is in charge of.</p> <p>He carries out the inventory of this heritage, he looks after its conservation and he develops the structures to make it known.</p>
Archive Assistant	<p>The Archive Assistant handles the Archive documents: he stores them and puts them to users disposal. He takes part in their conservation by verifying their conditions, by creating a copy, ...</p> <p>He receives the public, and manages the reading rooms.</p>
Scientific employee	<p>The scientific employee does research in specific themes, objects and publishes the results. He conducts authentication studies and is consulted as an expert on his specific knowledge.</p>

Table 33: Archive actors

11.3.1 Archive management

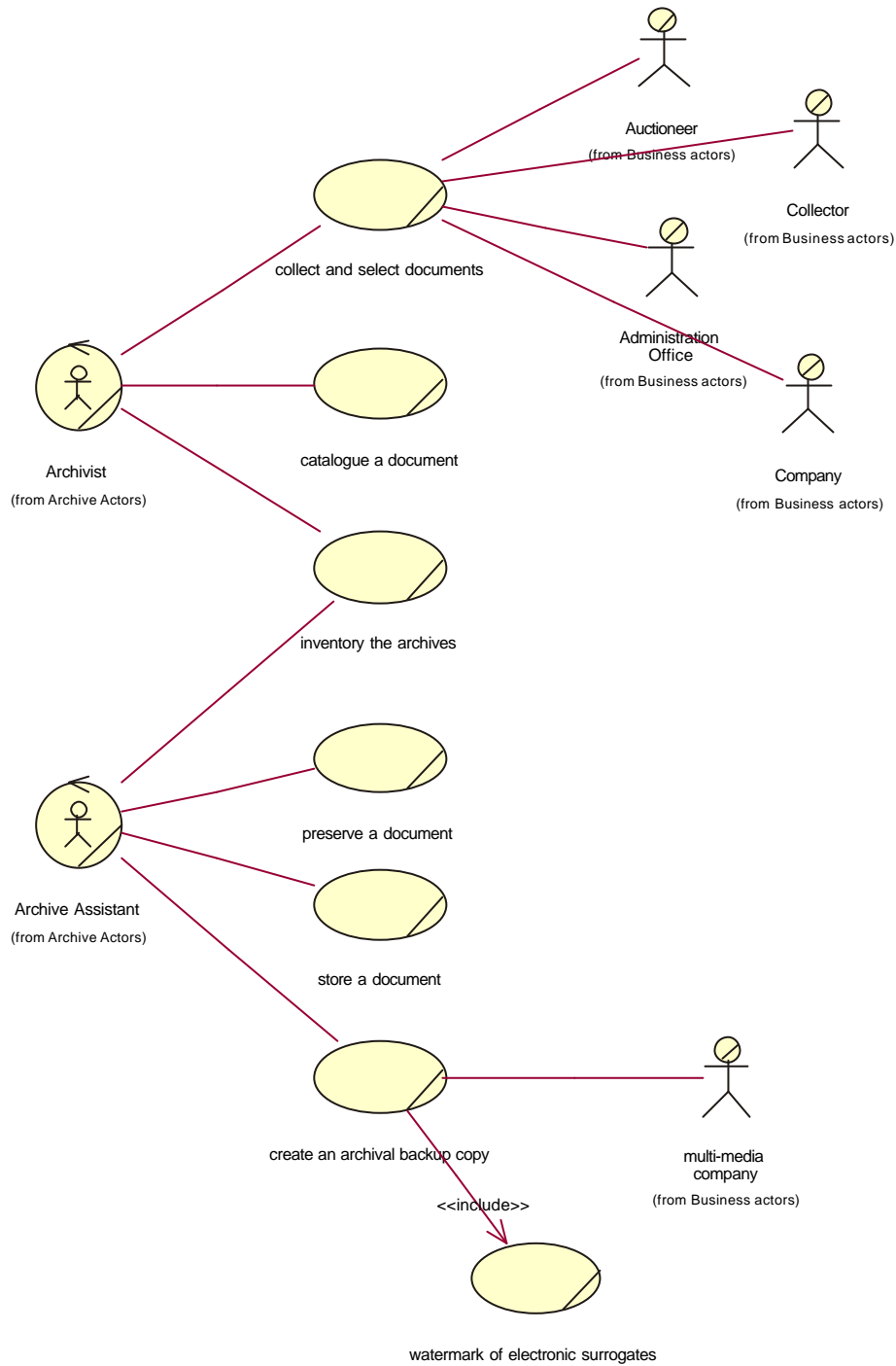


Figure 17: Use case diagram archive management



External actors	role
Auctioneer	An auctioneer is a person or a company who organises public sales
Collector	A private person or private organisation, e.g. foundation, who possesses cultural objects for his personal/organisational use
Administration Office	A town, a county, a federal state, a state
Multimedia company	A company who digitalises an object, develops multimedia objects according to cultural organisation specifications.

Table 34: Archive external actors

Use case	Descriptions	Actors
collect and select documents	Archives are regularly supplied by department offices (town, country, federal state, ...), also private collectors might leave their collections to an archive, or an archive could be interested in purchasing an estate, or some rare charters/books offered to archive. The archivist has to evaluate the document according to intellectual and material criterions. And on this base, he decides to keep it or not.	Archivist Auctioneer Collector Administration Office Company
catalogue a document	create a comprehensive record of an object including the descriptive information and associated information.	Archivist
inventory the archives	The maintenance of up-to-date information identifying all originals for which the archives has a responsibility.	Archivist Archive Assistant
preserve a document	some documents might be in bad condition, so they have to be restored	Archive Assistant
store a document	store the documents according to preservation requirements	Archive Assistant
create an archival backup copy	create analogue or digital archival backup copies to save originals in bad condition, to distribute surrogates to other archives and to have a copy if the originals gets damaged.	Archive Assistant Multimedia company
watermark of electronic surrogates	due to copyright determinations electronic surrogates have to be watermarked	Archive Assistant

Table 35: Archive use cases

11.3.2 Archive services

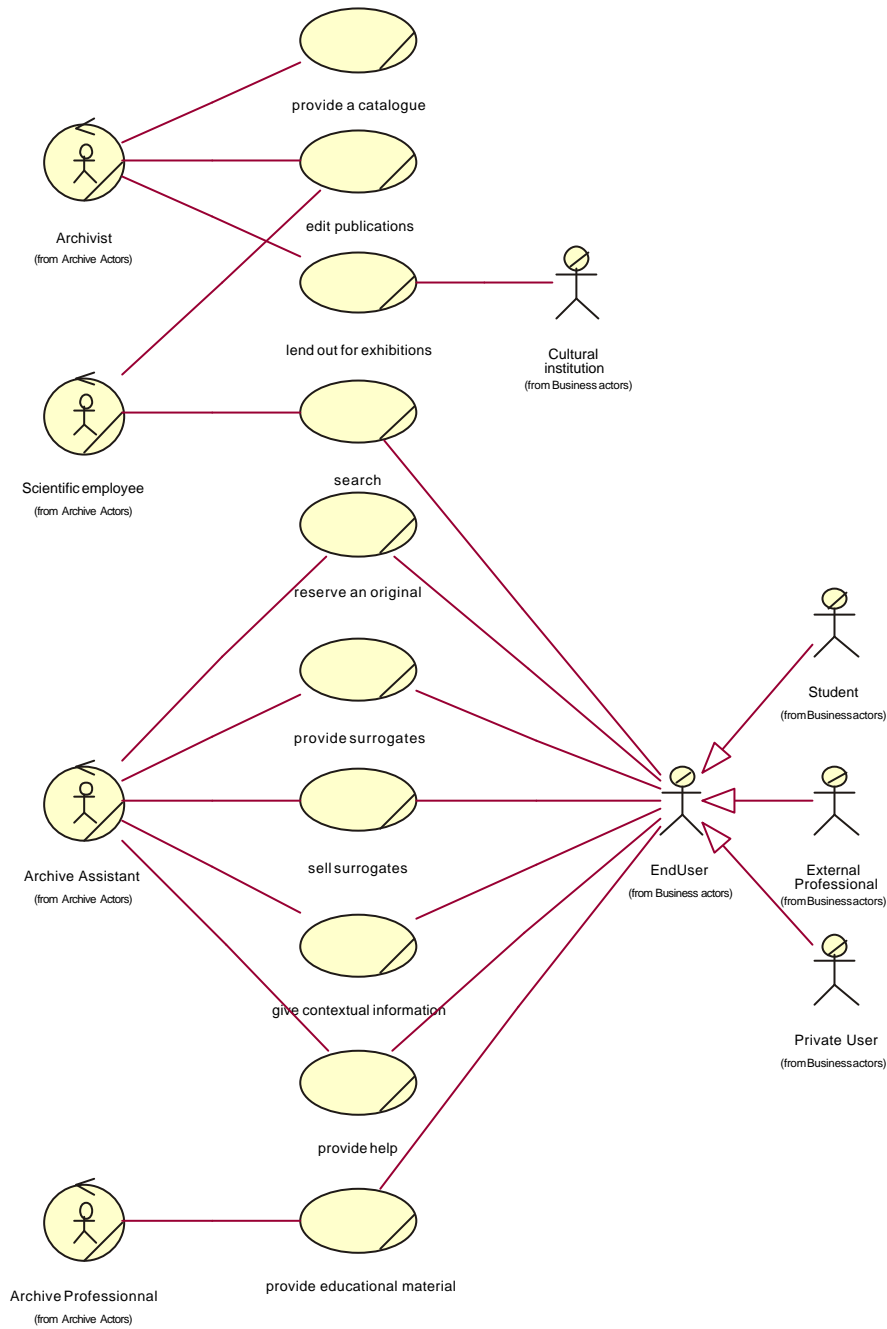


Figure 18: Use case diagram archive services

External actors	role
Cultural institution	another institution (museum, library, archives, ...) who borrows or lends an object for a temporary exhibition, research, ...
End user	visitor tourist nosy
Student	a student is a person who attends a teaching in a school or an university.

Table 36: Archive external actors

Use case	Descriptions	Actors
Provide a catalogue	The archivist provides a digital or analogue catalogue, an inventory, and put it at user's disposal.	Archivist
edit publications	Many archives publish their own journals, or books concerning local items	Archivist Scientific employee
lend out for exhibitions	originals are lent out for external exhibitions	Archivist Cultural Institution
search	The Archive provides search facilities, not all catalogues/information might be available for external users, some enquiries have to be done by internal professionals.	Scientific employee End User
reserve an original	a User who wants to consult an original, has to ask for its availability and reserves it . The reserved original is kept ready for the user in the reading room.	Archive Assistant End User
provide surrogates	The archivist puts surrogates to user's disposal. It could be online (digital surrogate) and in the Archive itself (analogue or digital surrogate).	Archive Assistant End User
sell surrogates	selling surrogate to user (copyright, quality, ...)	Archive Assistant End User
give contextual information	the users need information about the context of formation of an original or a collection (which matters are concerned, which period, creator, ...)	Archive Assistant End User
provide help	The users can need help with concerning content and access to various collections. Example: how to do genealogic research, where to search for a special document, ...	Archive Assistant End User
provide educational material	Example: to learn to read handwriting, to distribute material about local history and some special topics	Archive professional End User

Table 37: Archive use cases



11.4 The ART GALLERY

Process Area	Scope
Artwork promotion	Processes to introduce, to promote, to develop artist and his artwork.
Artist resources	Processes to provide opportunities for artists: materials, jobs, studio.

Table 38: Art gallery process area

Arts Gallery's actors	role
Artist	A person who practices, creates in the artistic domain.
Gallery manager	a person who gets to know artists, promotes and presents them and their artworks in a showroom.

Table 39: Art gallery actors

11.4.1 Artwork promotion

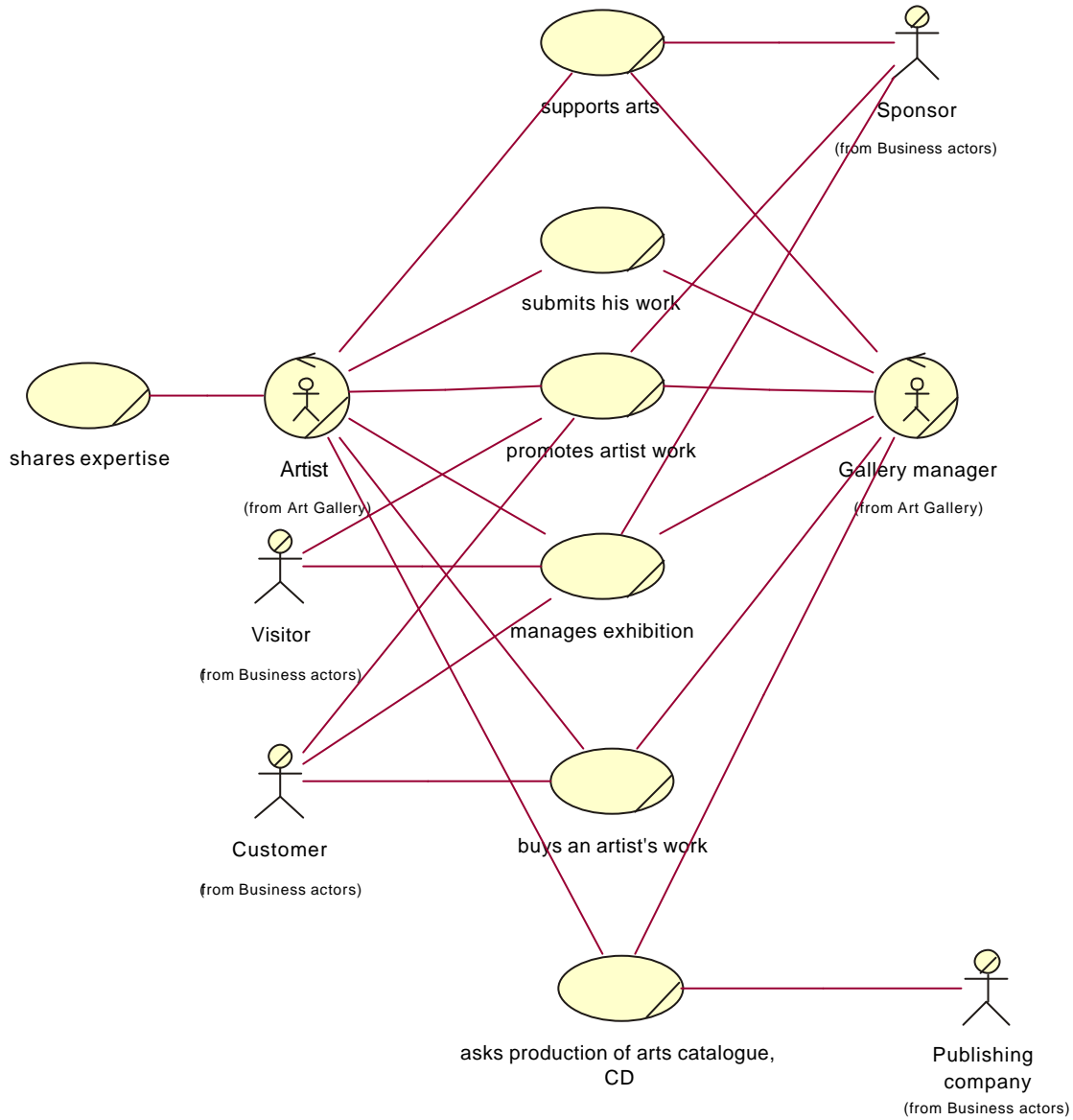


Figure 19: Use case diagram artwork promotion



External actors	role
Visitor	a visitor is a person who visits the exhibitions
Customer	buyer payer
Sponsor	a person, an institution, an organisation who finances a project (artistic, research, educational, ...)
Publishing company	A company which produces material (e.g. books, brochures, CD-ROMs, ...) according to specifications.

Table 40: Artwork promotion external actors

Use case	Descriptions	Actors
supports arts	Sponsor makes donations to art organisations, artists.	Artist Gallery manager Sponsor
submits his work	artist wants to find/contact promoters. He presents his work to gallery.	Artist Gallery manager
promotes artist work	Gallery manages artist's catalogue with the artist. Actively, Gallery advertise customers and sponsors about news works. Gallery answers questions about artist and his work, and can show the catalogue to everybody	Artist Gallery manager Sponsor Visitor Customer
manages exhibition	Gallery selects artworks for an exhibition with artists. Actively, Gallery advertises for the exhibition customers, sponsors. Gallery can advertise in art magazines. Gallery announces the exhibition to the "visitors" Gallery presents the exhibition (artists and artwork), answers questions of "visitors" Gallery has a guest-book	Artist Gallery manager Sponsor Visitor Customer
buys an artist's work	a customer wants to buy a painting, a sculpture or a reproduction	Artist Gallery manager Customer
asks production of arts catalogue, CD-ROM, posters	An artist, a gallery asks to publishing company for catalogue or CD-ROM creation with thematically ranged objects. A gallery asks for posters	Artist Gallery manager Publishing company Multimedia company
shares expertise	artists share expertise with each other, discuss about their works.	Artist

Table 41: Artwork promotion use cases

11.4.2 Artist resources

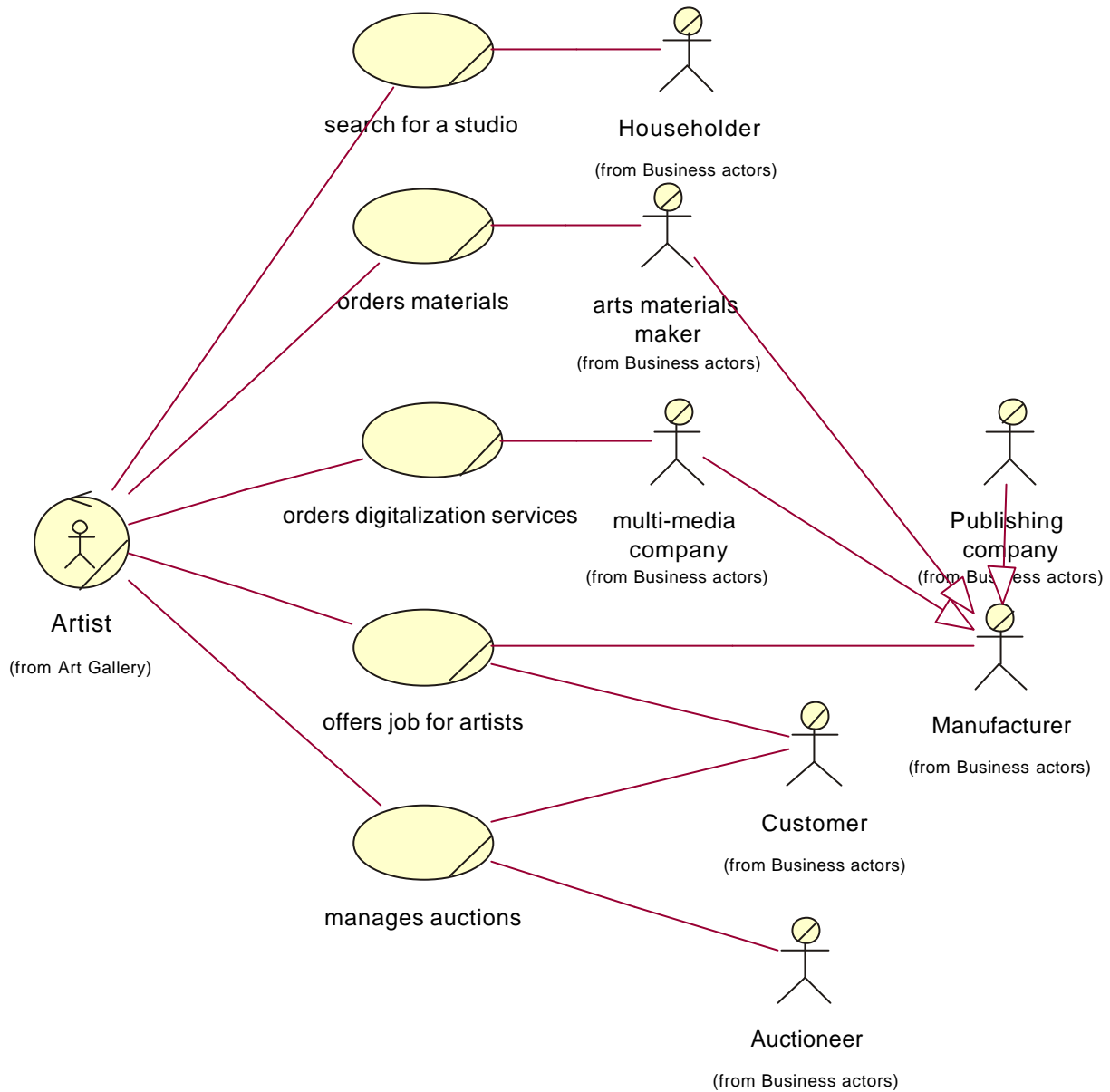


Figure 20: Use case diagram artist resources

<i>External actors</i>	<i>role</i>
Householder	A person who is the owner of real estate
Arts materials maker	A company which produces materials in a standardized or customized way according to the needs of artists
Multimedia company	A company which produces material (e.g. books, brochures, CD-ROMs, ...) according to specifications.
Customer	buyer payer
Auctioneer	An auctioneer is a person or a company who organises public sales

Table 42: Artist resources external actors

<i>Use case</i>	<i>Descriptions</i>	<i>Actors</i>
search for a studio	An artist needs an adapted place to create.	Artist Householder
orders materials	artist looks for information about consumables / materials (brushes, colours, papers, ...)	Artist Arts material maker
orders digitising services	artist needs to digitise his art's photograph	Artist Multimedia company
offers job for artists	for example, a company looks for an artist to customize its office. a person looks for an artist to reproduce a master's painting.	Artist Manufacturer Customer
manages auctions	an auctioneer supports and manages the auction of artists works. He prepares the auction, advertises customers. He announces results.	Artist Auctioneer Customer

Table 43: Artist resources use cases

11.4.3 Additional Information

11.4.3.1 Research and Education scenarios

A Set of scenarios of artists use cases are estimated.

Two main art domains users are defined: artists **(A)** and users **(C)**.

Four general art domain services, negotiating with the art domain users are established: gallery **(G)**, users/customers **(UC)**, virtual services **(VS)**, art production / selling / services **(APSS)**.

Description of the negotiations between art domain users and art domain services are given in table format.

The referring figures are shown in Appendix 9.



The appropriate activities between art domain users and art domain services are described in the table below.

Domain	Description
A. Artist as creator	<p>Artist wants to find / contact promoters;</p> <p>Artist looks for sponsors;</p> <p>Artist offers creative works on, specific themes on galleries / art production sector;</p> <p>Artist asked offers for specific works;</p> <p>Artist shares expertise;</p> <p>Artist presents himself on virtual auditory;</p> <p>Artists is looking about atelier / creative environment;</p> <p>Artist want to upload /delete textual information about citations / references of his objects;</p>
B. Artist as end user (activity related to search and retrievals)	<p>Artist search object on others virtual Web galleries;</p> <p>Artist wants to download image of the creative object;</p> <p>Searches for references about artist activities;</p> <p>Artist wants to include his link of personal web site to the REGNET system;</p>
C. Artist as a customer	<p>Artist looks for information about consumables / materials (brushes, colours, papers,...);</p> <p>Artist looks for a creative object;</p> <p>Artist wants detailed information about the object / gallery;</p> <p>Artist want contextual information about the object / gallery;</p> <p>Artist looks for the price of the object;</p> <p>I want to contact this artist;</p>
D. Artist looks for a job	<p>Artist looks for a specific job;</p> <p>Artist offers direct sells (online);</p> <p>Presentation of artist achievements /virtual gallery of individual objects and creative samples;</p> <p>Participation on auction;</p>
E. Gallery	<p>General information about galleries is offered;</p> <p>Contextual information is offered;</p> <p>Thematic / historical reviews are offered;</p> <p>Information about agenda /future exhibitions/ events;</p> <p>Feed back / notification of users / groups about soon coming events;</p> <p>Asking support for galleries;</p> <p>Creation of catalogues on artworks per categories;</p> <p>Artist can upload his works in virtual / domains galleries;</p> <p>Dissemination of galleries activities;</p> <p>Support of references / citations about galleries activities;</p>



Domain	Description
	Promote artist works;
F. Art productions / selling	Secondary productions: stickers, labels, marks; Auctions: support and management; Production /selling of art catalogues, classified per category /domain; Artist may offer /include his objects in the auction; Artist can ask CD creation with his / thematically ranged objects; Customer asks thematically related CD; Continuous shop sells; Services for digitising art object;
G. Customer	Supporter helps galleries; Supporter helps artist /creator; Customers /industry offer job for artists;

Table 44: Artist Scenarios

From	Description	To
A1	Artist wants to find /contact promoters	G4
A1	Artist looks for sponsors	UC1
A1	Artist offers creative works on specific themes on galleries /art production sector	G5,APSS1
A1	Artist asks offers for specific works	VS3,A4
A1	Artist shares expertise	A2
A1	Artist presents himself on virtual auditory	G7
A1	Artist is looking about atelier /creative environment	APSS2
A1	Artist want to upload /delete textual information about citations /references of his object	G10
A1	Artist search objects on others virtual /Web galleries	VS3
A1	Artist want to download image of creative object	VS2
A1	Searches for reference about artist activities	VS1
A1	Artist wants to include his link of personal Web site to the REGNET system	VS4
A1	Artist looks for information about consumables /materials	APSS6
A1	Artist looks for a creative object	APSS1
A1	Artist wants detailed information about the object /gallery	G1
A1	Artist wants contextual information about the object /gallery	G2
A1	Artist look for the price of the object	APSS1
A1,A4	I want to contact this artist	VS1
A1	Artist looks for a specific job	A5,VC4



A1	Artist offers direct sells (on-line)	APSS1
A1	Presentation of artist achievements /virtual gallery	VS1
A1,A4	Participation on auctions	APSS3
A1,A4	Secondary productions: stickers, labels, marks	APSS4
A1,A4	Productions /selling of art catalogue	APSS7
A1,A4	CD creation	APSS7
A1,A4	Services for digitising art object	APSS5

Table 45: Negotiation between art domain users and art domain services

11.5 INTERNATIONAL SUPPLY CHAIN

This model of an international supply chain is based on the document "Reference Model of the International Supply chain" of the BPAWG (Business Processes Analysis Working Group) of UN/CEFACT (ref CEFACT/2001/BP044).

In this paper BPAWG sets out to identify and model the key activities and relationships of the parties involved. This should enable the operation of a supply chain to be comprehended and the model used to show "best practice" as a way to highlight opportunities for improvements for all countries, businesses, governments or economies.

This model provides a common reference for standards development and trade simplification.

11.5.1 Actors

There are potentially some 40 or more actors involved in international trade. These may be categorized as **Customer, Supplier, Authority, and Intermediary.**

Actor	Definition	Needs	Possible Roles
Customer	A party who acquires, by way of trade, goods or services	Knowledge of sources of supply, Best products /services at the best prices, simpler procedures, reduced restrictions, minimum costs of operation.	Buyer Consignee Payer Importer
Supplier	A party who provides, by way of trade, goods or services	Increased market share, optimum profit, reduced restrictions to market, simpler procedures, reduced documentation, guaranteed payment.	Consignor Payee Seller Manufacturer Exporter
Authority	A statutory body existing within a jurisdiction and a specific area of responsibility that administers legislation to regulate trade and/or monitors compliance with existing legislation.	Ensure regulations are enforceable easily/effectively to protect consumer from risk or protect economy.	Chamber of Commerce Consular Customs Health Intervention Board (EU) Licensing Receiving Authority (Port Authority) Standards Institute



Actor	Definition	Needs	Possible Roles
Inter-mediary	A commercial party who provides services to Customers, Suppliers or Authorities within the international supply chain.	Efficient procedures with minimum of imposed restrictions/delays actions.	Bank / Financial Institution Broker Carrier Credit Checking Company Credit insurer Commission Agent Export Agent Freight forwarder Import Agent Insurer Inspection company Receiving authority

Table 46: Actors in international trade

11.5.2 Business Use Cases

Name	<i>Purchase and Supply Internationally (PSI)</i>
Actors	<p>Customer</p> <p>Supplier (manufacturer)</p> <p>Intermediary (PSI company, insurer, credit checking agency, credit provider, carrier, bank)</p> <p>Authority (chamber of commerce, CAP authority, license authority, health authority, customs, consul)</p>
Description	The Customer recognizes a need for a product, gathers market intelligence on suppliers, establishes contract arrangement with selected supplier, places order, product is shipped and customer pays supplier according to agreed terms of trade.
Pre-condition	Customer recognizes need for product. Potential supplier exists.
Post-conditions	Customer has product and supplier received agreed payment
Main Scenario	<p>Starts when Customer decides to look for potential supplier or supplier decides to look for a potential customer.</p> <p>Potential trading partners identified.</p> <p>Customer issues a Request for Information and interested suppliers respond or a supplier sends information to potential customers with whom they would like to do business</p> <p>Customer issues a Request to Quote to Suppliers. Suppliers respond with Quote.</p> <p>Customer negotiates with the selected suppliers to agree the terms of a Contract.</p> <p>Supplier initiates query on the Credit worthiness of his customer.</p> <p>Intermediary responds with credit status.</p>



Name	<i>Purchase and Supply Internationally (PSI)</i>
	<p>Customer and supplier agree Contract (Contract may be a Framework Agreement or a "one off" Contract).</p> <p>The customer recognizes a need for a product and places an Order under an established contact. The supplier receives Order and responds.</p> <p>Supplier meets order from stock or places order for manufacture of product on manufacturing facility (manufacturer) to meet customer's order.</p> <p>Manufacturer produces Product for shipping.</p> <p>The supplier dispatches the products according to the terms of delivery specified, and the customer receives the product. All transport arrangements are made and executed and the requirements laid down by the relevant authorities are met.</p> <p>A demand for payment is raised. The Customer (payer) makes the payment and the Supplier (payee) receives the payment according to the terms of payment agreed.</p> <p>Ends when Supplier receives payment and Customer receives products ordered and the contract terms have been met.</p>

Table 47: International trade business use cases

The Use Case for Purchase and Supply Internationally can be expressed as 5 main Use Cases reflecting the major stages in the process. These Use Cases are in turn dissected to reveal more detailed Use Case descriptions and the activities they represent.

The five main Use Cases are:

- **Identify Potential Trading Partner** (Market intelligence gathering, RFI)
- **Establish Business Agreement** (RFQ, Selection/negotiation, Establish framework or contract with selected supplier including agreement on payment terms and delivery terms (Data Alignment))
- **Order** (Including order change, confirmation etc)
- **Ship** (Including transport and all appropriate administrative and regulatory actions)
- **Pay** (Including Invoicing or other means of instigating a payment, disbursements, taxes, and the payment itself)

Other Use Cases may be "included" as part of these Use Cases. They are:

- **Check Credit** (supplier checks with credit checking agency on credit worthiness / solvency of potential customer)
- **Manufacture** (includes supplier ordering product, production and packing of goods)

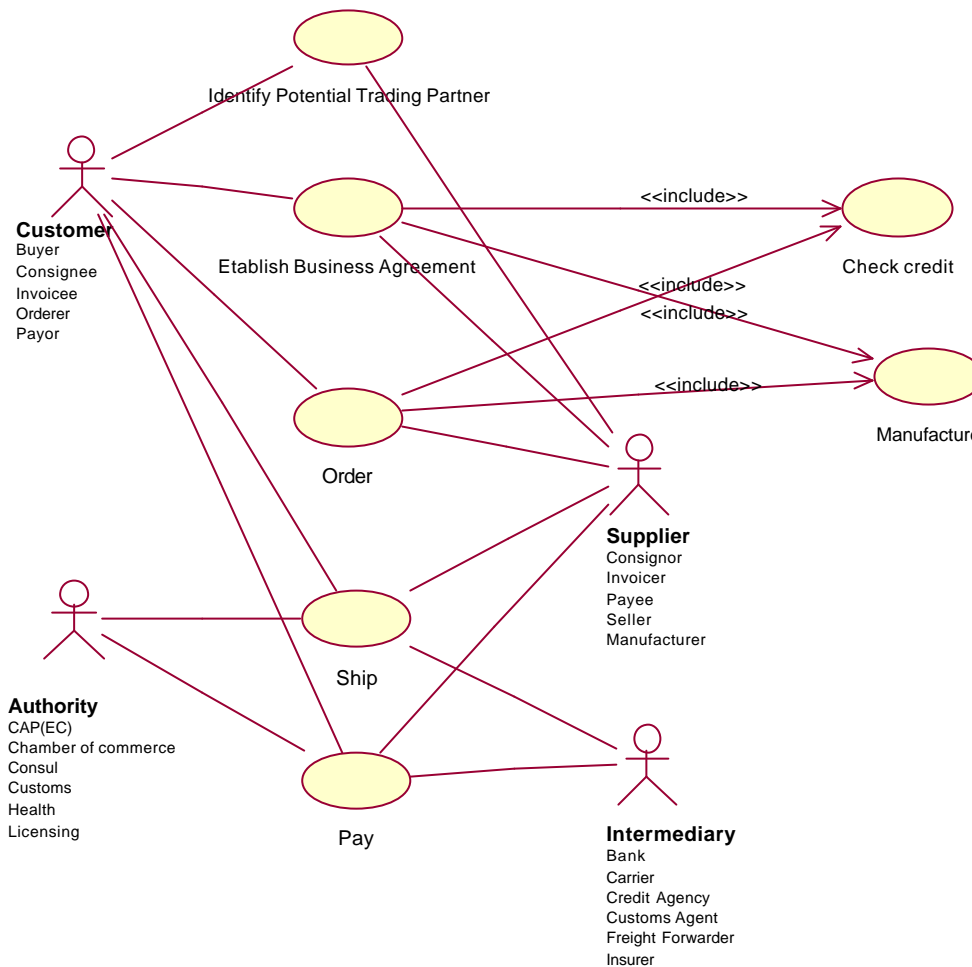


Figure 21: Use case diagram international supply chain

11.5.3 Use Case Elaboration (Level 2)

Use case	Descriptions	Actors
Identify potential partners	The customer looks for potential suppliers and the supplier looks for potential customers. A Customer issues a Request for information and interested suppliers respond or a Supplier sends information to potential customers with whom they would like to do business.	Customer Supplier
Establish Business Agreement	A Customer issues a Request to Quote to Suppliers. Suppliers responds or Supplier sends an unsolicited quote to a potential Customer. Customer negotiates with the selected suppliers to agree the terms for a Framework agreement or a "one off" Contract.	Customer Supplier



Use case	Descriptions	Actors
	<i>Pre-condition: Customer has identified potential suppliers</i>	
Check Credit	Supplier initiates query on the Credit worthiness of his customer. Intermediary responds with credit status. <i>Pre-condition: Supplier has identified potential customer</i>	The Supplier Intermediary (<i>Credit checking agency</i>)
Order	The customer recognizes a need for a product and places an Order under an established contact or a framework agreement. The supplier receives order and responds. Ends when order conditions have been met or order is cancelled. <i>Pre-condition: A contract or a framework agreement exists</i>	The Customer the Supplier
Manufacture	Supplier paces order for manufacture of product on manufacturing facility (manufacturer) to meet customer's order. Manufacturer confirms intent to produce goods and planned delivery date. Product available for shipping. <i>Pre-condition: Supplier has his own manufacturing facility or a supply agreement with an external manufacturer</i>	The Supplier (<i>manufacturer</i>)
Ship	The supplier dispatches the products according to the terms of trade specified and the customer receives the product. All transport arrangements are made and executed and the requirements laid down by the relevant authorities are met. <i>Pre-condition: An order sent by customer has been accepted and confirmed by the supplier</i>	The Customer the Supplier Intermediary Authority
Pay	A demand for payment is raised. The payer makes the payment and the payee receives the payment according to the terms of trade agreed. The terms of trade specified in the Contract . <i>Pre-condition: Framework agreement that apply to the transaction have been met.</i>	The Customer the Supplier Intermediary Authority

Table 48: Use case elaboration (level 2)



Part 3 Identification of Market, Segments and User Groups



12 Introduction

12.1 Overview and document structure of Part 3

The initial chapter, "The cultural sector in the EU and the related markets: an overview" is an overview of the cultural sector in the EU, analysed with a special reference to economic aspect and in particular to the size and trends of the underlying reference markets. It is mostly based on an extensive collation of publicly available or confidential reports and studies from various sources, including EU services and European projects, research organisations, magazines and specialised journals.

The chapter "Museums: New Technologies – New Challenges" investigates with further detail on market perspectives opened up by the application of New Media technologies in the museums sectors.

The Surveys of online products/services offered by museums, libraries and individual artists, together with the "Survey of Internet-based micro payment systems" form a section composed of four groups of first-hand original surveys in four key sectors. By "survey" we mean a commented collection of selected items concerning a specific subject, after direct investigation of publicly available information. Basic downloads from the surveyed web-sites, by which one can grasp a basic idea of the surveyed web-sites without actually visiting them, are attached as Annexes. They have been captured and recorded also to document their state at the time of the surveys, given their high volatility.

Specifically, the surveys are composed of a Survey of online services offered by Museums; a Survey of online services offered by Libraries; a Survey of online auction and offering systems for individual artists and finally a Survey of state-of-the-art of micro-payment systems. The first three surveys are about three major segments of Cultural Heritage online market, while the fourth one is about a key enabling functionality. Each survey is followed by conclusions which provide important remarks to be further analysed by a thorough competition analysis.

"Initial identification of REGNET user groups" chapter is an early attempt at identifying and describing the user groups which are potentially interested in REGNET. We have assembled data from various sources, including verbal and written contributions by REGNET partners (especially content providers), to compile this first approximation to a fully-fledged demand analysis.

In "Methodology and roadmap" chapter we analyse critically the results, identify remaining weaknesses and propose a methodology and a roadmap to achieve a more complete market assessment in the next phase of the REGNET project.

13 The cultural sector in the EU and the related markets

13.1 Culture and economy

Up until recently, the economic and labour market aspects of the arts and cultural sector were of secondary significance. Culture was seen as part of social policy and was not considered an area which could or should be subject to "normal" economic criteria, since these criteria were interpreted as incompatible with culture. In many European countries, art and culture were understood as a public service meant to promote the aesthetic sensibilities of the nation's citizens.

Over the last 10 years, the number of commissioned scientific studies and political programmes on the broad topical spectrum of "Cultural Economy and Employment" has increased dramatically. Both the current discussion on the theory of culture and current policy are characterised by two processes which are independent and affect each other's further development: one speaks of the "economisation" of culture, on the one hand, and the "culturalisation" of economy, on the other hand.

Studies addressing themes which combine the aspects of economy, culture and the labour market are in the forefront of the current applied research. At the present time, labour market policy viewpoints still play a subordinate role. This, however, is changing in the face of the increasing need for legitimisation of public budget expenditures.



There is neither an EU-wide uniform definition of “cultural economy” nor are there corresponding standardised statistics on the EU level which can serve as the basis for empirically depicting the employment developments in the area of culture. Not least of all due to historically evolved patterns of interpretation, European countries have quite different understandings of the cultural sector. Due to inadequate quantitative foundations, the majority of statements to be found in the scientific literature are made based upon non-empirical studies.

13.2 The cultural sector in the EU – characteristics, volume and trends of employment

According to the broadest definition, there are currently 7.2 million workers in the EU cultural sector. This figure is significantly higher than assumed in previous studies.

From 1995 to 1999, the cultural sector in the EU experienced an average annual rate of employment growth of 2.1%. This employment growth was concentrated in those areas within the arts and culture where the demand for content is greatest, while employment stagnated in the characteristically industrial areas (such as the printing industry).

Within the cultural sector, employment figures for cultural occupations grew sharply at an annual rate of 4.8% during the period of 1995-1999, whereas non-cultural occupations in the cultural sector (such as administration) fell.

Continuing employment growth in the creative occupations of the cultural sector is to be expected in the future since the demand for cultural products and services is strongly increasing, both from private households and from companies. Employment growth in the area of distribution will also increase, but not at the same rate as in the development of cultural “products”. “Content producers” seem to be in greater demand than marketing and sales people.

13.3 Employment in digital culture – characteristics, volume, trends and requirements

The “digital culture” is the result of an interaction between “traditional” culture (content), the TIMES sector (technology) and services/distribution. The increasingly used term TIMES sector (Telecommunication, Internet, Multimedia, E-Business, Software and Security) is used in this report to cover the whole audio-visual sector, i.e. the entire multimedia sector, including culture industry areas such as TV, publishing, and the music industry. The great advantage of this sector definition is that it covers all value adding chains – horizontal and vertical - i.e. not only the sector we are interested in, with its content-oriented, creative activities, but also the whole sector of infrastructure suppliers and devices.

In this context, digital culture is the result of an interaction between traditional culture (content), the TIMES sector (technology) and services/distribution (see the Figure below).

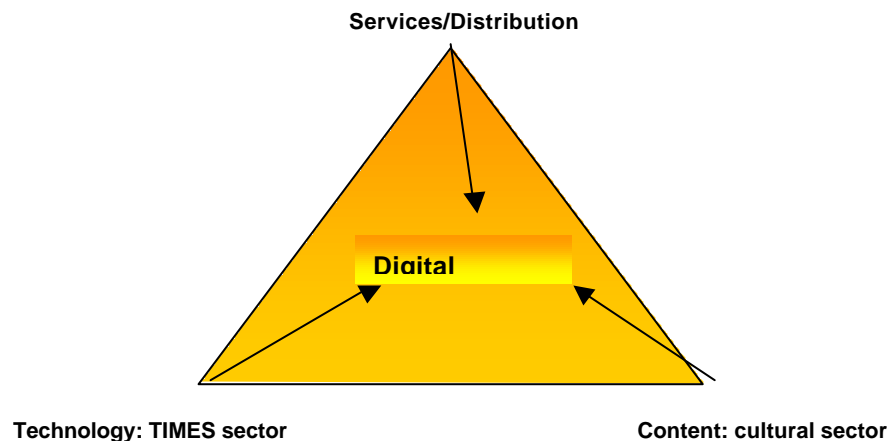


Figure 22: Dicult culture- joint forces of content, technology and services

The TIMES sector in the EU is characterised by very small companies. Only 13.2 % of the companies have more than 50 employees. There is a very high proportion of freelancers, with 1.3 freelancers for every regular employee. In contrast, at 30 % of freelancers out of employees, the share of women is very low. The percentage of women employed in creative occupations is even lower, and when it comes to company start-ups, only 20 % of new TIMES companies are set up by women.

Digital culture demonstrates enormous employment dynamics, particularly in the areas of multimedia and software. These two sub-sectors are those with the greatest demand for content and creativity and therefore represent the best employment opportunities for creative workers.

There are currently approximately 1.5 million companies in the EU active in the areas of multimedia and software, representing a total of 12.4 million workers. Even assuming a declining annual growth rate over the next 10 years from 10 percent in 2001 to just 3 percent in 2011, we can estimate 22 million jobs in the year 2011. Thus, approximately 9.6 million new jobs will be created in multimedia and software in the next decade.

However, the TIMES sector is currently already experiencing great shortage of personnel at an EU-wide level. This shortage of qualified personnel represents the number one hindrance to growth in the TIMES sector.

In digital culture, completely new job profiles and qualified content are presently emerging which are extremely interesting for cultural workers. The rule of the thumb which can be applied to this sector is that the entire technical segment, including technology, infrastructure, hardware and printing, will undergo a period of relative stagnation or even decline (with regard to both jobs and contribution to the value adding process), whereas all content-oriented i.e. creative areas of employment will continue to show high growth rates (Web design, advertising, publishing, media, education, entertainment, etc.)

13.4 The size of the creative economy

Every one of the creative industries is supported directly or indirectly by museums and galleries. Digital access will enable museums to provide them with a much better service. The print and publishing industries, for example, already make extensive use of museum collections and images. The acquisition of digital reproduction rights has become one of most important new art markets in Europe.

Designers, manufacturers, but also artists and students will all benefit from electronic access to the creative wealth of museums and the cultural heritage area.

This will be particularly significant at local and regional levels as the creative industries feature more prominently in regional economic and cultural strategies.



"The Creative Industries: Department for Culture Media and Sport 1998" stated that "in UK, the creative industries generate revenues approaching £60 billion a year. They contribute over 4 per cent to the domestic economy and employ around one and a half million people. The sector is growing faster than, almost twice as fast as, the economy as a whole.

The contribution of the creative industries to the gross domestic product is greater than the contribution of any of the UK's manufacturing industries."

13.5 Archives - Libraries - Museums ICT cultural services

The internet is revolutionising the ways in which all organisations work. The ability to generate new services and to interact with audiences, visitors and customers in new ways represents an exciting opportunity for all those seeking to contribute to and enhance cultural and learning experiences. And for organisations, including government, charged with delivering often complex services to the public, the internet offers the chance to relate more directly to their needs and tailor services more exactly to their requirements.

At the same time, internet technology has opened up possibilities for organisations not only to increase their efficiency in their dealings with the public and with other organisations, but also to develop new sources of revenue through a number of channels.

In recent years libraries, museums and galleries and also archives (even if to a lesser extent) have undergone a transformation of image and practice. Museums in particular, visited by nearly a hundred million people each year, are now aiming at providing an exceptional diversity of activities, exhibitions and services. They are learning that their presence and authority in the real world is not automatically translated into the virtual world. Setting up a website is not only a prerequisite, it is also a powerful communication channel to their audience. It should therefore be driven by the needs of the user rather than by the demands of the organisation itself.

In April 1999, about 300 UK museums had websites despite their shortage of resources, and lack of in-house technical expertise.

In a report from the National Museum Directors' Conference 1999 "A netful of jewels" it is estimated that "by 2002 there should be 400 museums providing digital services on-site and online". This number is considered realistic thanks to the fact that currently 400 museums have more than 50.000 visitors each year with educational staff too.

The National Maritime Museum in UK is experimenting its e-publishing service. It has developed the e-Journal of Maritime Research, as part of its "Port" facility. It offers access to regularly updated academic material reaching its target audience in the most effective way. Users may subscribe to the service through an online transaction.

In the last few years, Museums and other cultural institutions have been experiencing a huge and growing public interest in information about their collections, works of art, and their archives. People want museums to provide collection related information and they want interactive, participative online services, too.

In a special report of Business Week "Rethinking the Internet" March 26, 2001, it is stated that the *information-intensive industries* are good candidates to be transformed by the Web. The Internet is expected to be revolutionary in the financial services and health care, but especially in the *entertainment* and *educational* sectors.

In explaining people's expectations and online payment, it states that "The N° 1 thing Netizens do online is look for information. Some, but not the majority, are paying online and may be willing to pay for reliable, updated and focused information. They would also like to learn more about their personal interests, and they would like to enjoy their learning.

This means that they would benefit from integrated resources offered by museums, libraries, archives, universities and other arts, humanities and science institutions world-wide.

Museums already deal with very large numbers of public enquiries. The Science Museum in UK, for example, handled 27,000 enquires in 1998/99. Even a smaller museum such as the Potteries Museum and Art Gallery in Stoke-on-Trent now receives around 6,500 enquiries a year – including a high proportion from North America.



The British Library is beginning to restructure its Document Supply around the internet. More than 88% of orders are received on line. The number of deliveries online is currently about 7%, mainly due to electronic rights issue, but is growing steadily.

The awareness that there is a need to create new online services, targeted to user groups, has also led to the awareness that these online services should have certain characteristics.

In a recent report of August 2000, "Creating e-value" from DCMS, the keys to success for cultural on-line user-oriented services are summarised as follow:

- tailored content
- (focusing on the quality and functionality of content, for specific groups of users)
- promote interactivity
- (user involvement and participation)
- set up a virtual community
- (targeting interests of specific audiences and promoting communication and exchange of information)
- provide additional services
- (additional integrated services to enhance user satisfactions and foster loyalty to the web site)

As far as concerns the museums' web sites visitor characteristics, in an A&MI conference "Museums and the web", a recent survey has highlighted that:

- 88% of visitors to multimedia cultural web pages are based in North America (issue of access and of language)
- women make up 46% of museum virtual visitors
- the average age of people visiting museum web pages is 40 - 64 years of age
- 74% of people expect to find on-line exhibitions when visiting museum Web pages and interactive services
- only some of them are willing to pay.

14 Museums: New Technologies - New Challenges

Social, economic and technology changes are triggering factors for many new challenges in museums. Under the increased economic pressure they are forced to open themselves to the market and to re-define their self-image and their strategies. They have to learn that culture and economics are not excluding each other - that the traditional idea of a museum as a non-profit organisation serving society obstructs the view on museums as enterprises that are submitted to the laws of the market. They are forced to change their perception of people: in terms of the market museums become institutions serving their clients. Museums will have to develop into modern service companies that work according to the requirements of their visitors without neglecting traditional tasks like collecting, maintaining and educating.

"Global players" in the cultural sector as the Museum of Modern Art and the Tate Gallery with their E-platform-project have shown the direction that museums and other cultural institutions could take in the future: using the possibilities of internet technologies for the increase of service quality, self-financing, the construction of regional and global networks to realise their tasks and goals, to enter new markets and target groups. In fact the possibilities of new technologies as multimedia and internet for radical redefinition of the museum's functions are vast: On the one hand the use of the internet is a superb possibility to employ marketing instruments, on the other hand it offers the possibility to generate new products or to make existing products more attractive via a new media presence that addresses yet unknown target groups.

Museums are going online - since the appearance of the first museum web sites, hundreds of museums have established a presence on the World Wide Web. But regarding the actual usage a



gap of possibilities and realisation can be observed. The potential of the medium internet is often not exploited in the way it could be. Web presentations with professional marketing instruments and the use of the communicative and interactive possibilities of the medium are still not common. Many museums still provide their visitors only with the basic information: address, opening hours, and exhibition programmes. Many museum web sites are simply "brochure-ware", a means to promote the museums and its activities. They consider the internet mainly as a possibility to increase their recognition rating and to polish up their image via a better public relation and information service, mostly not realising to what extent they can benefit from the web. In a world in which nearly everything is accessible from every place museums have to compete with other media and service providers. In order to become important players in the information age they have to try to offer services within the mobile, virtual world which do not only support traditional functions. The question is no longer if, but how fast the importance of the medium for marketing activities and commercial transactions will increase.

To give a structured overview about museums products *today* and *tomorrow* the following chapter focuses on a short description of products traditionally offered by museums as well as new products on the basis of new technologies, especially the internet.

14.1 Museums products: Today - Tomorrow

Central for any museums activity is the „collection“ which can be described in terms of amount, type, importance, completeness or value of its objects. Their maintenance, enlargement, examination and imparting is the focus of all museums tasks and it is therefore often defined as the "core product" of museums. A more enlarged view states that the collection is the basis for the derivation of several products and services and could be used in different ways.

The following scheme tries to categorise museum products in:

- Exhibitions and museum programmes (e. g. guided tours, events)
- Information and communication services
- Educational and content services
- Other services

Information and communication services could be defined as services offered in order to provide background information about the museum and its exhibitions, e. g. leaflets, information sheets on special projects and exhibitions, aids for interpretation (like story tellers, headlines), introductory videos, museum newspapers and in electronic media virtual exhibitions. *Educational and content services* are services/products produced out of the collections, their work and know-how, e. g. advisory services, educational services, databases of digital objects, CD-ROMs, catalogues and publications and research material. *Other services* are services which could be sold in "real" or virtual museums shops, e. g. posters, postcards, objects, T-shirts. Museums products vary for different museums, collection types and the primarily "vision" of the museum.

Apart from the mentioned "traditional" museum products new products could be generated by increasing community activities of museums. Such products help museums to be present outside themselves and comprise touring exhibitions, museum shops and outreach programmes. The most familiar outreach activity of museums is the lending of objects for exhibitions as well as the organisation of travelling exhibitions to schools, hospitals etc.

As stated above, "museums are going online" and the new medium offers a variety of possibilities to distribute and to sale existing products. The following (product-oriented) online-strategies can be distinguished:

- Traditional products in traditional access and distribution formats (Output stays the same)
- Traditional products in new access and distribution formats (Output is or can be modified)
- New products and business sectors in new formats (New output is generated for or on the internet)

The table below provides an overview about products and services which will be described in the following.



Enabled through new media/internet		
<u>Current Services</u>	<u>Changed Services</u>	<u>New Services</u>
Exhibitions (and programmes)	Digitised objects (data bases)	Shared databases
Collections (archives and depots)	Online exhibitions	Web-based training, E-learning programmes
Educational Material	Virtual tours	Print-on-demand services
Print, video, CD-ROM, slides	WWW-access to publications and educational material	Thematic portals
Seminars, events	Online-shops (with distribution possibilities)	Interactive games
Advisory services	Digital products on the WWW	Personalised services
Printed museums publications	Background information (e. g. links) to artists, exhibitions etc.	E-Newsletter
Multimedia		Online-membership programmes
		Sponsoring activities

Table 49: Current, changed and new services offered by museums

In the first category, the internet is merely a platform for information about an offer that the customer can make use of in the museum itself. Concerning a museum, this could refer to information about the museum, its exhibitions and activities as well as the possibility to order tickets or book guided tours via web. Products that can be ordered online from the museum shop and are delivered by mail also belong to this category (e. g. books, catalogues). The internet is used for the *promotion* of services, the service itself is being consumed how and where it used to be consumed. In this case, added value is generated by the convenience of the obtaining of information and ordering, by the added information and communication services as well as the possibility to compare products and prices. Direct income generation will become realistic when cheap and secure charging is available. Most museums will provide on-line shopping facilities, perhaps in alliance with other museums or commercial partner organisations.

Examples of products and services in this category are:

- Exhibitions (and programmes)
- Collections (archives and depots)
- Education material
- Print, video, CD-ROM, slides
- Seminars, events
- Printed museum publications (catalogues, museums' books, scientific publications)
- Multimedia (e.g. video, CD-ROM)

In the second category all services are included which are modified (or can be modified). An example would be information services in digitised form (leaflets, folder, press info etc.) that can be obtained via internet (e.g. download) or via traditional ways of delivery (museum, mail). The consumer can choose in which way he prefers to access the product. An example for the simultaneity of a physical and a digital product is a museum's newspaper that is delivered to museum's members and customers by mail while at the same time published on the internet to be read and printed out there as well.

The added value for the customer is that he is able to choose the way in which he wants to consume the offered information services. Online features of this category are often equipped with added



services, e.g. the museums offers, adding to the download option of press reports, an archive with earlier press releases. The user gets the possibility to get in touch with the museum via e-mail or to make suggestions and comments, hyperlinks give direct access to related web sites.

Examples of products and services in this category are:

- Digitised objects (databases)
- Online exhibitions, virtual tours
- WWW access, Downloads of educational material/publications
- Distribution via online shops
- Digital products on the WWW
- Background information (e. g. links) to artists, exhibitions and objects

In the third category, new services and products are generated exclusively in or for the internet like shared databases of different museums or personalisation services for the creation of digital products. Networks and networking - in the sense of linkage between different museums - are one of the central factors of developing new services on the web. In that respect the internet is superior to any other medium.

The added value of this category of products is the ability to offer an extent and a relevance of services elsewhere yet unknown. Portals with thematic and trade focuses are ideal-typical products enabled only by the internet. Compared with products on conventional media like print or CD-ROM catalogues, the internet adds an extensive range of search functionality, hyperlinks to related sites or platforms and a multitude of communication and contact possibilities which contain a degree of added value for providers and customers unobtainable by other media.

Examples:

- Databases with objects of different museums
- Web-based training
- E-learning programmes
- Print-on-demand services
- Thematic portals
- (Interactive) Games
- Online membership programmes
- Sponsoring activities (e. g. for exhibitions)
- Personalisation services for the creation of digital products (e. g. personal calendars)
- Electronic newsletter for notification about special exhibitions, educational programs and Members' activities

Last but not least, several products created for or generated on the internet could on the other hand get another media presence, e.g. a virtual exhibition which is being distributed on CD-ROM. There is also the possibility of publishing complementary products as a paper catalogue issued at the same time as a virtual exhibition.

14.2 Examples: Trends and Development possibilities for online products

A main feature concerning visitor service will be the extension of virtual guided tours through the museum which are of special interest for people who are not able to visit the museum themselves or for those who want to prepare their visit thoroughly. The value for the web user increases if additional information about the displayed objects are given. A good example is the National Museum of Science and technology Leonardo da Vinci (<http://www.museoscienza.org/english/museovr/-Default.htm>).



Virtual exhibitions offer another possibility for museums to present themselves on the WWW and contain several advantages: they are cheap and they offer opportunities that are often too expensive to be realised in the physical exhibition, like bringing together objects from different collections from all over the world or not accessible for the public. Virtual exhibitions can be used for PR-purposes and to reach customers that are unable to visit the museum itself. An example for an exhibition designed exclusively for the internet is the LEMO project of the Deutsches Historisches Museum that presents a collection of text, image, audio and video files about German 20th century history (<http://www.dhm.de/lemo>).

Sending live pictures from the museum via web cam or special pictures or sequences generated via web cam at special events is another feature that some museums have taken up and that might become a new standard for museums' web sites (see for example the London Transport Museum under <http://www.ltmuseum.co.uk/piazzacam/piazzac.html>).

In future strong focus especially under an educational point of view will be put on interactive applications. The user is encouraged to gain active access to the information the museum is able to offer, a feature set up ideally by the Metropolitan Museum of Art (<http://www.metmuseum.org/guestbook.asp>). "My Met Calendar" allows to customize the Museum's online calendar so that it displays only those events that are likely to interest the individual user. "My Met Gallery" gathers together one's favourite works of art from the Museum's online collection. E-Learning and web based trainings are applications that could be a useful and interesting contribution to the conventional educational programmes of museums.

A special feature that slowly finds its way into museums' online presentations is the employment of WAP-services for the dissemination of all kind of information concerning the museum, its collections and programme. It is yet unknown if this feature will become state-of-the-art for the online products of museums or remain a rather exotic service mostly left up to commercial providers. An example can be evaluated on the website of the Istituto e Museo di Storia della Scienza (<http://galileo.imss.firenze.it>) and on the commercial site <http://www.museum.com/http://virtual.wapjag.com/?url=wap.museum.com>.

An example for an integrated museum' database that even offers the possibility to order high-quality prints of items of the museum's collection using state-of-the-art technology (= print-on-demand) promises to be the project "Opening the museum" of the Museum of Fine Arts in Boston (<http://www.mfa.org/>). A further scenario for the future would be networking museums databases that receive their data from the individual databases of the associated museums and increase their value by merging the spread-out data.

Museums can also play a key role in the development of subjects gateways in the web, concerning the amount of expert knowledge, objects and information they maintain. Possible contents could be scientific publications, digitised images, records etc.

14.3 Conclusions

To summarise, as far as it can be estimated, a focus of the future of museums' online products will most probably be the education and content market with its different ways of enabling access to the museums' collections and knowledge, thereby adding to the development of the knowledge society. Museums are forced to take their chances on these markets if they want to be successful to gain the customers' time and – not to forget – money, a point of interest with increasing importance in times of decreasing public funding.

Only few European museums have by now got involved in the more commercial dimension of museums' online presentations. They take advantage of hardly any other e-Business application than the museum's online shop. Regarding the progress of the digitisation of museum collections this situation could change towards the discovery that the object databases are a new resource to be made use of. Museums need to develop strategies and models about how to at the same time fulfil their non-profit obligation to educate and inform the public and to exploit their resources commercially. Networking could help to change museums' websites into small, but growing profit-centres.



15 Survey of online products/services offered by museums

In this section several best practice analysis for museums are offered. This is only a small selection from the benchmarking process (see D1 for more details); the described museums show a special "model feature", which qualified them for inclusion into this report.

15.1 Survey on The Metropolitan Museum of Art

Reason(s) for inclusion in survey: The Metropolitan Museum of Art is an outstanding art museum that offers a wide range of online features as online exhibitions, educational resources, searchable databases, and an online museum shop.

Source(s) of information: <http://www.metmuseum.org/>

Relevance to the REGNET project:

The MOMA can be considered as a model portal for a museum. It offers thematic access to the collection via an easy and direct navigation and very good e-Business applications of its store.

Model feature: Membership

Most American museums offer a wide range of membership possibilities. Usually they include services as reduced entrance fees, discounts for products of the museums shop, regular information about the museum; sometimes even participation in guides preview tours, invitation to study trips or luxurious dinners and receptions for sponsors.

The met museum has set up a new form of membership for internet users: Met-Net-Membership costs \$50 and includes free entry to the museum and all special exhibitions for one year, a dinner in the museum with scenic view over Central Park and a Met-T-Shirt. Adding to that there are different internet offers as the Met Screen Saver, online audio features about the collection and a 10% discount on all merchandising articles in all museum shops and the online shop.

All memberships can be booked via credit card; you can also give the membership to somebody as a present.

Keywords list:

Museum shop

Online exhibition

Thematic access to the collection

Education

Database

Main characteristics

User groups: Generic user (B2C)

Covered Themes/Topics: About 3.500 objects from ancient to modern art

Object/Information Types: Data, images, multimedia objects, physical goods

Categories of items: Books, reproductions, CD, reproductions

Digital storage of objects: Full text, images: jpeg

Multimedia elements: 3D exhibition rooms

User Access and Interaction

Access through topics

Search through the whole collection, the educational content, the events and the Met Store

Interactive services



Educational resources

Strong interaction with the user

Personalised services

Good on-line store

15.2 Survey of Istituto e Museo di Storia della Scienza di Firenze

Reason(s) for inclusion in survey:

The "Istituto e Museo di Storia della Scienza di Firenze" is an example of a rather small thematic museum's website with integrated library catalogue

Source of information: <http://galileo.imss.firenze.it>

Relevance to the REGNET project:

The "Istituto e Museo di Storia della Scienza di Firenze" is one of the few museums that has made first steps towards WAP services.

Model feature: WAP Service

Keywords list:

Museum

WAP services

Special exhibitions

Virtual navigation of Galileo Room

Main characteristics:

User groups: Professionals; Young and science amateurs; School classes

Object/Information Types: Digital goods; Data; Information services

Categories of items: Works of art; Books

Digital storage of objects: Photos; Images

Multimedia elements: Virtual navigation of Galileo room

User Access Methods: Virtual navigation of Galileo room; Virtual exhibitions

Search functionality in the library section

15.3 Survey of The Tate Gallery

Reason(s) for inclusion in survey: The Tate Gallery offers a user-friendly website with a lot of information like details about the collection, various search features, information about visitors service, the educational service and contact addresses. In addition to that, there is a huge online shop with all kinds of state-of-the-art features for e-shops (<http://www.tate.org.uk/shop/default.htm>)

Source(s) of information: <http://www.tate.org.uk/>

Relevance to the REGNET project:

Model feature: Sponsoring (<http://www.tate.org.uk/supporters/default.htm>)

On its website, the Tate Gallery tries to recruit new sponsors, offering different forms of memberships as pointed out above. There are also special possibilities for companies to support the Tate: sponsoring the restoration of an object, educational programmes of the museum or whole exhibitions. In return for that, special reductions and programmes are offered for the members of the sponsoring companies. In addition there is also a membership for the company that includes discounts and the participation in special events.



For US sponsors, there is a special feature to support the Tate and at the same time save taxes: the Tate American Fund, situated in New York. As US legislation states that donating money for art objects to cultural institutions can be deducted, this might meet a real demand in the States.

Tate also asks openly for other forms of sponsoring like donations and legacies.

Keywords list:

Art Museum

Online Shop

Sponsoring

Online Exhibitions

15.4 Survey of Kunsthistorisches Museum Wien

Reason(s) for inclusion in survey:

The website of the Kunsthistorisches Museum Wien is a pure information site, offering museum and visitors' service information. On the clearly structured site you can find a short overview about the museum's history, links to special locations and collections, their focus and history.

Source(s) of information: <http://www.khm.at/>

Relevance to the REGNET project:

What is special about this museum's site and makes a difference to that of other museums is the huge amount of information given about objects and artists of the different collections. The user can choose from a menu and get a sample of the picture, textual information about the object, the social, art historical and historical background and a list of other works of the artist kept in the collection.

This kind of information policy is very useful for preparing for a museum visit or evaluating it afterwards.

In addition to that, the online museum shop can be regarded as a model for such a shop on the internet.

Keywords list:

Museum

Collection

Search through the collection

Online Shop

Educational Resources

15.5 Survey of The Museum of Modern Art

Reason(s) for inclusion in survey:

Excellent museum's website with loads of features: on-line exhibitions, educational resources and online store

Easy and direct navigation

Big collection (no real search function)

Interactive games

Source(s) of information: <http://www.moma.org/>

Relevance to the REGNET project:

e-Business applications of the store



various online exhibitions

Keywords list:

Museum

E-Business

Online exhibitions

Main characteristics:

User groups: Generic user; Teachers and students of secondary schools

Use Scenarios: B2C

Categories of items: Books; Reproductions; CD

Multimedia elements: Sound

User Access Methods

Access through topics: architecture and design, drawings, film and video, painting and sculpture, photography, print and illustrated books

Search & Retrieval:

Search functionality in the online store and in the combined catalogue of the library, museum archives and the study centres.

E-Business:

Online purchase of real goods, digital objects, special offers ...

Payment via credit card (SSL encryption technology)

15.6 Conclusions

Each of the surveyed museums contains special features most recommendable for the REGNET system as pointed out beneath:

Metropolitan Museum of Art

The MOMA can be considered as a model portal for a museum. It offers thematic access to the collection via an easy and direct navigation and very good e-Business applications of its store.

A focus can be put on its special membership model that addresses internet users, presenting different internet offers as the Met Screen Saver, online audio features about the collection and a 10% discount on all merchandising articles in alle museum shops and the online shop aside from conventional membership advantages.

Istituto e Museo di Storia della Scienza di Firenze

The "Istituto e Museo di Storia della Scienza di Firenze" is an example of a rather small thematic museum's website with integrated library catalogue. What might be considered as being an adaptable feature is the WAP service the museum has set up recently. The user can surf on the IMSS - WAP site through the WAP mobiles and the browser html added up with a special emulator.

The Tate Gallery

The Tate Gallery offers a user-friendly website with a lot of information like details about the collection, various search features, information about visitors service, the educational service and contact addresses. In addition to that, there is a huge online shop with all kinds of state-of-the-art features for e-shops

Sponsoring can be regarded as the Tate's model feature: On its website, the Tate Gallery tries to recruit new sponsors, offering special possibilities for companies to support the Tate: sponsoring the restoration of an object, educational programmes of the museum or whole exhibitions. In return for that, special reductions and programmes are offered for the members of the sponsoring companies.



In addition there is also a membership for the company that includes discounts and the participation in special events.

Kunsthistorisches Museum Wien

The website of the Kunsthistorisches Museum Wien is a pure information site, offering museum and visitors' service information. What makes this museum's site special and different to that of other museums is the huge amount of information given about objects and artists of the different collections. The user can choose from a menu and get a sample of the picture, textual information about the object, the social, art historical and historical background and a list of other works of the artist kept in the collection.

This kind of information policy is very useful for preparing for a museum visit or evaluating it afterwards.

In addition to that, the online shop can be regarded as a model for such a shop on the internet.

The Museum of Modern Art

The Museum of Modern art presents an excellent museum's website with loads of features: on-line exhibitions, educational resources (e.g. interactive games) and an online store. It can be regarded as a best-practice example for easy and direct navigation, for the eBusiness applications of the store and for online exhibitions. Unfortunately it offers no real search function through the collection.

16 Survey of online products/services offered by libraries

In this section several best practice analysis for libraries are offered. This is only a small selection from the benchmarking process (see D1 for more details).

16.1 Survey of British Library

Reason(s) for inclusion in survey:

The British Library is a leader in online services provided by libraries.

Source(s) of information: Internet

Relevance to the REGNET project:

The British Library website offers a wide range of commercial and non-commercial services to libraries, business clients and individuals. Access to services and information is easy, fast and comprehensible, and covers a wide range of different collections, objects and service types. It has already to be considered best practice in the library world as far as online services are concerned, and it's ambitious plans (see Digital Library) will contribute to ensure this position.

Keywords list:

Information service, BiblioAlerts, Reproduction services, BookNet, BookTrove, Document Supply, Online Order Form, Articles Direct, Data Licensing, Reading Rooms, Conference Centre for Hire, Preservation service, STB Science Technology and Business, Mailing list, Training Courses, Zetoc, DLS Digital Library System, OAIS

16.2 Survey of Library of Congress

Reason(s) for inclusion in survey:

The Library of Congress offers comprehensive services to researchers, publishers and educators, physically handicapped, libraries and info centres. It's services include a photoduplicating service, a cataloguing distribution service, global legal information and Interlibrary Loan. It is also an example for an online library shop.

Source(s) of information: Internet

Relevance to the REGNET project:



The Library of Congress has well structured services adapted to the needs of typical users with a special emphasis on providing services for the blind and physically impaired. Major features are the photoduplicating service, the interlibrary loan and the online library shop.

Keywords list:

Photoduplicating, Copying & Reproduction, Interlibrary loan, CDRS Collaborative Digital Reference Service, Digital Imaging Service, Library Online Sales Shop

16.3 Conclusions

The presented two sites offer a variety of fully established commercial and non-commercial services, which are integrated in the library's organisation and workflow structure. They are outstanding in so far as "shopping" facilities or online services by libraries in general are underdeveloped (see also "Relevance to REGNET project" for the reason of inclusion in the survey).

Besides operational library services, the following links offer further interesting information:

Where visual arts are concerned, the VADS (Visual Arts Data Service) supplies guidelines for good practice (http://vads.ahds.ac.uk/guides/creating_guide/contents.html).

Also should be mentioned <http://www.ukoln.ac.uk/services/elib/projects/> which is providing an interesting overview on eLib projects concerned with offering better services by libraries, like the Hylife project (<http://hylife.unn.ac.uk/>).

For the visual impaired, guidelines as well as best practices can be found at the site <http://www.nlbuk.org/bpm/contents.html>.

17 Survey of online auctions and offering systems for individual artists

In this section several best practice analysis for online auctions are offered. This is only a small selection from the benchmarking process (see D1 for more details).

17.1 Survey of AskArt.com

Reason(s) for inclusion in survey:

AskArt presents extensive information on 25000 American Artists. The site includes Auction houses and a List of the Highest Auction Prices of American Artists .

Source(s) of information: <http://askart.com>

Relevance to the REGNET project:

The AskArt System offers fast and efficient information about the Auction Houses. User may search different Auction Houses by City or alphabetical order.

The most interesting works are separated in different categories, for instance "Highest Auction Prices", "Notable Sculptors", "Notable Modernists", "Notable Women".

There is also the possibility to order the Artists BlueBook™, updated every few months and consisting on a directory of the North American Artists' Works from 16 Century to Present.

The Artists Bluebook™, provides extensive information on artists' full name, dates, state of primary residence, subjects known for methods, numbers of book references, total number of auction results, top auction price with date of that auction, and number of museum references.

This soft-bound book is the best available quick-use guide for anyone buying, selling, appraising, and researching North American Art.

Keywords list:

Auction Houses; Searching of Auction Houses; List of the 100 Highest Auction Prices of American Artists;



17.2 Survey of WORKINGWITHARTISTS

Reason(s) for inclusion in survey:

WORKINGWITHARTISTS is a site presenting the Artists different possibilities for business like buying, commissioning, arts based training, useful contacts. Formed in 1976, Arts and Business' vision is to help build communities by developing creative partnerships between business and the arts. Over 350 business members support the organisation and the many schemes it runs. Membership benefits include: advice/information; reference materials on sponsorship, taxation and best practice, priority access to A&B research and invitations to a comprehensive programme of events, seminars and conferences.

Source(s) of information: <http://www.workingwithartists.co.uk>

Relevance to the REGNET project:

WORKINGWITHARTISTS is an excellent example of site helping the artists in their business. It is fast and well designed. The site is designed especially for doing business with artists. The main categories include Arts and Business, Consultants, Funding, Support, Artists Services, Commissioning, Purchasing, Internet Galleries, Internet Investments.

Keywords list:

Business Art; Buying; Commissioning; Arts based Training; 10 ways to get involved with the visual arts; Auction Houses; Internet Auction;

17.3 Survey of Night of Artists Auction Site

Reason(s) for inclusion in survey:

Night of Artists Auction Site consists of three Auction Houses: Night of Artists Auction Item, Breast Cancer Foundation Auction Item, CKUA Auction Item. There exist possibilities for online participation, entering account, entering one's own pictures for selling, editing account, editing password.

Source(s) of information: <http://www.nightofartists.com/auction.htm>

Relevance to the REGNET project:

Night of Artists Auction Site is a Canadian site with online registration, online adding of works, online editing account or password. The artist has the possibility to publish his work at the Auction for 365 days.

Keywords list:

Auction Houses; Internet Auction; Online registration; Online Add Item.

17.4 Survey of Artcnet.com Fine art Gallery

Reason(s) for inclusion in survey:

ARTcnet has been founded as an American and international community of award winning artists and artisans who exhibit their artworks on the ARTcnet.com Fine Art Gallery Web site, providing collectors the opportunity to purchase these artworks from the comfort of home. All works are juried. The artists and artisans have exhibited their artworks in the finest galleries, museums and craft shows, and are in the finest collections.

ARTcnet Fine Art Gallery has two main portals: Enter Navigation and Enter Gallery. This site has many links and pictures in the main page. From Navigation Portal there is a link to Auctions. The information about the new auction is presented at the main page as well.

Source(s) of information: www.online-artgallery.com

Relevance to the REGNET project:



ARTcnet Fine Art Gallery gives online users the possibility to participate in auction. The artist presents his work, the auction is opened and everybody can take part in buying the work by individual online act. The goal of ARTCNET.com is similar to the REGNET system:

“**ARTcnet's** goals are to act as a cultural bridge among world artists, artisans and collectors; to increase the international reputation of our artists and artisans; to provide an exchange of information, both informally through our forum and more formally through our researched information; and to offer caring service to our collectors, artists, artisans and our world community. ARTcnet is a member of The Better Business Bureau on the Internet, the Better Business Bureau of Eastern Pennsylvania and The Main Line Chamber of Commerce of Pennsylvania. ARTcnet.com has a privacy policy that protects any personal information you give to us and guarantees that we will never give that information to anyone else.”

Keywords list:

Auction Houses; Online participation in the Auction;

17.5 Survey of Vincent Art Gallery

Reason(s) for inclusion in survey:

“Vincent Art Gallery was established in 1989, with the mission to paint and exhibit reproductions of the Old Masters, like Van Gogh, Rembrandt, Vermeer, Renoir, Cezanne, Gauguin, and others, available from a single access point.

These reproductions are painted by dedicated Dutch artists, who have studied the style and techniques of individual Old Masters for years. They use the same materials and their skills and passion for the original works of art ensure the highest quality.

Source(s) of information: <http://www.vincent.nl>

Relevance to the REGNET project:

Vincent Art Gallery offers a peculiar but growing service of selling of reproductions of famous painters. Online ordering of specific reproductions is accessible directly through the web site. As this kind of service can be included in the REGNET system, here can be seen the view of the service.

Another possibility is to order posters of famous artists. This service includes searching of all posters.

Keywords list:

Orders for paintings of old masters – reproductions and posters.

17.6 Survey of British Art at Auction

Reason(s) for inclusion in survey:

British Art at Auction – The Art Market with ADEC presents the following directories: Auction Update, Art Market, ADEC, Search by the name of Artist, Record Auctions Service, Upcoming Auctions, Search for Prints, Search for Paintings, Search for Watercolors, Photographs & Posters, Search for Drawings, Search for Sculptures, Fine Arts Appraisals, 12 Annuals. In Upcoming Auction Directory it is said that over 400 000 new auction results each year.

Artists' biographies is a separate domain: **ArtistBiography.com**. An interesting section is the directory related to the Market, where information of the top sellers, the market trends and other are presented. More specifically:

- The top sellers
- How has the market evolved?
- What are the most sought-after media?
- Are some formats more popular than others?
- Which artists sell most? *and, above all,*



- How is my artist performing in relation to his reference market?

Source(s) of information: http://www.art-market.net/british_art.htm

Relevance to the REGNET project:

This site is a rich database on artists, different works of art on sale, as well as an auction system. Online ordering and search facilities are provided to any users.

There are three ways for searching auctions: through Artists, Types of Sale (paintings, sculptures, graphics ...) and Location. The interface is friendly with online help.

Keywords list:

Auction Houses; Searching Auctions by Artist's name, Type of the work, Location.

17.7 Survey of Sothebys.com

Reason(s) for inclusion in survey:

Sotheby's origins date back to 1744 as a London book dealer and nowadays is an unrivalled international auction organisation. Thanks to the extensive information and services offered to the users, it may be considered one of the best example in this field.

Source(s) of information: <http://www.sothebys.com/>

Relevance to the REGNET project:

Sothebys.com is a good case study, offering online services for artists and experts. Directly from the home page, users may choose between: Online Auctions, Live Auctions, Calendar, E-Shop, and in particular Sotheby's Services ranging from Financial Services, Insurance services, Trusts & Estates services, Restoration ones and others.

Within the Online Auction directory, the user may find interactive services like the possibility, after having registered, to upload his/her own auction together with detailed information on future Special Auctions. He/she may also access the available items either browsing through a Category List of goods or through a search button connecting a network of thousands of art and antiques dealers and authorized sellers worldwide (the Associates). The Associates are among the most knowledgeable and discriminating tastemakers in the world of art and antiques.

Keywords list:

Auction Houses; Online Auction; Searching Auctions, Searching Experts;

17.8 Survey of PHILIPS de PURY & LUXEMBURG

Reason(s) for inclusion in survey:

PHILIPS de PURY & LUXEMBURG is a company with rich traditions in selling important collections, based in 1796 by Harry Philips. The main categories in the site are: About Philips Auctioneers; Worldwide Auction Dates; Sales Catalogues; Worldwide Auction Results; Specialist Departments; Online Valuations; Insurance and Professional Services; Latest News; Write to Find us; Multimedia Centre; Currency Converter; Email Philips Auctioneers; Search; Home.

The online selling Catalogues report a list of auctions and prices for any items.

User need a registration to have access to this section.

Source(s) of information: <http://www.phillips-auctions.com>

Relevance to the REGNET project:

PHILIPS de PURY & LUXEMBURG offer a wide range of different services to Artists. Among them, the "Online Valuations" is the most innovative one. Here the artist may ask for a preliminary informal online valuation of his/her work offered by Phillips' specialist departments. Of course, a personal inspection of the piece would follow if the artist finally decides to sell.

Keywords list:



Auction Houses; Online Auction; Searching Auctions, Searching Experts;

17.9 Survey of CHRISTIE'S

Reason(s) for inclusion in survey:

CHRISTIE'S begins his work from auction house in 1766 and today it has offices in Paris, London, New York and Los Angeles. Christie's has 18 salerooms worldwide and conducts over 1,000 auctions a year, with the majority held in its London and New York sale-rooms. CHRISTIE'S is one of the famous world players at the Artists' stage and this is reflected in its web site.

The site has a rich database with many links and opportunities for selling Artist's works. It provides extensive information on future auctions listed through 7 subdirectories, press centre, Lot Finder, Web Casts. There is also the LotFinder®, Christie's user-friendly online search engine which allows users to view richly illustrated sale catalogues from Christie's auctions around the world.

Source(s) of information: <http://www.christies.com>

Relevance to the REGNET project:

CHRISTIE'S site is relevant for REGNET mainly for the easy and direct access to its web site and to its extensive offering which includes *Fine Art* (19th century European Art; American Art; Australian Art; British & Continental; Watercolours & Drawings; British & Irish Art; Contemporary Art; German & Austrian Art; Greek Art; Impressionist & Modern Art; Latin American Art; Maritime Paintings & Models; Old Master Drawings; Old Master Paintings; Post-War Art; Sporting Art; Swiss Art.

Specific services range from Appraisals and Valuations; Christie's Education; Christie's Images; Corporate Collections; Museum Services; Security Services.

Keywords list:

Auction Houses; Online Auction; Searching Auctions, Searching Experts;

17.10 Survey of SKINNER

Reason(s) for inclusion in survey:

SKINNER – Auctioneers and Appraisers of Antiques and Fine Art

Established in 1971 and currently the fourth largest auction gallery, Skinner, auctioneers and appraisers of antiques and fine art, conducts over sixty auctions annually. Operating out of locations in Boston and Bolton, Massachusetts, Skinner is the foremost auction gallery in New England.

Source(s) of information: <http://www.skinnerinc.com/>

Relevance to the REGNET project:

Skinner, Inc., Auctioneers and Appraisers of Antiques and Fine Art, located in Boston's Back Bay and Bolton, Massachusetts, is the fourth largest auction house in the United States. Holding 60 auctions each year, covering 16 departmental areas (from American & European Paintings, to Art Glass, to Oriental Rugs & Carpets, and beyond), Skinner offers collectors the chance to bid on many rare and desirable pieces.

Widespread online support is provided through the following sections: *How to Buy, How to Sell, Insider Tips, Common Questions, Ask Experts online.*

It is also possible to order online individual catalogues offering assistance with online bidding.

Keywords list:

Auction Houses; Ask Experts Online ; Auctions Experience

17.11 Conclusions

All the organisations analysed deal with online auction services for Artists and therefore are extremely useful for setting up the related REGNET business.



AskArt.com has a nice design and a fast searching of Auction Houses by City or alphabetical order, but it covers only the USA. The site is interesting thanks to its rich database (information on 25000 American Artists) and its friendly interface with good "help" possibilities.

Night of Artists Auction Site presents only three Auction Houses. There exist possibilities for online participation, entering account, entering own pictures for selling, editing account, editing password.

Vincent Art Gallery is in a niche, and rich market of reproductions of famous painters. More and more visitors accessing the gallery are willing to buy reproductions as a souvenir of their visit. They may also order online the desired works.

This is a good practice, which could be used in the REGNET system as a service for the famous museums.

WORKINGWITHARTISTS and ARTCNET.COM Fine Art Gallery offer online participation in auctions. Both are excellent examples of sites helping artists in their business. They are fast and well designed. Both of them provide the Artists with different business services like buying, commissioning, arts based training and useful contacts.

However, the most excellent examples of provision of specific Auction services are Christie's, Sothebys and PHILIPS de PURY & LUXEMBURG. They present excellent business possibilities combined with good design, friendly interface and rich data base.

The same could be said to British Art at Auction – The Art Market with ADEC where information about the market and compatible ratios can be found.

PHILIPS de PURY & LUXEMBURG and Christie's give a very useful service to Artists wishing to make an informal enquiry on the potential auction prices of their work; i.e. online valuations. This service could be also provided by the REGNET system as a link to an appropriate expert, if the user needs it.

18 Survey of Internet-based micro payment systems

In this section several best practice analysis for internet based payment systems are offered.

18.1 Survey of 1ClickCharge

Reason(s) for inclusion in survey:

1ClickCharge is a new service for Web merchants that lets consumers quickly and securely buy Web content on a pay-per-use basis. It's a prepaid account that enables consumers to spend small dollar amounts using a simple one-click process and without ever leaving the merchant site.

Source(s) of information: Internet

Relevance to the REGNET project:

Unfortunately the web site (www.1clickcharge.com) contains no information regarding this service. Presumably one is meant to contact them directly for information.

Keywords list:

micro payment system, pay-per-use.

18.2 Survey of Cartio Micropayments

Reason(s) for inclusion in survey:

Cartio Micropayments is a one-click micro payment system to pay for premium digital content and services, as well as non-digital small purchases.

Source(s) of information: Internet

Relevance to the REGNET project:



The company, based in the Netherlands, offers a multi-currency, multi-lingual, modular system designed to handle transactions ranging from 0.01 Euro/Dollar to 10.00 Euros/Dollars. Payments are made using two types of card, one pre-paid, the other post-paid, which are free of charge for the consumer. Security is provided by the use of public key cryptography. It is compliant with the W3C's common Micro-payments mark-up language and is fully in line with Directive 95/46/EC with regards the issue of privacy and personal information.

How it works:

Cartio Micropayments is a one-click micro payment system for amounts as low as 1 Euro/Dollar cent, that makes use of public key cryptography. The user must register (with SSL encryption) at the Cartio server and apply for a Cartio virtual card by giving his/her personal details and choosing a password. The server sends back a message with the consumer's new card number and the secret code to activate the card, and indicating where to download the PayBar programme. This program generates a private/public key pair to communicate with the server. The customer will then have to transfer funds to Cartio. Payment can either be pre-paid (with credit cards, checks or credit transfer) or post-paid (with direct-debit). Credit cards allow prepayment of the Cartio Card, limited to 100 Euros in two months after the first deposit.

Purchases can then take place with Cartio-accepting merchants, with the PayBar menu indicating the remaining balance, recognizing the items it can buy, and offering an overview of all purchases. Fees: No connection fee, no monthly fee, 20% transaction fee; discounts do apply for accounts with a turnover over 10.000 Euro per month.

Usage Figures: 2 merchants at launch date:

FactLANE formerly the Dutch Pressdatabase and The Dutch Institute for management (NIVE)

They "offer over 4 million of different articles on pay-per-view bases".

Comments: Compliant with the Micro payments mark-up language as defined by the world wide web consortium

Keywords list:

Micro payment mark-up language, public/private key cryptography, SSL encryption, one-click micro payment system, pre/post-paid, virtual card, PayBar program, digital signature, scalable, modular, exception based maintenance, digital/non-digital purchases

18.3 Survey of eCoin

Reason(s) for inclusion in survey:

eCoin is a small US start-up entirely devoted to Internet-based micro-payment solutions.

Source(s) of information: Internet

Relevance to the REGNET project:

The Company offers an immediately available commercial solution, which claims to be technologically advanced, secure, affordable for the merchant and easy-to-use and free for the user. It has to be considered a significant player in the field of micro-payment system developers.

Major Features of eCoin

Ecoin Inc. is a forerunner in the micro payment field. They believe that this field is in its infancy stage and needs a working system to demonstrate its potential. They see themselves as enabler and technology pioneer of micro payment system. ECoin Inc. shows the following features:

Ecoin Wallet Manager is tightly integrated into the modern browser technology (it supports Netscape and MS IE). The communication between Wallet Manager and the Payment Server uses http+SSL calls. Therefore, it will work wherever the http protocol is allowed and is able to bypass the firewall and proxy server restriction for many corporate users.

Ecoin Wallet is token-based. Tokens are stored in the local wallet instead of credit card number. This feature lowers the risk of credit card fraud and electronic theft that concern many Internet users.



E-Coin Wallet can be extended to a notation-based system when we feel that we can secure desktop environment in a better way.

The tried and proven Easy Wizard to implement e-Coin's web interface. We have designed Easy Wizards to help merchants build e-Coin interface. The Wizard will construct the HTML output for merchants in literally a few minutes. We are working with a few interested vendors. We have not heard any complaint about the difficulty of implementation. Full featured technical documents are also prepared for sophisticatedly CGI programming.

Keywords list:

e-wallet, e-cash, token-based micro-payments, URL redirect, Pay Per Login, Pay Per Use, sub-dollar transactions

Intuitive Wallet Manager Icon embedded into the web page. The simplicity of Wallet Manager GUI makes it very intuitive to conduct a transaction. No separate application is needed to assist the transaction.

18.4 Survey of iPIN

Reason(s) for inclusion in survey:

iPIN provides e-payment solutions to merchants, telco companies, financial institutions and portals, allowing their customers to make payments or purchases on the Internet.

Source(s) of information: Internet

Relevance to the REGNET project:

The company enables end-users to easily and securely pay for Web and wireless purchases using existing financial relationships, such as bank accounts, credit cards, debit cards, ISP and wireless bills, prepaid accounts, and cash. Neither the merchant nor iPIN store personal account details about the customer, thus ensuring compliance with the toughest privacy regulations. It has entered into a partnership with France Telecom forming wHA, a system for the online sales of digital goods and services for small amounts. It is also about to ally itself with British Telecom's Openworld division.

Keywords list:

e-payment, end-to-end payment solutions, payment methods, billing, stored value, prepaid, encrypted cookie, authorisation number, charge backs, credit card

18.5 Survey of NewGenPay

Reason(s) for inclusion in survey:

NewGenPay develops and markets a set of interoperable payment transfer protocols suitable for micro-payments and other payment solutions.

Source(s) of information: Internet

Relevance to the REGNET project:

The company, formed by the R&D team from IBM Micropayments, has focused principally on micro payments and implements the WC3's common mark-up for micro-payment per-fee-links specification. Their payment technology is claimed to be unique in terms of scalability and interoperability allowing purchasers to buy from any merchant with per-fee-links and pay at any billing server. It is also claimed that the system entails exceptionally low overhead costs and offers full support for multiple currency transactions, currency conversion and multi-lingual interfaces.

Keywords list:

low-value transactions, wallet software, billing, interoperability, multilingual interfaces, multiple currency transactions, low overhead, negligible delay, Payment Service Provider, SSL, SET, cryptographic protocols, mark-up format, HTML per-fee-links



18.6 Survey of PayPal (Confinity)

Reason(s) for inclusion in survey:

PayPal is a person-to-person payment system to make payments via e-mail, which are then charged to a credit card or bank account, without divulging credit card or bank account numbers for each transaction.

Source(s) of information: Internet

Relevance to the REGNET project:

The company claims to make e-Business fast, simple, and secure. It is widely used by eBay (online auctions) customers and has signed up 2.7 million customers in less than a year, making it a rare hit among financial start-ups on the Web. Currently, however, the service is geared for U.S. users.

Keywords list:

transaction, cash withdrawal, encryption, SSL, verification, charge backs, proof-of-shipment, Debit card, ATM, credit card, online auctions

18.7 Survey of Qpass

Reason(s) for inclusion in survey:

Qpass is a US digital commerce and payment infrastructure provider which handles Internet-based micro-payment solutions.

Source(s) of information: Internet

Relevance to the REGNET project:

The company provides a full end-to-end service, which claims to be secure, reliable, robust and highly scalable. It is also free for the end-user. Major publishers and media companies on the Internet are among its customers. Of particular interest is its recent partnership with Reciprocal Inc., a digital rights management software provider, to provide outsourced DR security services to media companies and other content owners. Also of interest are its alliances with AT&T and other wireless companies to provide commerce services in the mobile phone field.

Keywords list:

e-wallet, token-based micro-payments, wireless micro-payments, pay-per-view, end-to-end service, low-dollar transactions, multiple payment options, digital products, digital rights

18.8 Survey of Reciprocal

Reason(s) for inclusion in survey:

Reciprocal is an Internet-based U.S. a technology services company that assists copyright owners to realize revenues aiding the fight against copyright infringement.

Source(s) of information: Internet

Relevance to the REGNET project:

The company, which is a provider of business infrastructure for the distribution of digital assets, claims to be able to provide a seamless e-Business infrastructure which is flexible, scalable, efficient and secure. The business is focused on Digital Rights Management applications across multiple platforms, enabling the secure exchange of intellectual property in digital form over the Internet or other electronic media.

It boasts several big-name clients in the publishing field, including Time Warner, Random House, Sony Entertainment and BMG Music.

Keywords list:



digital rights management, DRM, digital assets, copyright, super-distribution, digital distribution, encryption, packaging of digital content, protection, extraction, copying, watermark

19 Conclusions

Most analysts agree on the fact that online customers might be well willing to pay very limited amount of money - typically, few cents of dollar or euro - for buying digital goods, provided that a secure, fast, and easy-to-use payment system for such micro financial transaction is available while browsing the Web.

This is precisely the aim of the online micro payment systems. Without them, purchasing online normally resorts to credit cards: something which is perceived as not so secure, not so fast and not so straightforward by many users even for relatively large payments. Specifically for micro payment, it is not much convenient and cheap for both the user and the merchant.

Most stores don't accept credit cards for small purchases because the credit card companies charge stores a percentage of the sale plus a fixed fee; on a small sale, that can outweigh the profit. That is always true, but it's particularly punishing for doing business on the Web, though, where everybody wants to sell small goods -- either low-cost digital information, or perhaps low-margin physical goods. But how to collect the payment and still make a profit?

The standard solution is to aggregate small payments into a single credit card charge, and only charge the card in lumps that make the transaction worthwhile. Transaction-aggregation companies can charge back the sellers a smaller percentage of the sales, because they arrange bulk processing discounts from the credit card companies. On information purchases, the aggregator can even reserve a cut of the sale itself, since the incremental cost of goods for data sales is near zero.

There are several companies in this emerging market, where no clear market leader has been established yet. We have surveyed the following companies:

- | | | |
|----|----------------------|--|
| 1. | 1ClickCharge | http:// www.1clickcharge.com/ |
| 2. | Cartio Micropayments | http://www.cartio.com/ |
| 3. | eCoin | http://www.ecoin.net/ |
| 4. | iPIN | http://www.ipin.com/ |
| 5. | NewGenPay | http://www.newgenpay.com/ |
| 6. | PayPal | http:// www.paypal.com/ |
| 7. | Qpass | http://www.qpass.com/ |
| 8. | Reciprocal | http://www.reciprocal.com/ |

Possibly the most established player in the group is US Qpass, which can boast some impressive partnerships and can command a steep initial price (at least \$20.000). 1ClickCharge is another known player in the US market, unfortunately almost no information is publicly available about their offering. eCoin is another US entrant in the market, offering a solution which is much more affordable than Qpass.

We have also surveyed three micro payment system providers offering solutions based on technologies of European origin: Cartio, iPIN and NewGenPay. All of them insist on the fact that their solutions are multi-currency, multi-lingual, and based on open standards. They also claim to offer solutions which are free for the buyers and very affordable for the merchant. Among the three, the most established in terms of signed contracts and partnerships appear to be iPIN.

We have also included in our survey two organisations which are not, strictly speaking, offering micro payment solutions but are closely linked to the area.

The first one is PayPal, which is actually a P2P system for making payment via email. Although formally not an e-payment system, it is widely used by eBay customers and has signed up 2.7 million customers in less than a year.

The second one is Reciprocal, an Internet-based U.S. technology services company that assists copyright owners to realize revenues aiding the fight against copyright infringement . Their business is focused on Digital Rights Management.

Mention should also be made of the URL:



<http://www.w3.org/ECommerce/Micropayments/> which provides an interesting overview on micro payment projects with a good European coverage.

20 Initial identification of REGNET user groups

REGNET should establish Cultural Service Centres, an e-Business Network of different partners; Content Providers, Regional Poles/Business Access Points and Service Providers setting up a technical and service infrastructure for organisations and users in the field of Cultural Heritage, Leisure and Tourism and Education and Publishing.

In a B2B and B2C scenarios, we can identify the main user groups related to the potential market segments that REGNET could address at:

	Education	Tourism & Leisure	Culture	New media & publishing
B2B	Schools Universities & Post Graduates Master courses	National/Regional Tourism Agencies Municipalities Tourism Associations Tour Operators Travel Agencies Events and workshops organisers	Memory Institutions (Archives, Libraries, Museums & Galleries) Individual Artists and Artists associations Cultural Foundations	Publishing Visual Art companies Architects Advertising
B2C	Teachers Students Life-long learners	Tourists Guides	Art-lovers Parents Curators Librarians Archivists	Journalists Web designers Writers Editors

Table 50: REGNET main user groups

The above table tries to identify the potential target users groups that could benefit from REGNET.

In order to fully understand REGNET potentialities in each specific, but also related, market segments, REGNET will set up specific user groups whose expectations and needs will be analysed.

Regional Poles are organisations/cultural institutions that already address and are in the best position to analyse the expectations and needs of user groups. Among the mare the REGNET partners IAT, CC, SUL, AIT, IMAC, TARX, SPAC, ZEUS, ICCS.

Here a short description of three of the potential REGNET poles:

The Swedish University Library is one of the largest university libraries in Sweden with around 2 million visitors a year. The library is well advanced in IT and networking the library catalogue, a large amount of databases and electronic journals over the campus and to 12 branch libraries over the Internet. Therefore it is a good candidate to express the education and culture sectors users' needs and expectations.

Consorzio Civita, the Italian Regional Pole, is a non-profit organisation promoting initiatives in the cultural tourism and leisure sector. It is also one of the biggest Italian private organisation managing major Italian museums, such as Musei Capitolini, Pinacoteca di Brera and others. It has already agreements with Tour Operators and Tourism Agencies in commercialising integrated cultural-tourism services for tourists, art lovers and schools.



The Instituto Andaluz de Tecnologia is a private non-profit Technology and Innovation Centre, located in Seville (Spain). IAT is the co-ordinator of the ANDALUSIAN INNOVATION NETWORK, a network of 100 Andalusian Enterprises (SMEs), and takes part in the CESEAND (Southern Europe Innovation Relay Centre - Andalusia). Because of its regional dimension, IAT is also linked to Public Regional Authorities, Agencies and Universities.

Considering the fact that companies working in the new media and publishing sectors are mainly SMEs, IAT's experience in assisting them will surely be extremely useful.

All along the business engineering activity of REGNET, the identified user groups will be addressed and their requirements investigated on a continuous basis.

Currently we think it appropriate to highlight the main requirements that will be further investigated all along the project life.

20.1 Educational sector: main requirements

Schools, universities and post-graduates courses, but also teachers and students usually require:

- search engines to identify resources in key international websites and collections' management systems of outstanding cultural heritage value
- a multilingual thesaurus facility
- ability to customise queries
- system to take into account the user's geographical location or field of interest when searches are conducted and accordingly prioritising targets and the order in which results are seen
- ability to conduct intelligent subject searches
- ability to conduct seamless searching through a standard interface; ability to link to other sites
- ability for authenticated users to download imagery,
- requirement for a user-friendly, intuitive, aesthetically pleasing site; fast access to required resources,
- wait times (also for downloading) to be consistent with current best practice
- ability to make e-loan with a library
- requirement to subscribe to an e-journal on specific research areas
- requirement to be informed on the latest news on their specific field
- ability to download free (or cheap) medium resolution images/pictures
- ability to find rare images/pictures related to their research field

As a consequence of the general move towards the greater integration and interdependence of cultural heritage institutions and resources, and because of the exponential growth in the volume of cultural heritage websites, professional end-users in the educational field increasingly require *search engines to identify resources in key international websites and collection management systems of outstanding cultural heritage value*.

Related to this is the *ability to have a multilingual thesaurus facility* to allow the searching of foreign language databases and, where required, translation of the results.

In searching websites and databases, the above mentioned end-user increasingly expect to have the *ability to customise queries* so that they can select groups of targets to go for, prioritise which institutions' resources they see first in a search, and be told which resources come from which institution. The Agora hybrid library project, for example (accessible through the UKOLN website), offers such a facility and it is likely that this will soon be considered a basic feature of this type of site.

A further refinement is for the *system to take into account the user's geographical location or field of interest when searches are conducted and accordingly prioritising targets and the order in which*



results are seen. On unsuccessful searches the user is offered the chance to select new targets. This is perhaps of particular significance in the context of an international information system.

They would also appreciate the *ability to conduct intelligent subject searches* where the system can draw up all resources relating to an enquiry.

There is a wish to have the *ability to conduct seamless searching through a standard interface* whereby the user is not told (unless he/she registers a wish to be) from which site the resource is coming.

There is possibly a tension here between this requirement and the cultural institutions' requirement for promotion of its website and thereby its brand name. This is partly counterbalanced by the additional requirement on the part of educators to have the *ability to link to other sites*.

This requirement is closely bound up with the *ability for authenticated users to download imagery*. This imagery should be available in a variety of sizes.

We also identify *requirement for a user-friendly, intuitive, aesthetically pleasing site* (more information about this is included below). While these features are obviously desirable in all sites, they are perhaps less imperative for specialists than for generic users.

Both organisations and individuals in the educational sector, require REGNET's *wait times to be consistent with current best practice*. One word of caution here concerns the volume of 239.50 targets in a site. Currently, if a system is searching more than ten targets, technical difficulties and delay can occur.

A further requirement, especially from teachers and researchers, is to be able to order and receive document through the Internet. In addition more and more people are finding specialised e-journals extremely appealing for their costs-reductions and easy delivering.

Last but not least, when interested in specific images/pictures, they would like to have a free access to them (or at least at a cheap price) with a fast downloading time.

20.2 Individuals in Tourism/Leisure and Culture sectors: main requirements

Tourists, art-lovers and parents introducing their children to culture, accessing REGNET might wish to have:

- ability to access added-value products presenting a given theme
- themes to be contained in a familiar, or at least intuitive, hierarchy
- ability to access desired information with a minimal selection process
- themes should cover the user's area of research or interest
- system to take into account the user's geographical location or field of interest when searches are conducted, and accordingly prioritising targets and the order in which results are displayed
- ability to conduct intelligent subject searches
- ability to conduct seamless searching through a standard interface
- ability for authenticated users to download imagery
- ability to access a museum e-shop
- ability to select and buy physical objects
- requirement for a user-friendly, intuitive, aesthetically pleasing site
- easy-to-use interactive tools to create personalised multimedia projects
- requirement to be informed on the latest cultural events and exhibitions
- requirement for online booking (and selling) of museums' tickets
- wait times to be consistent with current best practice



One conclusion of the European Union AQUARELLE project was that generic users are generally not interested in raw data but instead want the *ability to access added-value products presenting a given theme*.

In addition, they want *themes to be contained in a familiar, or at least intuitive, hierarchy*.

This requirement should be balanced against the fact that users want to have the *ability to access required information with a minimal selection process*. The more selections the user is forced to make to access an information asset, the more likely he/she is to become bored and frustrated. A guiding principle would be that any information asset should not be more than three clicks away.

Another related and obvious requirement is that *themes should cover the user's area of research or interest*.

In connection with this, and in addition to being able to access predefined REGNET themes or projects, users would like to personalize and add multimedia material on the themes, in order to create their own personal multimedia product.

As with educators, also generic users would like the *system to take into account the user's geographical location or field of interest when searches are conducted and accordingly prioritising targets and the order in which results are seen*. This is also related to the desire to be informed on the *latest exhibitions and events* hosted by the nearby institutions. The *online booking and tickets purchase* is the final step to satisfy these needs.

Additionally, tourists or art-lovers in general would probably rely more than the specialists on having the *ability to conduct intelligent subject searches* (as defined above). This facility would allow non-experts to quickly gain access to all the resources relevant to a theme that the system can offer, without having a thorough knowledge of the details of that theme.

To the above issue, the *ability to conduct seamless searching through a standard interface* whereby the user is not told from which site the resource is coming is obviously related.

Connected with this is an important priority: the *requirement for a user-friendly, intuitive, aesthetically pleasing site*. This is a broad area but guidelines will include the need for:

- regular layout on each page.
- consistent typographic treatment.
- consistent use of colour.
- clear, consistent terminology.
- active areas of each page clearly apparent.
- a clear distinction between informational and decorative imagery.
- clear navigational structures.
- an effective help facility.
- consistency in the way search results are presented.

Like professional users, general users would also like the *ability for authenticated users*

to download imagery, and require Regent's *wait times to be consistent with current best practice*.

Many individuals would also require *easy-to-use tools to create projects in which assets are presented in geographical and chronological contexts*. Parents, art-lovers and travel guides, for example, would all benefit from ability to localise their projects.

20.3 Cultural Institutions: main requirements

Archives, Libraries, Museums and Galleries and memory institutions in general wishing to exploit the use of ICT technologies to offer new services, usually require:

- increased public access to their collections



- foreign language searching through their resources
- cooperation and integration with other cultural institutions of excellence including foreign language institutions
- ability to set resources in an international context
- financial return
- copyright management and protection of digitised resources
- minimum of restructuring of data
- promotion of their brand name

A key factor that would attract these institutions to REGNET would be the ability to allow *increased public access to their collections and catalogues*. This coheres with the aspirations of the cultural heritage community. In Britain, this increased access has been particularly focussed on schools – ‘A Network of Jewels’ found that ‘the majority of school children would use museum resources and libraries documents as an integral part of the curriculum during a 12 month period. The emphasis is likely to shift into what is perceived as the next growth area for digital cultural heritage resources - that of Further Education, an area being promoted through the JISC (the Joint Information Systems Committee) initiative.

The ability to allow *foreign language searching of cultural resources* is another key requirement. As web use continues grow worldwide, the number and proportion of users who have a language other than English as their first language is increasing. This trend makes multilingual websites increasingly appealing.

A key trend in cultural heritage is the movement towards institutions joining forces for shared benefit. Strategy documents produced by cultural heritage organisations repeatedly emphasise this priority. ‘Building the Digital Museum: A National Resource for the Learning Age’, for example, recommends that ‘national and regional museum and cross-sector relationships [be] fostered through joint digital museum activity’ and believes that the future promises museums ‘a place within the context and of an emerging educational and cultural grid’. The facilitation of *cooperation and integration with other cultural institutions of excellence including foreign language institutions* would be another element attracting primary users to REGNET. One important example of this is the increased access to cultural heritage websites - and websites generally - by having the site as a Z39.50 target. An increasing proportion of searches of online databases are performed through links from other sites

20.4 New media and publishing companies/individuals: main requirements

Architects, Graphic designers, Film makers, Advertisers, Editors, but also Journalists and Writers are mainly interested in digital images and pictures. They usually expect:

- A free navigation to the web site
- Choice between free and pay-per-use downloading of images/pictures
- In case of purchase of a specific image/picture:
 - original support of the image
 - highest quality of both negative and digital image (305 dpi; size of negative: maximum size format),
 - requirement to find also rare images,
 - copyright cleared transaction through a licence agreement according to their individual usage (commercial use, n° of reproduction allowed, research...);
 - direct contact with the organisation, before finalising the on-line purchase
 - Direct navigation and easy research functionalities
 - Online help/assistance for the search functionalities.



- FAQ sections

These users may access to REGNET portal for very specific business reasons. They could be mainly interested in accessing to *high-resolution* images/pictures databases through a *direct navigation* and *research functionalities*.

For this, they would like to have a *free entry point*, to later subscribe only if ready to acquire the searched item.

Most of the time, a *direct contact* with the organisation is requested, since the *license agreements* need to be adjusted according to the specific usage and quantity of purchased items.

21 Methodology and roadmap for the next steps

The main objective of Task 1.7 was to identify recent trends and main characteristics of the market segments of the Digital Culture sector, together with a first identification of user groups categories of potential interest to REGNET. However, a more complete market assessment has to be reached extending the coverage of the present results in the next phases of the project.

In this first period more effort has been devoted to the supply side, which has been extensively and directly investigated with the help of first-hand surveys of the main players in key segments of the market of online services in the cultural sector. In the next phase, where a market preparation task will be active, more effort will be devoted to collect information of the demand side.

This further market research activity will be carried out within a related task active in the next six-months period, i.e. Task 2.5, "Market preparation" aiming at identifying REGNET marketing policies and advertising campaigns, including the setting up of a mailing list, discussion forums and of periodical newsletters. The methodology to be adopted here will firstly consist of compiling, with the support of the cultural organisations and the Regional Poles involved, a mailing database, throughout Europe, to identify the target audience to be addressed by the REGNET advertising tools.

These tools, e.g. brochure and newsletters, will be created in electronic and paper format and will be designed with an attractive and direct interface to be validated by the multimedia staff of the technical partners. Here the idea is to exploit the occasion of the delivery of advertising material by attaching a questionnaire. A simple and short - but effective - questionnaire will be drafted and distributed to potential users/clients, already categorised in groups. The compiled questionnaires will be then analysed and a report with the key findings will be ready for M12, offering the consortium a first-hand recognition of the actual demand for REGNET products/services.

Another occasion for a further and deeper investigation of the supply side is given by the approaching of the delivery of the first draft of the Technology Implementation Plan, due in project month 12. Task 5.1, "Technological Implementation Plan" is aimed at identifying the long-term exploitation plan of the REGNET systems. Thanks to the methodological and research contributions by all involved partners, the consortium will be able to transform the initial and almost naive survey of key players done in Task 1.7 in a fully-fledged competition analysis, quantitatively rich and qualitatively sound. This market intelligence will be instrumental to get to the final REGNET business plan as envisaged by the TIP template provided by the EC services.



22 References

22.1 Acronym and General References List

ALM	Archives - Libraries - Museums	
AMICO	Art Museums Image Consortium	http://www.amico.org/
B2B	Business to Business	
B2C	Business to Consumer	
B4B	Business for Business	
CEE	Central Eastern European	
CH	Cultural Heritage	
CLEA	Collection of Laws for Electronic Access	http://clea.wipo.int/
CSC	Cultural Service Centre	
DG	Directorate General	
DIFFUSE	IST project DIFFUSE	http://www.diffuse.org/
E-Commerce	Electronic Commerce	
EC	European Commission	
ECMS	Electronic Copyright Management System	
EITO	European Information Technology Observatory	http://www.eito.com/
EU	European Union	
ICC	International Chamber of Commerce	http://www.iccwbo.org/
ICT	Information and Communications Industry	
IMPRIMATUR	Intellectual Multimedia Property Rights Model And Terminology for Universal Reference	http://www.imprimatur.net/index.htm
IPR	Intellectual Property Right	
ISPO	Information Society Promotion Office	http://europa.eu.int/ISPO/
M-Commerce	Mobile Commerce	
MAGNETS	study "market and general economic issues of relevance to museums and galleries	http://www.vasari.co.uk/magnets/wp4/
MOSAIC	Museums Over States And vltual Culture	http://mosaic.infobyte.it/
OPAC	Online Public Access Catalogue	
SCRAN	Scottish Cultural Resources Access Network	http://www.scran.ac.uk



TIMES	Telecommunication, Internet, Multimedia, E-commerce, Software and Security	
TIP	Technological Implementation Plan	
TRIPS	Trade-Related Aspects of Intellectual Property Rights Agreement	
UBA	Union of Bulgarian Artists	
UCC	Universal Copyright Convention	http://www.tufts.edu/departments/fletcher/multi/texts/UNTS13444.txt
UN	United Nations	http://www.un.org
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business	
UNCITRAL	United Nations Commission for International Trade Law	http://www.uncitral.org
UNESCO	United Nations Educational, Scientific and Cultural Organisation	http://www.unesco.org
UNIDROIT	International Institute for the Unification of Private Law	http://www.unidroit.org/
WIPO	World Intellectual Property Organisation	http://www.wipo.org/
WP	Work Package	
WTO	World Trade Organisation	http://www.wto.org

22.2 EU Directives

- Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce').

http://europa.eu.int/eur-lex/en/lif/dat/2000/en_300L0031.html

- Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures.

http://europa.eu.int/eur-lex/en/lif/dat/1999/en_399L0093.html

- Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and on certain rights related to copyright in the field of intellectual property.

http://europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0100.html

- Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases.

http://europa.eu.int/eur-lex/en/lif/dat/1996/en_396L0009.html

- Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society

http://europa.eu.int/eur-lex/en/lif/dat/2001/en_301L0029.html

- Council Resolution of 14 May 1992 on increased protection for copyright and neighbouring rights

http://europa.eu.int/eur-lex/en/lif/dat/1992/en_392Y0528_01.html

- Draft Resolution of 4 April 1995 on culture and the multimedia



http://europa.eu.int/eur-lex/en/lif/dat/1995/en_395Y0923_01.html

22.3 European E-Commerce policy papers

- Promoting Electronic Commerce, Policy Paper of the Department of Trade and Industry of the United Kingdom, Consultation on Draft Legislation and the Government's Response to the Trade and Industry Committee's Report

<http://www.dti.gov.uk/cii/elec/ecbill.html>

- Building Confidence in electronic Commerce a consultation document, DTI - UK, 5 March 1999

http://www.dti.gov.uk/cii/elec/elec_com.html

- Council of Europe: Guidelines for the protection of individuals with regard to the collection and processing of personal data on information highways (adopted by the Committee of Ministers on 23 February 1999 at the 660th meeting of the Ministers' Deputies)

<http://europa.eu.int/ISPO/ecommerce/multilateral/organisations.html>

- The New Transatlantic Marketplace: Communication of Sir Leon Brittan, Mr Bangemann and Mr Monti; COM(98)125final, 11 March 1998

<http://europa.eu.int/ISPO/ecommerce/regions/americas.html>

- The European Strategic Initiative in Electronic Commerce - ESIEC

<http://www.mzt.si/mzteng/internat/eu-ceec/peco002.html>

- Joint E.U. - U.S. Statement on electronic commerce, 5 December 1997

<http://www.qlinks.net/comdocs/eu-us.htm>

- Canada – European Union Joint Action Plan, 17 December 1996, for Economic and Trade Relations, Foreign Policy and Security Issues, Transnational Issues, Fostering Links.

<http://www.dfait-maeci.gc.ca/english/geo/europe/EU/ACTION-E.htm>

22.4 International E-Commerce policy papers

- UNESCO Observatory on the Information Society

UNESCO Observatory's main objectives are to raise awareness on the constant evolution of ethical, legal and societal challenges brought about by new technologies. It aims to become a public service readily accessible to all by 1. providing updated information on the evolution of the Information Society at the national and international levels and 2. fostering debates on the related issues.

<http://www.unesco.org/webworld/observatory/index.shtml>

- Emerging digital Economy II, US Government, June 1999

<http://www.ecommerce.gov/ede>

- United Nations Development Report 1999 - Chapter 2 "New Technologies and the global race for knowledge"

<http://www.undp.org/hdro/report.html>

- United Nations - UNCITRAL Draft Uniform Rules on Electronic Signatures, 23 November 1998

<http://www.uncitral.org/>

- Australia and U.S. Joint Statement on electronic commerce, 13 November 1998

<http://www.doc.gov/ecommerce/AUfinal.htm>

- U.S. Government Working Group On Electronic Commerce - First Annual Report, November 1998

<http://www.doc.gov/ecommerce/review.htm>



- OECD Global Action Plan for Electronic Commerce Prepared by Business with Recommendations for Governments, October 1998

<http://www1.oecd.org/dsti/sti/it/ec/news/ottawa.htm>

- U.S.-Japan joint statement on electronic commerce, 15 May 1998

<http://www.ecommerce.gov/usjapan.htm>

- Electronic Commerce - Building the Legal Framework: Report of the Electronic Commerce Expert Group to the Attorney General; Commonwealth of Australia, 31 March 1998

<http://law.gov.au/aghome/advisory/eceg/ecegreport.html>

- The Framework for Global Electronic Commerce, The White House, United States of America, July 1997

<http://www.ecommerce.gov/framework.htm>

- Electronic Commerce - Opportunities and Challenges for Government (The "Sacher Report"), OECD, June 1997

<http://www.oecd.org/dsti/sti/it/ec/act/SACHER.HTM>

- OECD report: Stimulating private enterprise in transition economies; April 1999. PDF file added 3 June 1999

<http://europa.eu.int/ISPO/ecommerce/regions/ceecs/stimulating.pdf>

22.5 General references on business modelling

- UN/CEFACT Modelling Methodology CEFACT/TMWG/N090R9.1 draft 04/04/2001

- UN/CEFACT Reference Model of the International Supply Chain UN/CEFACT/BPAWG/BP044, March 2001

- SPECTRUM: The UK Museum Documentation Standard (common understanding of good practice for museum documentation, established in partnership with the museum community.)

- New Book Economy: Organisation im Wandel (www.nbe.de)

22.6 General references on Market, Segment and User Groups

- A netful of jewel, National Museum Directors' Conference 1999

- Business Modelling Group report, IMPRIMATUR project (Esprit N° 20676)

- Creative e-value, DCMS, August 2000

- Exploitation and development of the job potential in the cultural sector in the age of digitalisation, DG Employment and Social Affairs, June 2001

- Market issues; D4; Magnets project (TAP AD1101)

- Rethinking the Internet; Business Week March 26, 2001

- The Creative Industries; DCMS 1998



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