

Culturtainment: a New Interactive Entertainment Genre
Assessment of Cultural Heritage digital content in leisure software games



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Romane Sarfati, Cryo

1 INTRODUCTION

1.1 Focus

“Culturtainment: a new interactive entertainment genre” is the basic proposition of this thesis. The main objective is the assessment of Cultural Heritage digital content in leisure software games.

1.1.1 Research questions

Since the objective of this thesis is to assess cultural heritage digital content in the leisure software games industry, my research was targeted into three main areas: the relations between cultural heritage and digital content, the interactive software market and studying examples of existing cultural heritage content in games software.

Regarding Cultural Heritage, the research tried to answer the following questions:

What is CH importance for Europe?

Is Cultural Heritage a digital driver?

How is characterized the cultural heritage digital interpretation?

(Business Models, Products and Markets)

The necessary Leisure Software Market characterization, focusing on:

What are the existing products?

What is the market size and value?

What drives this market?

Who are its players?

Who are the consumers?

What are the future trends?

Searching for examples of interactive games adopting CH interpretation:

What are the existing products that follow the necessary requirements?

What are their main characteristics?

In what aspect they differ from other products?

Studying the examples, in terms of:

Who developed the products?

Why developing such products?
How the products were developed?
What business results achieved?
Who buys them?

1.2 Methodology

1.2.1 Objectives and Strategy

As my research targeted different subjects I felt the need to implement a **research strategy** in order to reach my **objectives**, the **tactics** or implementation issues followed the usual channels and vary little from subject to subject.

My strategy was to start to study the relations between cultural heritage and digital content, in order to better comprehend the issue and helping me in further research. At the same time I was gathering information about the interactive software market: value, products, consumers, players, etc. This approach gave me more insights about these subjects (although not all the info I needed as getting all the answers (and figures!!!) proved to be a continuous experience).

With the knowledge gathered, I started to track cultural heritage multimedia interpretation, mainly in video games. By establishing a set of requirements I was able to choose the products that satisfied it between myriads of titles and genres.

After choosing examples of existing Cultural Heritage content in games software my research turn to a deep study of the entities responsible for its production, to be more specific *Réunion des Musées Nationaux* and business partners.

The implementation of the research of the various subjects was very straightforward and common. Starting with general ideas about the research subject, a recollection was made of the existing written information about the subject in available books, reports and articles. Complementing this initial effort, searching the Internet proved itself invaluable help, retrieving information with insightful market or corporate information and new references. After analysing the existing data, a new cycle began, until no further information could be obtained.

In order to go deeper on necessary subjects, I've tried direct contact with responsible institutions and companies. Inquiring emails, phone calls and personal visits to sites were

made ensuring a first level of responses (unfortunately many didn't answer or choose not to help).

An even deeper second level of answers was necessary for the case study and it was obtained by the simplest but hardest way possible, travelling to Paris in order to get personal interviews with RMN and Cryo collaborators.

1.2.2 Process and Obstacles

Following my research objectives in three main areas, Cultural Heritage, Leisure Software and later RMN's ludo-cultural collection, the difficulties encountered were enormous. In a global economy, where information is essential for businesses, and in the advent of the Information Society, with large investments by European and National governments towards initiatives intended to disclose information to the community, retrieving valuable information posed itself as an almost impossible mission. I can't complain about the lack of help from private companies, but I surely can't at least have second thoughts about public funding EC's initiatives.

On the contrary, USA Companies, Professional Associations and Government Organizations follow an entirely different policy. The amount of public accessible information on the Internet is huge, showing that in information disclosure, Europeans have a lot to learn.

1.2.2.1 Cultural Heritage and Digital Content

The European Union emphasises the importance of Cultural Heritage as a digital driver. My analysis on this subject was largely based in EU Cultural Heritage initiatives and documentation. The confusion started early, in the scope/definition of the term "Cultural Heritage" used in many official documents. The Cultural Heritage Applications secretariat of **DG Information Society** was kind enough to inform me that "*wasn't able to find a general one. Each department seems to give a different scope to this term*"¹. For the context of this thesis, Cultural Heritage is defined as the resources in memory institutions (museums, galleries, and libraries) as objects, documents, people and knowledge.

Most of the information about Cultural Heritage and Digital Content had to be retrieved from public available documentation. Even in the institutions Internet sites, finding the necessary information can be hard work, and many of the bibliography used in this thesis was found indirectly, with the help of common Internet search engines.

¹ Concha de la Fuente, information and communication officer.

1.2.2.2 Leisure Software

Leisure software is a very competitive market so difficulties in assessing it were expected. Early investigations showed that in a European context the importance of clearly identify the differences in national markets.

The starting point was the Statistical Yearbooks of the **European Media Observatory** but scarce data on the multimedia market is provided. In order to expand the information data, successive requests were made to the Observatory but never had any reply. Please remember that the mission of this European public service body, as it is expressed in their official web site, is to “*improve the transfer of and access to information*” and that “*requests received by the Observatory are passed on to the relevant contact persons*”.

Contacts with other European Institutions specialised in the field of multimedia market analysis, as the **Info 2000 program** and **El.pub** organisation, provided the same results. The **Jacques Delors Information Center** in Lisbon, despite some internal staff research efforts, also concluded that were unable to help me.

Failing in getting information from public bodies, the next strategic approach was to contact a professional association, the **European Leisure Software Publishers Association**. After getting the generalist information available on the Internet site, contacts were made but never got a response. A comparison with their American counterpart is shocking, **Interactive Digital Software Association** publishes in its web site very complete reports, covering several important subjects such as industry data, demographics, economical impacts, regulation, existing programmes, etc.

In desperation I turn to private consultants such as *Datamonitor*, *Dataquest*, *TFPL Multimedia*. Unfortunately those institutions didn't want to disclose any data.

Finally I got lucky, as **Screen Digest**, the leading news and market research journal for the international media business, agreed in provide me as much information as possible for the cause of the thesis.

A final note on Leisure Software:

In order to introduce other dimension of analysis, it was also considered to answer some questions in the field of production and consumption of videogames by adult audiences (value, motivation, learn, characteristics, etc). Unfortunately, it seems that there isn't any structured theoretical/scientific research in this field. A lot of written material, books and studies, are available, but the main dimensions explored by cultural theorists are addressed to the consumption and impact of video games in children, ranging from criticism of violence presented, educative potential, social isolation, individualisation, complexities in gender, class and race, etc.

1.2.2.3 Videogames with cultural content

The **World Wide Web** was a natural choice for the investigation. There are thousands of sites dedicated to games and gaming resources, some of them organised as archives or games list². The search was also extended to specialised magazines and books, and in-store information.

1.2.2.4 RMN's Ludo-cultural collection

This thesis core proposition evolved to analyse the multimedia initiatives from the "Réunion des Musées Nationaux" (RMN), having a prospective evaluation of the ludo-cultural collection model, considering its innovative character on the European multimedia production. To propose a case study based on a foreign institution would carry several personal efforts and difficulties to my work. However, this was a challenge that I enthusiastically in the spirit of this MBA thesis: to make a personal reflection and an original work.

Unfortunately the difficulties soon appeared: contacts were undertaken with the **RMN** and its Multimedia Department in order to request information. Initial successful contacts (E-mail, fax and phone) were soon followed by a total blackout. After 6 months and tens of repetitive follow-up phone calls I was facing the risk of jeopardising my work. After conferencing with my thesis supervisor, a case exposition had to be made to the President of the Réunion des Musées de France.

Following this valuable intervention I finally was agended a two days meeting in RMN's headquarter in Paris, in 14 and 15th December 2000, leading to very insightful **interviews** but little written information disclosure.

Contacts with RMN's business partners were much easy to obtain. With the helpful collaboration of Dr Gisela Vieira, **Infogrames Portugal** marketing director, I was also able to schedule in the same period meetings with **CRYO**, the main games publisher partner of the ludo-cultural collection. **Index** another **RMN** partner and member of Wanadoo Group, formerly **France Telecom Multimedia Editions**, were also contacted, but I believe the long distance phone calls and email relations proved to be somewhat less efficient.

1.3 Findings

Trough the research necessary for accomplish this work, a set of findings were made. The main findings of the research done are also divided by the main chapters of this thesis. In this chapter a summary of those findings is presented.

² www.gamezone.com, www.happyuppy.com, www.gamesdomain.com, www.gamers.com, www.gamasutra.com.

1.3.1 Cultural heritage and Digital Content

As the research showed, the Content is a major industry in EU, with a size estimated at 412 billion, or 5% of the European GDP, ahead of both telecommunications (221 billion) and hardware software (189 billion). **Cultural Heritage**, a major European asset in a global economy, is expected to be one of **Digital Content's major drivers**, reinforcing cultural identity and creating a new emergent cultural market. But in order to explore this potential, the **business relations** between CH Institutions and DC Companies have to be addressed. The main **cross-sector challenges** that have to be overtaken are CHI's lack of means and knowledge in the ITC field and lack of knowledge on commercial reality.

Multimedia interpretation of cultural resources as digital content is essentially made through two product ranges, CD-ROMs and Internet, according to different types of use (commercial, professional and mass-market). Focusing on the mass-market, Cultural Heritage initiatives are based on the creation of CD-ROM products (catalogues, encyclopedias) exploring subjects as arts, science and history.

On the economical side of exploring cultural digital content, the **typical costs** for a CD-ROM production was around 250.000-300.000 in 1997, with a correspondent break-even figure of 15.000 units. Even with these high investments, the **number of cultural CD-ROM titles** produced per year in Europe has increased up to 500.000, and individual producers face decreasing margins and broadening competition. The best products sell 20.000 units, barely reaching profits.

The existing **business models** between Cultural Heritage institutions and Digital Content companies in the European scene follow the basic "River Model", where in "Upstream" activity digital content players act as business suppliers – IT and Telecoms, hardware and software companies- and in "Downstream" the activity is with electronic publishers. Other more advanced models are Joint Ventures and related collaborative initiatives, companies acting together sharing costs, risk and profits.

Despite the large investments already made and the technological merits, these experiences failed in providing valuable **economic results** mainly because the lack of experience and expertise in the use of ICT in cultural heritage areas, scarce expertise in marketing and business promotion by CH institutions and lack of mutual understanding between cross-sector players, due to different business mentalities.

1.3.2 Leisure Software

The Leisure Software is positioned in the broad definition **Entertainment Market**, including films, video, music, books, theatre, sport activities or any other that compete for people amusement and free time. The difficulties of characterizing such a broad market can be overtaken considering only the commonly related direct competitors for the audience attention, films and video resale.

The Leisure Software world **market value** is surprisingly high 22 bn with a two digits growth over the last 5 years, surpassing both film exhibition and video rental and retail worldwide. In Western Europe the leisure software already overtook the film exhibition (4.4 bn against 4.0 bn, in 97) but in the US, box office is still stronger (\$7.45 bn against \$6.1 bn in 99), though the gap is getting shorter as the Interactive Entertainment market grows at 15% per year and the motion pictures market only 5%.

The leisure software market is composed by three main genres: **games**, **reference** and **edutainment** developed to essentially two platforms PC's and consoles (+handheld), but console software comprises only games, as these are developed as game machines. Games largely dominate the leisure software market, up to 90%, leading to common confusion between leisure software and games market.

The **European leisure software** is the second largest global market and can be characterized by a strong segmentation, expressed in different rates of platforms household penetration, language diversity and gamers profiles. This segmentation leads to different characterizations of the five major Western Europe leisure software market territories: UK, being the most valuable territory, followed by France, Germany, Italy, Spain/Portugal, Scandinavia (Denmark, Sweden, Finland and Norway) and Benelux (Belgium, Netherlands, Luxembourg).

The **unit software sales** in Western Europe are also impressive (166 million in 1999). Although Europe has a very segmented market, in 2001 there are nearly 120 million potential **gamers**, consistent with USA figures of 145 million players. In the USA, 61% of gamers are **18 or older** and 43% **females** inducing that the universe of gamers is changing: school age children are no longer dominant but mainstream older and educated audience is. This enlarged audience is getting the full attention of the industry, pushing it towards the **mass-market**, in order to expand the business and improve their revenues.

This explains the market trends we are assisting. **Publishers' consolidation** through mergers and acquisitions driven by rising costs of games development (1.5 million in 1998 to 4.5 million today, or even substantially higher for blockbuster titles), and access to global distributions channels. **Mass Marketing** by licensing products and brands that have most probable success on getting the attention of general consumers, and subsidizing new gaming

concepts with known hits. **Emerging gaming platforms** like Internet II, Digital TV (iTV) with built-in console technology and third generation mobile phones (UMTS), are expected to get the attention of more casual gamers.

1.3.3 Existing Cultural Heritage Videogames

Searching for multimedia products fostering cultural heritage content through game entertainment models proved to be a difficult task. **Reference/information** and **Education** titles were excluded from the selection, as they don't provide interactive entertainment as product's primary feature. **Edutainment** was excluded also because although providing a perceived entertainment experience, the overall goal of the product is to be educational, to enhance the process of learning.

From the pre-selected titles dealing with cultural content, Human History seems to be common resource, either by recreating famous military landmarks, appealing to great historical characters or civilization periods. Although **cultural content** can provide the scenery of the game, it is not used as a structural tool for the gameplay development.

Other titles show some form of **scientific endorsement** but it is achieved not in gameplay but recurring to encyclopaedical information.

A totally different approach was identified in the following titles: "Versailles", "China", "Croisades", "Egypt 1156 B.C". and "Vikings". In these titles the fictional stories respect the cultural and historical realities of the time in which they are enclosed. They also present scientific validation, provided by specialists in each field, extended to the art concept of game's scenery. They differ from the conventional game pattern by enhancing a cultural dimension, which is set up as the main **tool for gameplay**.

1.3.4 RMN

The **Réunion des Musées Nationaux (RMN)** is public establishment of industrial and commercial nature (EPIC) that falls under the French Ministry of Culture. Its main activities are the management of public services, acquisition, exhibition, edition, diffusion (and commerce) of cultural services and products.

One of the major drivers to RMN's success resides in its EPIC character, having to create its own revenues in order to secure its functioning and corporate goals. In the field of cultural communication, the RMN has to harmonise the public service with market forces. Their positioning is that they are in a process of competence: culture is commerce product.

Today RMN can be considered a very successful institution. The 1997 **revenues** ascended to FF843 million, 22% from museums ticketing and over 50% from selling Commercial and Editorial products. These products range from Outside Products (40%) to internal produced ones like Publications (19%), Images & Video (16%), Moldes & Gifts (15%), photo agency (2%) and Multimedia (1,5%).

RMN's **Multimedia Department** was created in 1995, positioning RMN in the Technological Revolution taking place and in direct response to the Bill Gates' Corbis approach. This multimedia division intended to engage in the creation of quality and profitable multimedia cultural products. The department works as small **business unit** (around 10 elements) with a head manager co-ordinating the work of the staff. Each person is individually responsible for a project and works in autonomy. The multimedia projects function as **Single Purpose Vehicle** (SPV), following **partnership models** where all the partners share the financial risk by an equity-funding scheme. The Partnership Business Models are very adaptive, depending on the risk and cost of the project. As the projects diverge from RMN's core business (higher risk) and/or need bigger investments (higher cost), the business models become more participative, from simple service contracts to pure joint venture partnerships. The **games domain** is the notably the more complex, involving three main players: Cultural Institution (RMN/Museum), Publisher/Developer (Software House) and Financial Investor (usually Telco or Media Group).

RMN's **multimedia productions** embrace the entire scope of cultural heritage multimedia exploitation, from **Institutional Museum Web-Sites**, ensuring an international presence of all 33 French Museums in the Internet, **E-commerce sites**, to explore the consumer demand for Internet sales and providing a selection of products from the RMN' commercial activities, **Cultural/reference titles**, including a collection of over 50 titles comprising monographs, reference (art and history encyclopaedias) and cultural (museums, great artists, history, civilisations, classics, modern and contemporary art), **Edutainment**, with only two titles developed, and **Games**, with the Ludo-cultural collection. Games are today the support of the multimedia category. The culture category is in regression, as the lifestyle evolution favours games and practical life.

The **Ludo-cultural collection** started with "**Versailles, intrigue at the Court of Louis XIV**" (RMN, Cryo Interactive, Canal+ Multimedia). First sales expectations didn't exceed 4000 units. The overall production budget was FF3 million. It sold 500.000 units, in national and international markets. Following to the success of "Versailles", the RMN has co-produced **six more titles**, creating the ludo-cultural collection. Altogether they have sold more than one and a half million units worldwide. The collection was initially targeted for a juvenile audience, but the actual consumers correspond to the industry's search, an older, educated, casual gamer audience.

1.4 Description of Conclusions

The conclusions of this thesis derive from the research findings and the analysis of the information gathered.

Cultural Heritage is one of Europe's most important assets. The variety of valuable content in memory institutions like museums, galleries, archives and libraries have an enormous potential for digital content exploitation. The successful implementation of this potential depends in the establishment of a proper interaction between Cultural Heritage and Digital Content sectors, as very different business cultures are involved.

The **business models** play a decisive role in overtaking existing cross-sector barriers, the basic "river model" is not suitable for to affirm CHIs as strategic and influential players in competitive the Digital Content market. Other more participative models are better suited for the cultural heritage institutions, as the partnership models *the Réunion des Musées Nationaux* uses, because these models, through responsibility sharing in both economical risks and digital content creation, can provide better products, some cultural content control and bigger revenues. Furthermore, the participative models should be implemented with active participation in the entire product cycle: definition, development and marketing.

Even with the success cases of RMN and others, there is still a need for newer authoring (business) models that remove inter-sector barriers and new products that express greater interactivity and interest, thus market acceptance.

An essential question for offering new products is framing the business markets in which CH institutions can be placed. Museums and other CH institutes provide cultural heritage preservation and dissemination, but also amusement to its visitors. In a broad sense Cultural Heritage Institutions are competitors in the **Leisure Market**. Despite producing or participated in interactive entertainment market, mainly through multimedia products such as Reference and Edutainment titles, the larger part is still unexplored, as CH institutions experience in video games is limited to only one example.

Even RMN acts conservatory as the Ludo-cultural is internally considered as a product catalogue and not a new genre, sticking to Historical Adventure product expansion, without fully exploring the rich Software Games universe. I strongly believe that we are facing a new game genre, facing an opportunity to explore it far beyond the existing model.

The final objective of this thesis is to introduce this new genre, **Culturtainment**, as in interactive entertainment with cultural content, opening our minds to new uses of the concept of joining culture and games or even better using interactive entertainment for cultural purposes.

1.5 Main Data Sources

The main sources of information were provided both by personal interviews with RMN Multimedia Department and Cryo Interactive collaborators. Other sources were fundamental,

such as industry reports, books, and World Wide Web sites from industry players, game publishers, developers, consulting companies, industry trade publications, etc. The main data sources used throughout this thesis were:

Books and Studies

Business opportunities from cultural heritage by Alfredo Ronchi;
Computers as Theatre by Brenda Laurel;
Introduction to Multimedia in Museums by Ben Davis and Jeniffer Trand;
Mémoire d'Etude. Les éditions de la Réunion des Musées Nationaux, evolution, transformation, mutation? by Régine Hua;
Museum and Galleries New Thecnology Study by James Hemsley;
Museums and Multimedia Publishing by Danièle Brochu (ed.);
The Art of Computer Game Design by Chris Crawford;
The Cultural Work within the Information Society: Comments to the Council of Europe Recommendation by Ingo-Eric Schmidt-Braul
re:play, ultimate games graphics by Liz Faber

Reports

Economic Impacts of the Demand for Playing Interactive Entertainment Software. IDSA
Interactive Leisure Software. Market assessments and forecast 1999-2003. Screendigest.
Interactive leisure software: New platforms, new opportunities. Screendigest.
Rapport d'Activité 1997. Réunion des Musées Nationaux.
State of the Industry Report 1999. IDSA.
State of the Industry Report 2000-2001. IDSA.

Web Sites

CORDIS
 Datamonitor
 ELSPA - European Leisure Software Publishers Association

Europa

IDSA - Interactive Digital Software Association

Réunion des Musées Nationaux

Cryo

Index

France Télécom Multimedia

Gamasutra - The Art & Science of Making Games

Games Biz

Games Investor

Games, Gamers and Gaming Culture

Vasari

Video Game Library

WIPO - World Intellectual Property Organization

(various web sites from industry players, game publishers, developers, consulting companies, industry trade publications, etc.)

Magazines and newsletters

eCulture,

Cultivate Interactive

Le Monde Interactif

Game Developer Magazine

Personal Interviews

Alain Le Bourvellaic, RMN

Beryl Chanteur, RMN

Françoise Lombardi, RMN

Helène Tronc, RMN

Mattieu Saint-Dennis, Cryo Interactive Entertainment

Michel Richard, RMN

Romane Sarfati, Cryo Interactive Entertainment

2 CULTURAL HERITAGE MULTIMEDIA INTERPRETATION

2.1 Digital Content Importance

The development of digital technologies started a revolution that led to the rise of a digital content industry, with the arrival of new players, contents and services within the economic sector. Dealing with creation, structuring and disclosure, packaging and distribution, the digital content industry has assumed a vital importance to Europe, both at the economical and social levels, “*as it sets the pace of Information Society, building a bridge between new technologies and users*”³.

According to Frans de Bruijne, who heads Directorate D of the Commission’s Information Society DG, *the size of the content sector in EU is now estimated at EUR412 billion, or 5% of the European GDP, ahead of both telecommunications (EUR221 billion) and hardware software (EUR189billion)*.⁴

The potential conferred by a strong print publishing sector, a vast cultural heritage and linguistic diversity, and the growing audiovisual sector, gives Europe a strong base to develop a dynamic digital content industry. However, in order to compete in a global scale, Europe has to overcome several factors that risk that this potential can be realised⁵:

Insufficient clarity and homogeneity in rules on access and exploitation public sector information.

Insufficient linguistic and cultural customisation of digital content.

Insufficient co-operation between educational and cultural institutions and communities and the content industry.

Weaknesses in the on-line distribution of content and information on global networks.

Insufficient investment and market transparency in Europe

Copyright issues

By removing these obstacles, the European digital media industries could grow at 20% per year over the next decade, more than twice the traditional creative industries⁶.

³ COM (2000) 323 final, 24-05-2000.

⁴ Euroabstracts, June 2000.

⁵ European Digital Content for global networks, Lisbon European Council, March 2000.

⁶ Digital Media Alliance, Recommendation for growth, 1998.

2.2 Continental Digital Divide

In terms of digital content Europe's still lacks behind the USA in some extension that we can apply the term "continental digital divide".

The term digital divide is used by the Organisation for Economic Cooperation and Development (OECD) to refer the "*gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities*"⁷. Readiness indicators for measuring this new phenomenon are communication infrastructures, computer availability and Internet access, among others.

In a backdrop of interesting statistics⁸ we can see that in Europe, the medium PC penetration rate is 28 per 100 residents, against the US almost double value of 52 per 100. The digital gap seems to be widening if we take in account that the average US investment in Information and Telecommunication Technologies (ICT) is more than 4.5% of its GDP, while Europe's spending drops to less than 2.5% at the same level. In terms of holding the "digital content" produced, the medium number of web sites per capita in Europe is only about 1/5 the US number.

2.3 Cultural Heritage: a digital driver

Cultural Heritage is one of the mayor factors for the development of the European Information Society and, consequently, the European economical growth. The wealth of information comprised by 100.000 cultural institutions (museums, libraries and archives) employing over one million people endow European's Cultural Heritage the potential of becoming a major source of content for future multimedia services and applications, has it was emphasised by the European Council in Lisbon, in March 2000⁹:

The content industries are a fast growing segment of the European economy. Europe has a strong base on which it can build a dynamic digital content industry - a long established print publishing sector and extensive cultural heritage and linguistic diversity which can be exploited as well as a significant, growing audio-visual sector.

The Treaty of the European Union (Maastricht, 1992) had already included culture has an area of jurisdiction of the Community, going beyond aspects of commercial and economical activities¹⁰. Culture is "all distinctive, spiritual and material, intellectual and emotional features which characterize a society or social group" (UNESCO, Mexico, 1982) and to promote its knowledge and dissemination reinforces the society sense of identity. In the European Union, with its multicultural diversity, supranational initiatives have been taken in order to increase the citizen's awareness and involvement in common cultural heritage (e.g. Raphael), while respecting the diversity of national, regional and local cultures involved.

⁷ *Understanding the Digital Divide*, OECD, 2000.

⁸ *Continental Divide*, Nevil Cohen, e-marketer, 2001. (www.e-marketer.com)

⁹ *European Digital Content for global networks*, Lisbon European Council, March 2000.

¹⁰ article 128(4)

Today, the application of Information and Telecommunication Technologies (ITC) to Cultural Heritage raises several expectations both at the socio-cultural and social-economical levels:

By one part, these tools can reinforce cultural identity by adding value to content and generating values to individuals and societies, as well as promote and maintain cultural diversity and ensure democratic access to culture.

By other part, they have the potential to develop innovative cultural products and services, creating a new emergent cultural market and employment opportunity through cross-sector cooperation.

2.4 Cross-sector Challenge

The potential of creating a market based on the exploitation, repackaging and re-use of cultural heritage content through ITC dissemination depends in the establishment of a successful framework of cooperation between players of two sectors:

The Cultural Heritage (CH) sector, whose players are the cultural and memory institutions, such as museums, galleries, archives and libraries. In Europe there are 20.000-25.000 museums and libraries and 60.000-70.000 libraries and archives. Either being public, semi-public or private, these institutions are non-profit organizations in the service of society, providing cultural products and services (as documentation, conservation and dissemination of cultural heritage) and making the accessible to large publics. As cultural institutions embrace new technologies they are also faced with a new role: to give access instead of possess.

The Digital Content (DC) sector, whose players include commercial companies in the field of ITC, utilising the tools and functions of interactive media to bring new digital content products and services to the market, as electronic publishing, web development companies, software, web-based services, computer game developers/publishers.

However, the different business cultures that characterize these two sector remains an obstacle for the creation of this emergent market:

By one part, the CH sector, although lacking the means (mostly depend on public/private-funding) and knowledge in the ITC field, feels apprehension in cooperating with the Digital Content sector due to fears of being commercially exploited and a vulgarization of cultural heritage.

By other part, the Digital Content sector, although eager of the huge amount of information held by cultural institutions, stress their lack of knowledge on commercial reality.

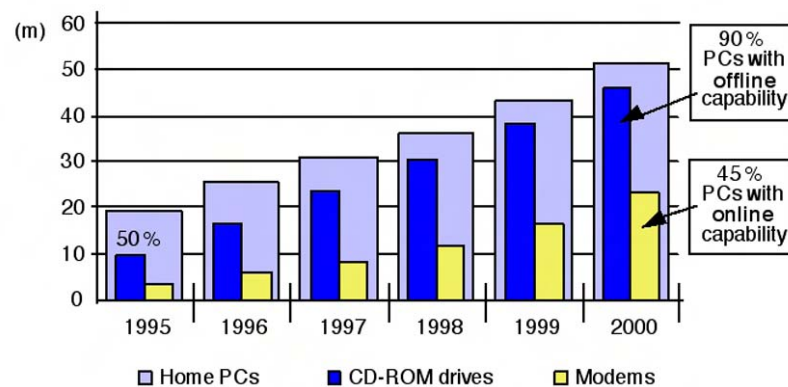
2.5 Existing Digital Cultural Heritage (Products and Markets)

Initial initiatives using multimedia potential for the interpretation of cultural resources were built around two product ranges: CD-ROMs and the Internet. First experiences took place in the early nineties, and focused on single-purpose or interpretative projects of memory institutions, as in-gallery multimedia Kiosks or electronic publications as videodisks or CD-ROMs¹¹. These products used traditional publishing models and reflected non-innovative goals (e.g. exhibition catalogues or gallery guides).

Between the years 1993-96, the number of CD-ROM drives in Europe increased 400% making a total of 12 million PC&CD-ROM drives in European households [Hemsley, 1997]. See figure3.

Figure 1 Total number of PC's, CD-ROM Drives and Modems in European Homes

Millions of units



Sources: AC / IENM (based on data from Datamonitor and EITO)

As the spread (penetration) of technology equipment increased (PC, CD-ROM drivers, modems) the conditions were set in order to account relevant customer markets from a supply base.

In order to analyse the approach to cultural dissemination in ITC I don't reduced it to the nature of dissemination systems (CD-ROM, Web site, mixed on-line and off-line products), but also rely in its types of use (commercial, professional, educational). Cultural multimedia products and services were developed in order to address the needs of two specific segments:

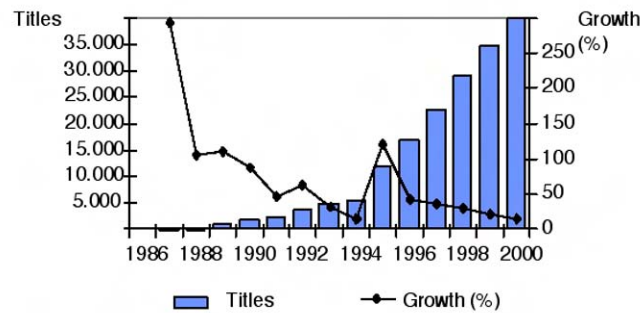
¹¹ Introduction to Multimedia in Museum

The Home market, also coined as the mass-market, with user groups mainly composed by domestic enthusiasts, kids & teenagers, and special interest & hobby users.

The Professional Market, highly specialized and based on information or communication based services. The user group it's composed by the professionals of the Cultural Heritage Institutions and specialist researchers of related areas.

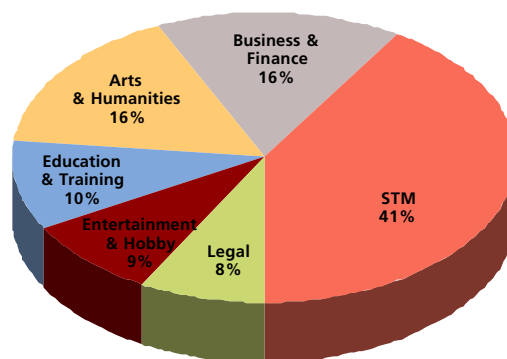
Cultural Heritage initiatives towards the Home market focused on the creation of CD-ROM products (catalogues, encyclopedias) exploring subjects as arts, science and history. By 1996, there were around 10.000 CD-ROM worldwide and, regarding content, cultural titles accounted for 16% of the market (see figure 3 e 4). However, regarding to revenues and the number of copies sold, entertainment, although contributing with less than 10% of titles, accounted for the “lions share”.

Figure 2 CD-ROM Titles (worldwide) | 1986-2000



Source: Infotech

Figure 3 CD-ROM Titles by Content (worldwide) | 1996



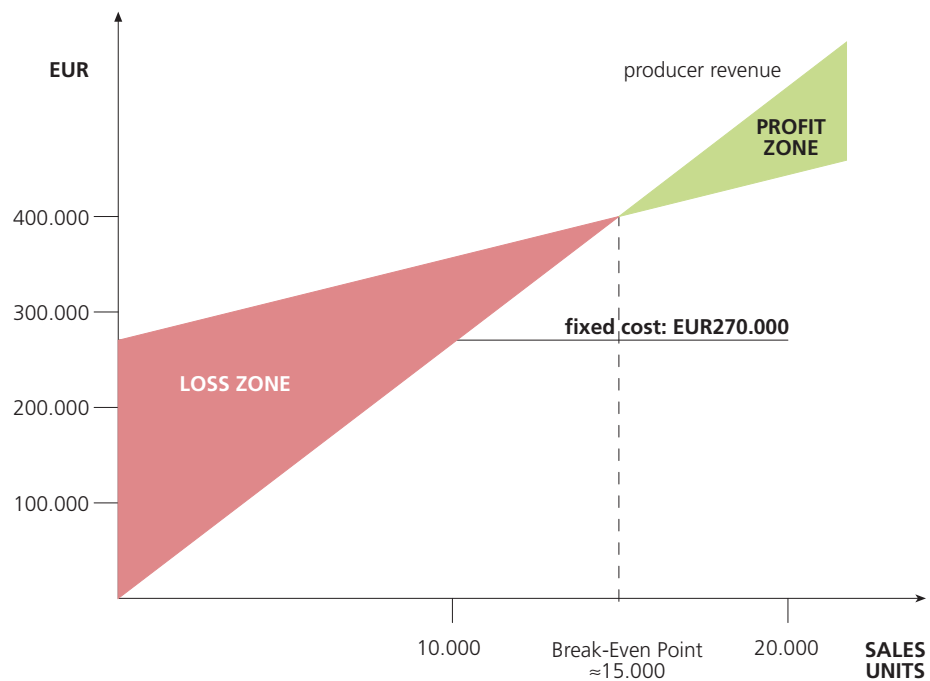
Source: EL PUB

In the European scene, successful key players emerged using both the creative capacity of specialist multimedia publishers/developers and the resources of CH institutions, as Giunty (Italy), the RMN (France), the University of Utrecht/Sauer (Germany) and the National Gallery/Microsoft (UK).

However, in spite of the boom, the cultural CD-ROM market didn't really take off. The economics of mass-market requires large circulation for a title to become profitable, in some case over 100.000 units. Very few titles produced by museums achieved such numbers, apart from the Microsoft/National Gallery and the RMN/Louvre CD-ROMs [MAGNETS].

By 1996, the average cost for a "typical" CD-ROM production was around EUR 250.000-300 with a correspondent break-even figure of 15.000 units¹² (see figure 4). Volume sales for average cultural titles were 20.000 units at best (source RMN).

Figure 4 Basic analysis for a "typical" consumer cultural CD-ROM | 1996



Source: Magnets

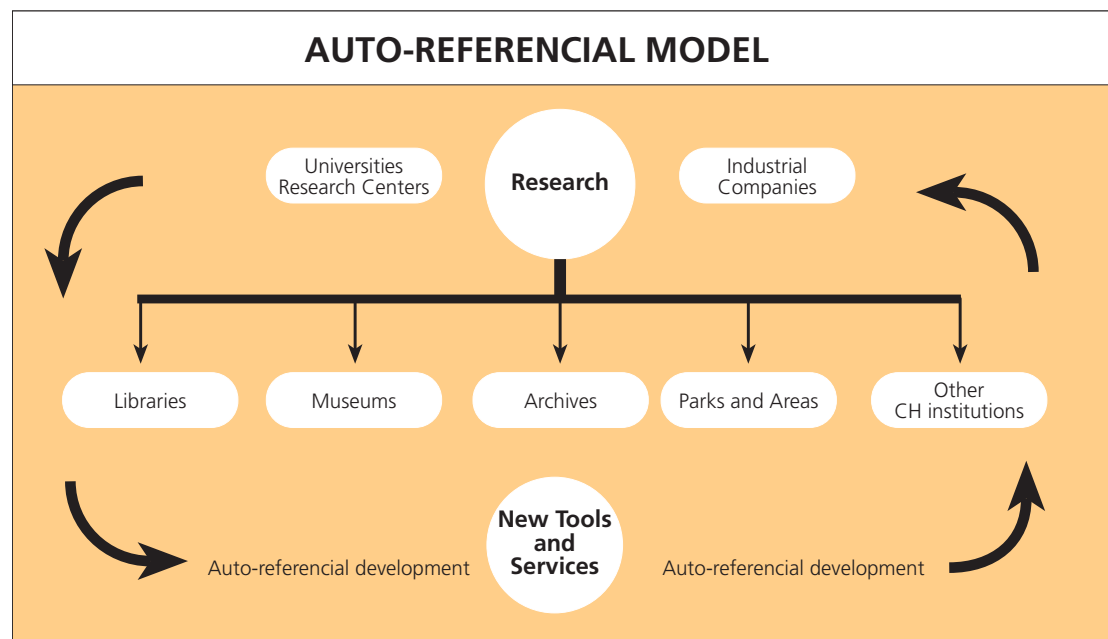
¹² Break-even equation: Assuming a sales price of EUR 40 and discounting 50% for distribution, promotion and retail costs: net contribution for unit (EUR 20) multiplied to fixed cost of EUR 270.000, plus production costs of EUR1.5 per unit.

Today this development has stumped, especially regarding Cultural Heritage institutions. The number of cultural CD-ROM titles produced per year in Europe has now increased up to 500.000, and individual producers are faced with decreasing margins and broadening competition [Schmit-Braul, 1999].

The potential of re-using digital content also drive to the creation of digital databases anchored in networked library-type practices in order to fulfill the specific needs of CH professionals and specialist customers within a network of public organizations.

These projects were developed under *auto-referential* models, where a core group of CH institutions engage in developments whose impact and utility tend to circulate between the immediate producers and users, the same set of actors. Although reflecting valuable technological advances for specific CH research, failed in set broad socio-economical implementation, as user-referential projects do by moving and gathering innovation from wider user markets (see figure below).

Figure 5 Auto-Referential Model



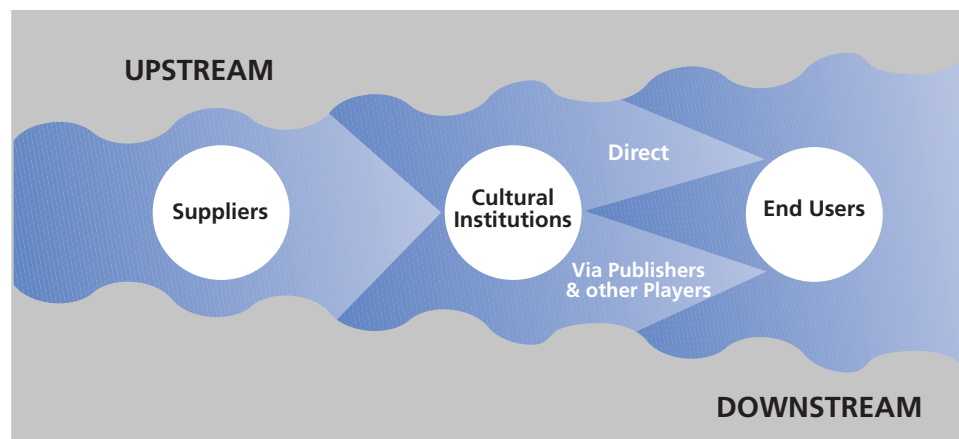
Source: Christensen

2.6 Business Models (Structural Relationships)

2.6.1 Basic Models: “the river”

In the last decade, structural relationships between the European CH institutions and the business sector followed the basic “River Model”. This model divides the companies working with CH institutions into two activities, the “Upstream” activity where digital content players act as business suppliers – IT and Telecoms, hardware and software companies- and “Downstream” activity where the players act as business customers - electronic publishers. (See below).

Figure 6 River Model for Cultural Heritage Institutions



Source: MAGNETS

This model reflects some of the limitations CH institutions face. By depending directly in both “upstream” and “downstream” to its business partners, the contact with general audiences is limited, thus product definition and proactive participation.

It also carries an enormous risk, as integration in the digital content of “upstream” and “downstream” companies occurs, leading to further dependency and lower negotiation power.

2.6.2 Participative Models

More consentaneous models for developing cultural heritage digital content are the participative models, where the players gather in joint ventures, sharing responsibilities, costs, risks and profits.

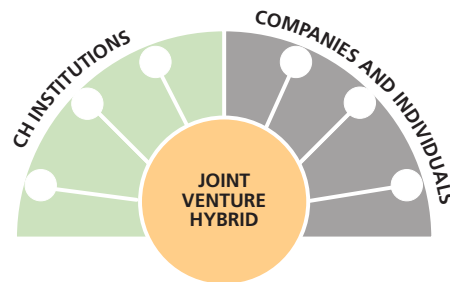
The typical CH institutions / business partners projects implemented with this models can be divided in “hybrid” Joint Ventures, Dipole Ventures and Collaborative Initiatives, depending on the degree of involvement and the number of partners involved:

“Hybrid” Joint Ventures, undertaken by two or more partners (companies and CH Institutions) sharing cost, risk and profits.

E.g. ARTIST Id., with Victoria and Albert Museum and other three partners.

In normal Joint Venture business companies act together sharing costs, risk and profits. The term “hybrid” refers to a company under the laws of the country of establishment. The percentage of share of each partner is a key decision, and the model requires strong trust and collaboration between partners.

Figure 7 “Hybrid” Joint Ventures Model

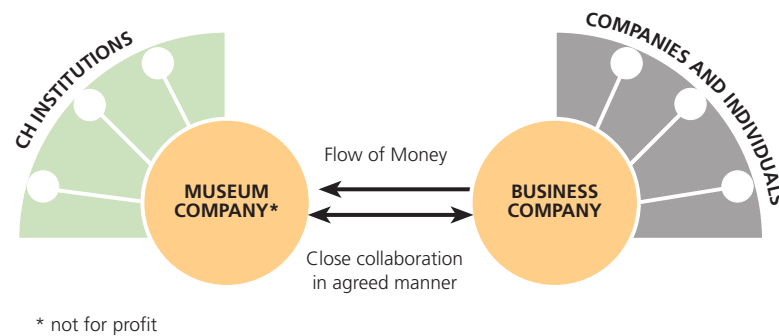


Source: *Magnets*

Dipole Ventures, a model evolving two independent organizations, as a non-profit organization owned and managed by CH institution and other business company (or Joint Venture companies). In this model the for-profit company has the mission of generate the resources and support for CH institutions.

E.g. MOL, Museums on Line¹³ (a combination of American and European investors), in result of the RAMA Project promoted the Multimedia European Network of High quality Image Registration (MENHIR) in Europe, in order to offer a genuine alternative to CORBIS through collaboration with authors and content providers.

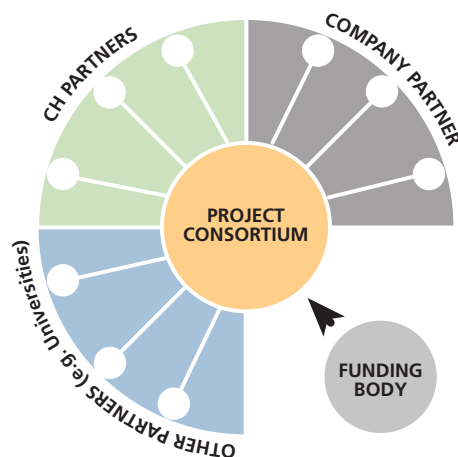
Figure 8 Dipole Venture Model



Source: Magnets

Collaborative Projects formed by a Consortium of partners from various sectors, as CH partners, Industrial partners, University partners and Research Institute partners. E.g. IST RTD projects and support actions in the cultural heritage area where the European Union provides the Funding Body.¹⁴

Figure 9 Collaborative Projects



Source: Magnets

¹³ www.museums-online.com

¹⁴ further details in <http://www.cordis.lu>

2.7 Constrains (results)

Despite the large investments already made, both in time and resources, in ICT applications and projects (3D reconstruction, image rendering, virtual museums) to often these experiences failed in providing valuable economic results. Several major problems constrain a market based in the economic promotion of cultural heritage [Ronchi]:

Lack of experience and expertise, at the regional and local levels, in the use of ICT in cultural heritage areas.

As I've already stated, the European Cultural Heritage sector comprises almost 100.000 institutions. However, this universe is also characterized by a remarkable diversity and disproportion in terms of size, notoriety and resources. This is very well expressed by the Museum sector, composed by hundreds of major museums (national), thousands of middle-size museums (regional) and tens of thousands of small museums and galleries (local). Both local and regional museums mostly focus on the region's heritage in which are enclosed (ranging from folklore to gastronomy). Due to lack of expertise in ITCs areas, CH administrators rely on local ITC consultancy, witch more often provides general solutions not optimised for the specificity of the CH sector.

Scarce expertise in marketing and business promotion by CH institutions, an obstacle for the development of credible business plans that attract investment.

Cultural Heritage institutions often face financial pressure, especially those depending on public funding. Since the early 90's budgetary restrictions have been imposed to the sector, meaning that when trying to implement ITC projects, Cultural Heritage institutions not only have to obtain the experience and expertise provided by ITC partners, but also to secure investment partners.

Lack of mutual understanding between cross-sector players - cultural sector, service industry and ICT experts - due to different business mentalities.

Successful partnerships or collaborations between players from different sectors rely on conditions such as investment, success, and mutual trust: each part involved has to feel that has a fair return on investment made. Different paradigms are applied in CH and business sector and the potential of conflict is directly proportional to the complexity of projects undertaken. When relationships between players fall in the category of client-supplier (e.g. developing a web site), the potential of conflict is minimum, as the competencies and contribution of each part may be easily agreed. However, when elaborate operations and numerous participants' are bring into a project (e.g. CD-ROM), the potential of conflict is elevated, and its efficiency and decision-making (set in mutual trust) that makes the difference between success and failure.

Today the future of cultural institutions in the information society remains in their ability to provide high quality digital content in the information market. In a globalised competition market, the fundamental factor success will be the development of products and services that users desire and believe that they can make use of [Schmidt-Braul].

3 INTERACTIVE ENTERTAINMENT MARKET

As society evolves, individuals tend to give more attention what they do with their free time. The Leisure Market, its subset Software and particularly Games tend to increase its importance both economically and socially, as their market share value and penetration expands at a large pace.

Television and movies, the most common passive forms of entertainment, face real competition for the popular culture as people shift to newest forms of interactivity, Internet and computer based leisure software.

A truly technology driven market, leisure software and gaming market growth is taking advantage of the astonishing advances of the information society. Emerging platforms like Internet, UMTS and Digital TV enormously augment potential costumers, thus market value.

The enlarged customer base also lead to a renewed search for new genres and types for electronic entertainment as the existing models may not suit such a broaden audience. The enlargement of the current trends, more casual than hardcore gamers, opens the market for Content Providers and Brands people trust.

As market matures, its earnings are getting global interest. Development, publishing and retail will surely assist the raising importance of other markets strong atypical players, especially Content Providers or the new platform owners.

3.1 Definition

3.1.1 Leisure software, film and video comparison

The Interactive Entertainment or Leisure Software market is by definition part of a larger entertainment market, including film production and exhibition, Video and DVD rental and resale, music edition and shows, television, etc.

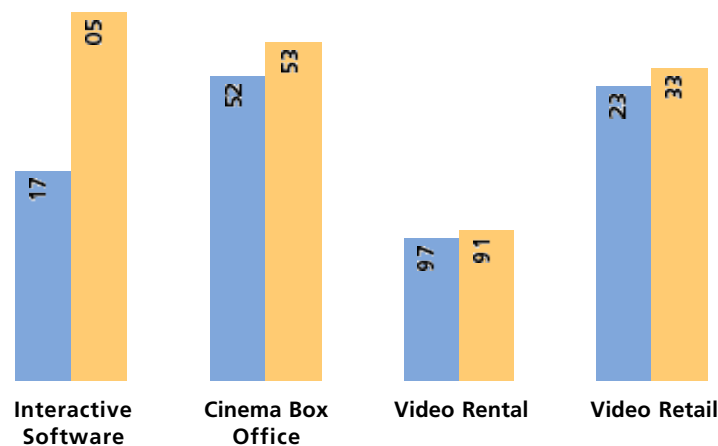
In a broader definition one should also include books, theatre, sport activities or any other that compete for people amusement and free time. The difficulties of characterizing such a broad market definition can be overtaken considering only the commonly related direct competitors for the audience attention, films and video.

Leisure software is usually under considered, with no real expression in economic or social terms, but the figures speak for themselves, the fastest growing leisure software market value is surpassing both film exhibition and video rental and retail worldwide.

In Western Europe the leisure software market has already overtaken the film exhibition and video retail sales (see figure 10).The US's Box Office is still stronger (\$7.45 bn against \$6.1 bn in 1999), however, the gap is getting shorter as the Interactive Entertainment market presents

the most dynamic growth in the American entertainment industry. In the period between 1997 and 2000 the US economy registered a 6% annual growth, the motion pictures market grew 4.6%, and in contrast, the computer and console games market grew 15%.[IDSA, a]

Figure 10 Western European Entertainment Expenditure | 1996-1997
in million EURO



Source: Screen Digest/OBS







3.1.2 Games, Reference and Education/children software

Games dominate the leisure software market. The correct figures are difficult to assess, but most references account games up to 90% of the market, leading to common confusion between leisure software and games market. The other major genres are Reference and Education/Children, the last one experiencing major growth over the last three years [Screen Digest, a].

The definition itself of the leisure software genres is difficult to implement, as those closely related genres tend to mingle as the strong innovative developers fight for new products, media and audiences, generating new sub-genres, like Children Education Games.

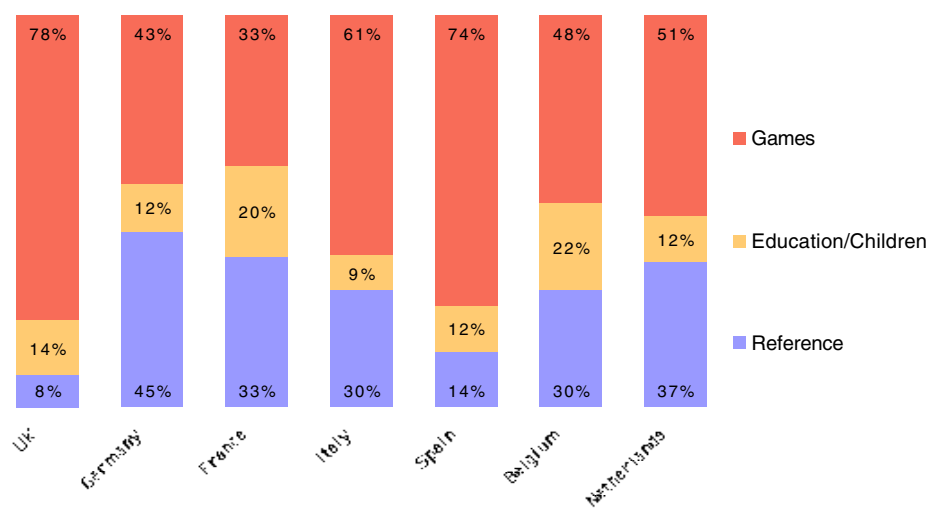
The market is also separated by platform (hardware) reflecting the retail business segmentation, in PC's and Consoles&Handheld, Overall both segments have roughly the same size, with major differences throughout European countries .

Figure 11 Leisure Software Subsets by Platform

		PLATFORMS			
		CONSOLE	HANDHELD	MULTIMEDIA PC	
				CD-ROM/DVD	MODEM
LEISURE SOFTWARE	GAMES				
	NON-GAMES				

The console and handheld software comprises only games, as these are developed as game machines. The following figure reflect the leisure software PC breakdown in selected European countries.

Figure 12 Leisure Software PC CD-ROM Genre Share | 1998
Selected European markets



Source: GfK

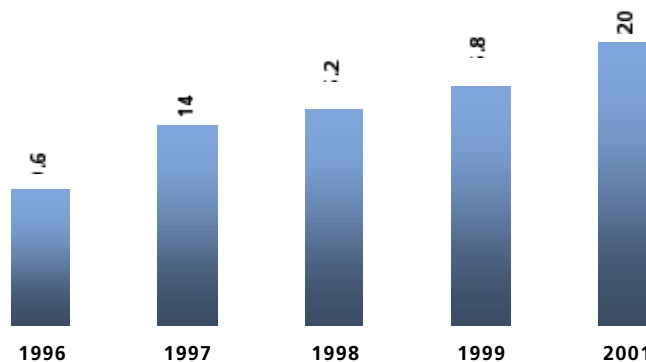
Throughout this chapter, Interactive Entertainment, Leisure Software and Games markets are considered the same, unless clearly stated.

3.2 Characterization

3.2.1 Market Value

'Videogames are big business'. *Screen Digest* estimates that in 2001 the world leisure software market will reach nearly \$20bn (22bn), making it the fastest growing entertainment industry in the world. The numbers are impressive. In 1997, the World leisure software market registered 46% growth in 12 months, establishing a record value of \$14bn, against the \$9.6bn of the previous year. Since then it has registered a two digits expansion yearly, having doubled its total value in the last 5 years (see figure 15).

FIGURE 15 World Leisure Software Market Growth | 1996-2001
in billions of dollars

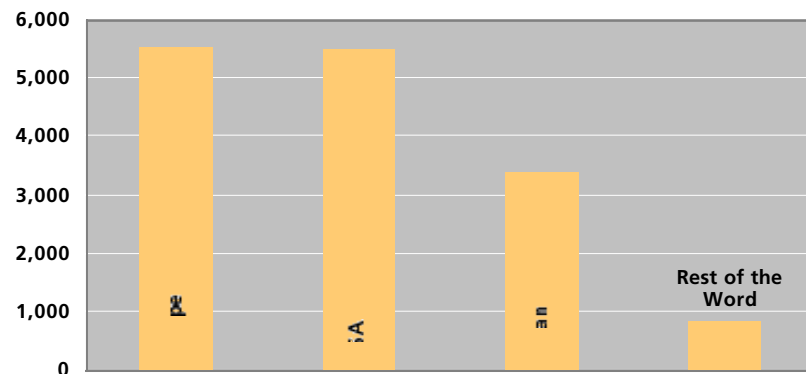


Source: *Screen Digest/OBS*

In overall terms there are three major global leisure software markets: the USA, European and Japanese markets. Since 1998, the European and the US market have been on par in value terms. The third major market is Japan, although it makes most of its revenues from the video console sector.

Figure 14 Global Leisure Retail Market Size | 1999

in millions of dollars



source: Screen Digest

3.2.1.1 Europe

The European leisure software, the second largest global market, is characterized by a strong segmentation, expressed in different rates of platforms household penetration, language diversity and gamers profiles.

There are five major European leisure software market territories. In terms of global videogame revenues the UK provides the most valuable territory, followed by France, Germany, Italy, Spain/Portugal, Scandinavia (Denmark, Sweden, Finland and Norway) and Benelux (Belgium, Netherlands, Luxembourg). However, there are significant rank changes when considering leisure software spending by platform (see figure bellow).

Figure 15 European Leisure Software Market Ranking | 1999

Millions of dollars

Country Ranking [R]	Total leisure software spending	Console and handheld spending		PC leisure software Spending	
UK	1356	804	59%	[1] 552	41% [2]
Germany	1100	530	48%	[3] 570	52% [1]
France	913	539	59%	[2] 374	41% [4]
Scandinavia	781	259	33%	[6] 522	67% [3]
Italy	582	353	61%	[5] 229	39% [5]
Spain/Portugal	500	334	67%	[4] 166	33% [7]
Benelux	342	149	44%	[7] 193	56% [6]
Total	5574	2968	53%	2606	47%

Source: Screen Digest

The results reflect European segmentation as stated, with console and handheld software spending varying from 2/3 of total leisure software spending to 1/3 in Scandinavian countries. Overall the market seems to be equally divided between consoles and PC's.

A deeper characterization of selected European countries will be discussed over the next pages.

UK

The UK market is the fourth leisure software market in the world. It's due especially to the revenues from the console software market, where the UK is far ahead from other European territories. In 1999 there were 7.3m advance consoles in UK homes, an equivalent penetration rate of 30%, and AAA console titles sell an average of 400.000 units.

Regarding the PC leisure software market, games titles are the dominant genre: biggest chart hits sell almost 100.000 units. The non-games sector is headed by the Education/Children titles – a market that has register a fast growing in the last years.

Germany

Germany is the second single largest territory for leisure software due to massive sales of the PC leisure software market, both in the games and non-games sector. Although games account for only 43% of leisure software units sold Germany still makes one of the largest markets in the world. Biggest chart hits sell an average of 150.000-200.000 units. However cultural and reference titles are also heavily solicited: nearly 10m non-game units have been sold during 1999. Another important fact is the high quality machines from the 28.5% PC household penetration rate: 85% had P2 200MHz processors, making them ideal for game playing.

The German console market is the third largest of Europe, after UK and France.

France

French leisure software market presents unique characteristics. In 1999, there were 5.303 advance consoles in domestic houses, contributing to make it the second largest software console market in Europe. TOP 10 best selling titles sell between 50.000 and 100.000 units (major hits reach 200.000 units).

The PC leisure software market is more modest. The PC penetration household was 19%, far behind other European countries. However it's the largest European non-game market for leisure software: in 1999, 53% of units sold were made by reference and children/education genres. In 1996, the CD-ROM "*Le Louvre*" (RMN) reached the French Top 10 PC Chart¹⁵, selling over 120.000 units in France and 200.000 copies overall.

¹⁵ During a few weeks, Le Louvre was number one in the TOP 10 sales Chart.

Scandinavia (Denmark, Finland, Norway, Sweden)

The Scandinavia provides the fourth European software market, mainly due to the revenues of strong PC leisure software. Contributing factors are strong PC household penetration, high levels of education and dominance of English language. Elevated leisure software prices contribute to the worth of this market, a situation that may be affected in the future due to e-commerce. Meanwhile, despite the general use of English, publishers are localizing major releases in the local languages.

Italy

Italy is the fifth European market, having grossed \$582m in 1999. The console sector dominates (\$333m) and AAA console titles sell between 60.000 and 100.000 units. Compared with other large European territories, Italy had a very low PC penetration rate (14.5%), falling behind Spain/Portugal. In this underdeveloped PC territory the PC leisure software market is clearly dominated by the game titles, in a proportion that is only overcome by Spain/Portugal. In the non-games sector, cultural/reference products are also very strong due to local publisher activity.

Spain/Portugal

The Spanish/Portugal leisure software market is also dominated by console games: the \$334 console software revenues double the value of the PC leisure software market.

Another characteristic of this south European leisure software market is a population that is not fluent in English (specially the Spanish). Almost all the major titles are localized, and even manuals and boxes are translated to the local languages. The PC leisure software market is clearly dominated by game titles, in a disproportion with no equal amongst other major European markets. "Triple" A hits sell an average of 15.000 units in Spain, although major hits can sell 40.000 units.

Benelux (Belgium, Netherlands, Luxembourg)

As well as the Scandinavian region, Benelux region has a population with high education levels, good English speaking (specially the Dutch). In 1999, it presented the highest PC household penetration rate of the European leisure software markets: 53.47%, a value that almost double German values. These factors contribute to the lead of PC leisure software market: \$193m revenues against 149\$ million revenues generated from the console leisure software market. Both PC and console AAA titles sell around 25.000 units.

3.2.2 Market Dimension

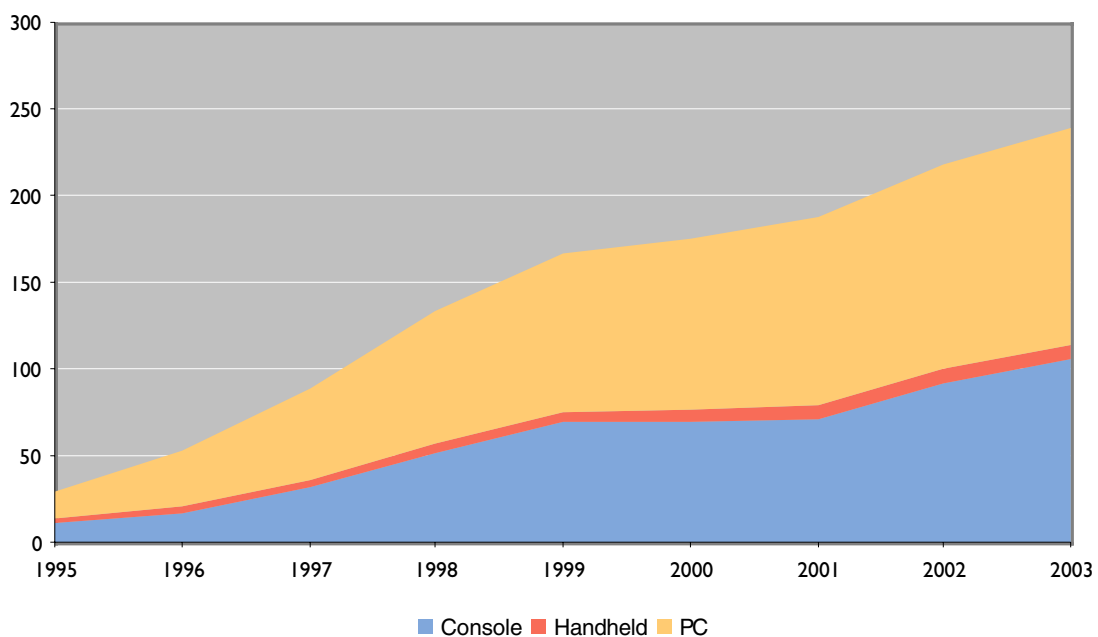
It is very difficult to assess the penetration of the leisure software, but the existing figures in leisure software sales, hardware penetration and the leisure software use studies permit to get a global view of the market, clearly showing its importance.

3.2.2.1 Software sales

The unit software sales in Western Europe is also impressive. Screen Digest study suggest the astonishing number of 166 million in 1999.

Being a technology driven market and very susceptible of the console hardware cycles, growth slows down in 2000 and 2001, with an expected large increase after the 128 bit console introduction.

Figure 16 Leisure Software Sales I 1995 - 2003
millions of units



Source: Screen Digest

3.2.2.2 Hardware Penetration

Accordingly to Screen Digest research, by the end of 1999 there was an estimate 39 million European households in possession of a PC with multimedia capabilities (CD-ROM or DVD drives), the equivalent of a household penetration rate of 25%. In the US the total installed base numbers was similar, but the penetration rate is closer to 40%.

Figure 17 Household penetration PC+CD-ROM/DVD, European selected countries | 1999
(Per 100 habitants)

Country	%
Benelux	53.5
Scandinavia	37.4
Germany	28.5
UK	25.4
France	19.2
Spain/Portugal	16.1
Italy	14.5

Source: Screen Digest

For the consoles, the number is equally impressive, with a total of nearly 30 million households in 2000. This number is more expressive if one mention that consoles use is purely for entertainment purposes.

Figure 18 Total advance consoles installed base, selected European countries | 1999
In 000s units

Country	Units
UK	7,232
France	5,304
Germany	5,209
Spain/Portugal	3,057
Italy	2,932
Scandinavia	1,363
Benelux	1,352

Source: Screen Digest

Both software sales and hardware penetration permit us to extrapolate the size of this market in terms of potential users. Although as stated Europe has a very segmented market, it is expected that in 2001 there will be nearly 120 million potential gamers in Western Europe.

This extrapolation is consistent with USA figures. Recent surveys show that 145 million people, 60% of all USA citizens over 6 years old, play software based games. Furthermore 61% of gamers in the USA are 18 or older, and 43% of gamers who play computer and video games are females explaining the market tendencies¹⁶.

3.2.3 Consumer Demographics

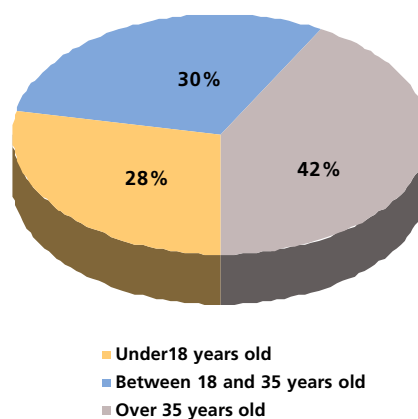
The universe of gamers is changing: school age children are no longer the dominant audience for the games industry. Research studies on American leisure-software consumer usage and attitude¹⁷ reveal important trends. The average age of gamers has raise and the 18-30 years-old bracket dominates in both PC and console markets. The first generation of teenager's players from the early 80's are still active game players and are now the market's opinion-formers.

This is an audience less dedicated to gaming or a mainstream audience that doesn't spends as much money in this hobby has hardcore gamers¹⁸. Today, the act of purchasing games is almost exclusive young adults: they are 18 or older and make 97% of PC buyers and 87% of console games buyers.

In terms of gender, females are also starting to make an impression on the games market, as they already account for 43% of the PC games and console gamer's universe.

Figure 19 US Computer Game and Console Player Age Breakdown | 2000

Computer Game players

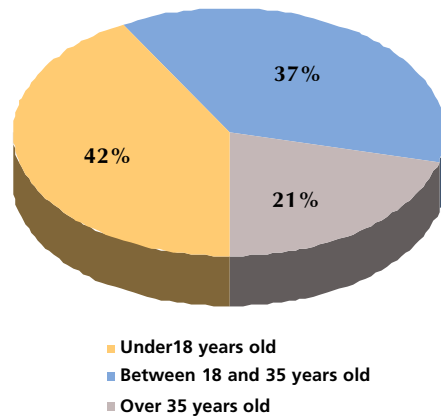


¹⁶ IDSA Annual Consumer Survey 2000.

¹⁷ Peter D. Hart Research Associates.

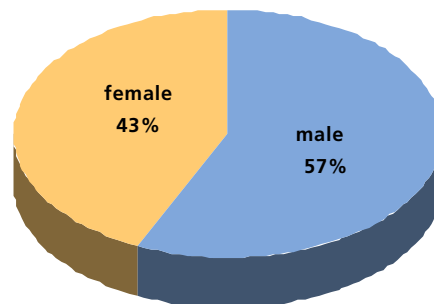
¹⁸ Hardcore gamers spend a large amount of their income on this hobby, and see their machines as a platform for high specific gaming. They can be described as 15 to 25 years old males [Datamonitor].

 Console Game Players



source: IDSA's Annual Consumer Survey

Figure 20 American Computer and Video Game Gender Breakdown | 2000



source: Peter D. Hart Research Associates 2000 Survey

Why do frequent players like to play software games? Well, as significant reasons the gamers point they are challenging (78%), relieve stress (55,1%), provide a lot of entertainment value for the money (48,9%) and provide social activities with their friends (37,4%).

Consumer also consider games the most fun activity at home (34%), overtaking activities as watching TV, going to the movies, surfing the Web and reading books.

This mainstream audience is now getting the full attention of the industry, now moving towards the mass-market in order to expand the business and improve their revenues.

It's important to state that the demographics shown above characterize the American gamers. They belong to an overall view from a study undertaken by the Interactive Digital Software Association (IDSA), the leisure-software association whose members account for more than 90% of the 6 billion entertainment software sales in America. The IDSA acts as a strong lobby for the interactive entertainment market and it has an active public information policy providing general market analysis.

Concerning the European interactive entertainment market, the equivalent organization is the European Leisure Software Publishers Association (ELSPA). Accounting 100 members, ELSPA European market studies are undertaken in association with Screen Digest. However, almost no information over the European market is publicly released. To the extent of my knowledge studies are not known or not available on the characteristics of the European gamers (see 1.3 – the European market).

3.2.4 Employment

The leisure software industry plays an important role in job creation, through software publishing, wholesale, retail, and transportation industries, contributing to the social side of the European Union policy. Indirect job creation is also important, because to produce leisure software, provide game software/hardware trade and transportation services, consume products and services from other industries. The impact of this inter-industry relationships, must also be accounted for to the total impact.

In spite not sharing the same tax support and incentives that benefit the film industry, direct and indirect industries like packaging, accessories, advertising, manufacturing, education, etc., are responsible for the creation of more than 95.000 jobs in the selected European countries [Screen Digest, a].

Figure 21 Employment in Leisure Software Industry | 1999
(Selected Countries)

	Development	Publishing and Distribution	Retail	Others
UK	5906	3677	8346	3470
Germany	550	1738	15400	1642
France	2420	2612	8676	1615
Spain	300	640	9000	1014
Italy	200	653	9000	1060
Scandinavia	418	1098	6250	736
Benelux	550	1100	7000	900

Source: Screen Digest

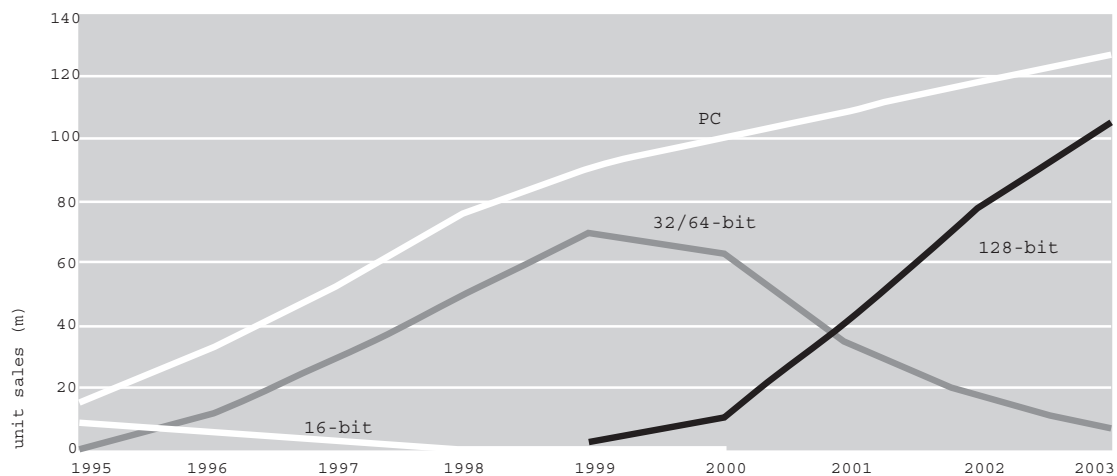
Retail is by far the most job creator sector, with many stores all over Europe recruiting specialized employees to satisfy an increasing demand. Software production sectors, development, publishing and distribution, are also important, especially in the UK and France, the most evolved countries in this field.

In the USA market the direct effect of the demand for computer and video games was the employment of 43.000 people in 2000. The game software publishing industry employed 29.500 people. Complementary sectors employed 13.400 people, 12.600 in retail industries only. Adding the indirect jobs, the total USA employment impact was 219.600 jobs, 176.600 of those indirect.

3.3 Current Trends

The software industry is, by its own nature, technology driven. Constraints like technology and product life cycles, and also multiple standards existing concurrently made leisure software an unstable business, with a market historically shaped by dramatic up and down swifts.

Figure 22 Market Cycles: European volume of leisure software sales | 1995-2003



Source: *Screen Digest/OBS*

Today two major sectors shape the industry: the Console market and the PC market. However, convergence in technology is changing the industry's environment, as the three traditional platforms (console, PC, handheld devices) face the competition of new entrants, like digital TV and Internet enabled mobile phones. With the rapid proliferation of Internet connectivity, the industry has also begun to explore the On-line dimension which presents a large profitability

potential. However, technical obstacles, like latency¹⁹, and the indefinability of the genres that will keep consumers coming back are still waiting to be resolved, resulting in a market that is not ready yet to deliver.

New marketing perspectives, emerging platforms, a vaster audience and the dynamic growth of the sector in last five years are also getting the attention from investors and new players worldwide. Sony's new gaming perspective created a snowball effect and now the industry is moving towards the mass-market, others will surely follow. Consequently, significant new trends are emerging and can be identified.

3.3.1 Global Market: Publishers Consolidation

Mass market and potential consumer base are forcing the publishing sector towards consolidation. Development and distribution can profit from synergies and economy of scale pushing major publishing houses to a constant process of mergers and acquisitions (see figure 23).

Rising Costs

One of the main reasons has been the rising cost of games development. The day's when a sole programmer could make a fashion hit game are gone. Now the development process evolves complex teams of graphic 3D designers, artificial intelligence programmers, sound engineers, amongst others.

In 1998, a development budget for an average game was from EUR1.5 million, a sum that now has grown to EUR4.5 million. This value can be considerably higher if we account for blockbuster titles, although videogame budgets are kept secret from competitors, industry rumors say that *Final Fantasy IX* (Sega, Shemnue) costed \$40m and the 5 minutes introduction trailer of *Warlords* (PS2, Onishuma) accounted for \$2m.

Global Distribution

This consolidation process also aims to ensure the access to global distribution channels as the games publishers are relying in a risky business model: few titles do turn into profit. In 1997, 31.7% of all sales in the UK leisure software market consisted in two titles alone: Eido's *Tomb Rider* and Electronic Art's football game, *FIFA* [Chart Track].

Mergers and acquisitions

Global powers are emerging and we only have to search for three countries in order to find the top 15 leisure software publishers worldwide:

¹⁹ Latency is the delay of a players action and the description of its action on screen, that must cross the network.

United States, with *Electronic Arts*, *Activision*, *THQ* and *Acclaim*, Japan with *Nintendo*, *Sony*, *Sega*, *Namco*, *Konami*, *Capcom* and *Square*, and France with *Infogrames*, *Havas Interactive*, *Ubi Soft* and *Titus Interactive*.

Figure 23 Recent Leisure Software Mergers and Acquisitions

Software Publisher	Base	Targets
Electronic Arts	US	Westwood Studios, Dreamworks (2000)
Sony	Japan	RTime (2001)
Vivendi Universal / Havas	France	MP3.com, Seagram, Houghton Mifflin (2001) Cendant (1999)
Infogrames	France	Gremlin, Sony Psygnosis, Ozisoft, Beam (1999), GT Interactive Software, Hasbro Interactive, Games.com (2000)
Ubisoft	France	Red Storm (2000), Blue Byte (2001)
Titus	France	Interplay, Virgin Interactive (1999)
Take 2 Interactive	US	Techcorp (2000)

Source: *Industry*

Figure 24 Top 10 Leisure Software Publishers Worldwide I 2001

Software Publisher	Base
Nintendo of America	US
Electronic Arts	US
Sony	Japan
Activision	US
Vivendi Universal	France
Infogrames	France
THQ	US
Sega of America	US
Ubisoft	France
Take 2 Interactive	US

Source: *Sherlock I Nintendo*

3.3.2 Mass Marketing: Brands and licensing

The mass market and new customers are changing the way games are developed and marketed. Moving from well informed hardcore gamers to a vast consumer base, game developers and publishers have to rely on brand recognition, licensing publicly known brand names to borrow market awareness and ensure overall sales.

Endorsment and licensing

Addressing to a mass-market audience and relying in the revenues made on a global market drove them into the safety of licensing products, which have most probable success on getting the attention of general consumers.

Games are now endorsed or co-produced by:

major sports league (*FIFA soccer, NHL Hockey, NBA live*),

famous sportsmen's (*Colin McRae Rally 2.0*),

movies (*The World Is Not Enough, South Park*),

TV shows (*Who Wants To Be A Millionaire?*),

music stars (*Spiceworld*),

television (*BBC Multimedia collection*),

cultural institutions (*RMN Versailles*), etc.

Original concepts are more appealing to developers as they can provide large profitability, while licenses are expensive, either in cash advance or in royalties paid to the licensor. But once again, licensing games is what the mainstream audience has been willing to play. In 1997 licensed games accounted for 28% of the sales, a proportion that raised to 42.5% in 1999.

Through this practice the publisher's model is turning into a hit-driven business shaping the market with some conservadorism.

The proven value of this business model can have an immense impact on the industry, as publishers search for new genres and new endorsers or content providers enter the game.

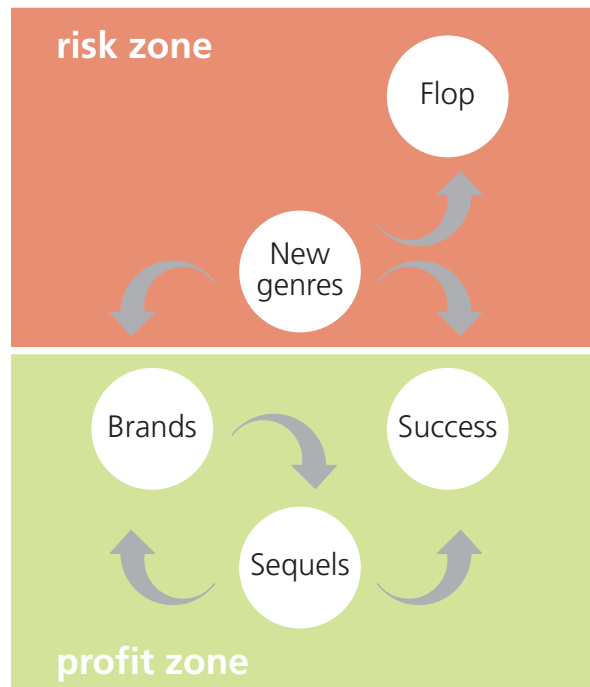
Business Model: Subsidizing New Genres

Every game developer expects to deliver the next big hit. The survival in the long run in this competitive market leads to strong investments in R&D, typically 15-25% of total receipts, higher than any other entertainment industry [idsa, screendigest].

Known hits, their sequels and endorsed titles are the milk cows of this business, subsidizing new gaming concepts, financing the risky projects that the industry takes in order to find gold, the new genres and game models that will get the preferences of a massive mainstream audience.

The ones that get to the top revert into sequels and start the cycle once again, as shown in the diagram below:

Figure 25 Brands subsidize new gaming concepts



source: *Datamonitor*

Faced with this high risky model, publishers are focusing on own brands exploring game sequels to the maximum.

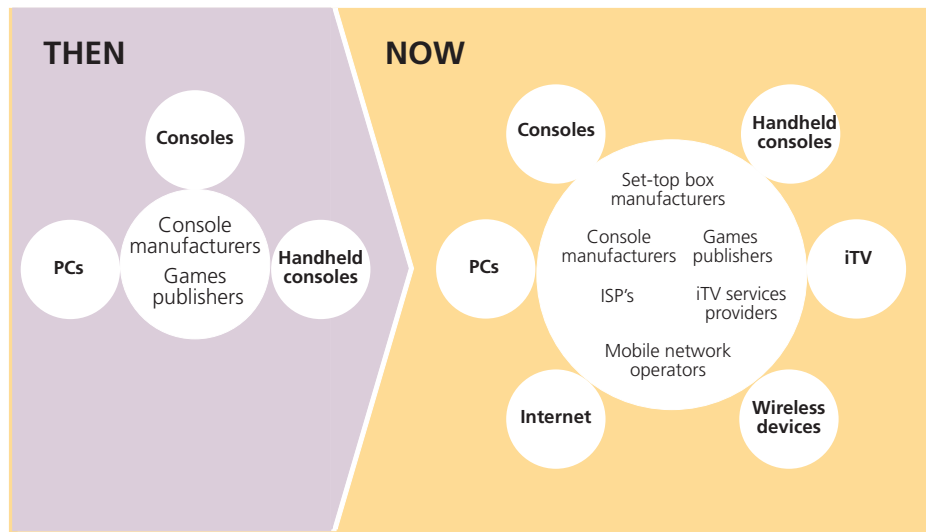
3.3.3 Content Providers: Emerging Platforms and New Players

The main reason for the industry transitional period are the new and emerging gaming platforms like fast Internet, Digital TV (iTV) and third generation mobile phones (UMTS).

Console manufactures and games publishers have now to deal with new uncommon players like iTv service providers, ISPs, mobile network operators in order to get into this new markets.

The current technological development of these platforms is still very restricted, thus not allowing high quality game development. However they still have the potential of a mass-market platform, something that the console and PCs, although with an increasing household penetration, may not ever reach.

Figure 26 **The New Face of Gaming**



Source: Datamonitor

3.3.3.1 On-line Play

The market for on-line play is still a fraction of the boxed, off-line market. However consensus estimates project that on-line revenues will represent 25% of total games industry revenues by 2004. Consumers are already eager of on-line play: in the US, there will be 26.8 million on-line gamers by 2002 (IDSA estimates). Due to charged local phones, lower connectivity (latency) and lower bandwidth Europe lags far behind the US market²⁰.

Figure 27 **US Bandwidth and Europe Median Bandwidth | 1999**

USA	28,308 Mbps
Europe Median	1,190 Mbps

Source: OCDE 2000

So far the industry has used the Internet to extent and enhances the boxed version of videogames. The popularity of multiplayer games, as *Quake*, *Unreal* and *Age of Empires*

offered the first model for on-line playing. Other game genres are classic card games (Bridge, Hearts) and fantasy role-playing games like MUDs (multi-user dungeons) and persistent worlds²¹. The most successful persistent world is EA *Ultima On-line*. In the US more than 300.000 customers pay \$10 a month to play the game.

Figure 28 Latency requirements for on-line games

Latency (ms)	Types of game possible over a network
<50	"Twitch" games e.g. Mortal Combat, Street Fighter
50-100	Racing games and Shoot'em-ups: e.g. <i>Doom</i>
100-150	Sports games and simulators
150-250	Strategy/role-playing games: e.g. MUDS Quiz games, trivia, card games, etc.
250+	Turn-based games: chess, bridge, Scrabble, monopoly, etc.

- Games who are not fitted for on-line gaming, as networked structures are not expected to process such fast transmission requirements.

Source: *Datamonitor*

3.3.3.2 Interactive Digital TV and mobile phones

Interactive TV with built-in console technology is appearing in Europe. These platforms are expected to get the attention of casual gamers, i.e. people who don't buy games currently (frequently). The game concepts that will succeed in this platform are still to found. Technological limitations as low processing power and lack of storage capacity are not compatible with the majority of current genres in the market.²²

²⁰ Bandwidth is the amount of information, the line is capable of transferring in a given amount of time. Latency is the time that it takes for information to travel from one end to another.

²¹ MUDS are virtual worlds where "characters" are controlled by the users. The main characteristic is the persistency of virtual worlds, as they still evolve when the user is not connected.

²² Some experiences of iTV gaming have been made in Europe (BIB's platform OPen and Canal Plus' Canal Sat Jeux are hosting puzzle games, played in on the small memory of the decoder).

Similar incertitude surrounds the mobile phones platform. Although the WAP²³ has extended the potential of mobiles as communication devices (they can be connected to specific programmed Internet sites) the technology has been very unstable until now. Connections are very poor and the service provided to the users very limited. The first generation of WAP allowed a bandwidth of 9.6 kb/s, far behind from the 100 kb/s from the GSPS WAP, the second generation. However, the big forward will be held by the UMTS (third generation), that will increase the bandwidth to 1Mbit/s what makes video streaming possible. It has not reached the market yet, but it's interesting too see that the UMTS TV promotions are showing users talking to other persons and playing games. A significant product placement that shows its relevance for the software game sector.

²³ WAP, acronym for Wireless Application Protocol

4 SEARCHING CULTURAL VIDEOGAMES

“Today the future of cultural institutions in the information society remains in their ability to provide high quality digital content in the information market. In a globalised competition market, the fundamental factor success will be the development of products and services that users desire and believe that they can make use of” [Braul].

The growth of digital culture increases the creative possibilities of the Cultural Heritage sector. In the new information era, the demand for contents and knowledge has been clearly stimulated. With regard to the creative processes involved in the development of digital cultural content, the new technological media provides new possibilities of creative products, which are far away to be fully explored.

As the range of multimedia products increases it will become increasingly important to understand the criteria used by users to identify, evaluate and justify the purchase of a digital product or service. In the consumer environment the purchase comes from what is often called disposable income, from which a wide range of other purchases have to be made, including holidays, books, and other leisure activities.

Leisure software market, and above all games tend to increase its importance both economically and socially, as their market share value and penetration expands at a large pace. Furthermore it's a market dominated by audiences whose average age bracket is between 18-30 years old.

I think that these characteristics point that interactive games may be an important but yet unexplored model to feature added value cultural content.

However, Western Society registers ambiguities towards the value of play [Sutton-Smith], namely:

that is seen as a children and not adult activity,

that children play and adults recreate,

that play is important for children growth but a only a diversion for adults .

In fact the main dimensions explored by cultural theorists are addressed to the consumption and impact of video games in children, ranging from criticism of violence presented, educative potential, social isolation, individualisation, complexities in gender, class and race, etc [Kinder].

Questions in the field of production and consumption of videogames by adult audiences (value, motivation, learn, characteristics, etc) are still waiting to be answered.

Videogames are very popular products. An enormous amount of titles for different platforms are available in the market. In order to better understand the gaming world it is presented a brief description of its history and existing subsets.

4.1 Videogames

4.1.1 Games Industry History

Atari: the first industry cycle

The starting point for software games history is rooted back in 1962, when Steve Russell, a MIT's engineering student programmed a two-player game of duelling spaceships firing against stars, which was dubbed *Spacewar*. Months later every US's computer research had a free copy of the game, as well as the domestic academies and industrial-military complexes.

In 1972 that Steve Nolan, a UC engineer, founds Atari, a company that manufactured coin-operated machines for his own-creation tennis game, named *Pong*. The first *Pong*'s home version, a one game machine, arrives the market in Christmas 1974, selling 150.000 copies through Sears in the US alone [Faber, 1998]. From that point dozens of *Pong*'s clones invade the market shelves, continuing dumping prices: by 1977, home console clone manufacturers die off.

It was only in 1978, with the launch of *Atari VCS 2600* console (cartridge base computer that came with pladde, joystick) that the leisure software market really began. By 1981, 20 millions units of this 4-bit console had been sold worldwide. The arrival of other console manufactures like Mattel, Fairchild, RCA, amongst others, push the market to its peak in 1982 (\$3 billion (US) revenues: the video game console had become the most important product in the toy industry. From that point the market became saturated with hundreds of bad videogames from cartridge producers, causing consumers rejection, untill it finally dumps in 1985 (only \$100 million revenues). The first cycle for the leisure software industry was closed.



Space War | Steve Nolan | 1962 Pong | Atari Space Invaders | 1978

Japanese giants: Sega and Nintendo generation

For a decade US companies had dominated the arcade and videogame market. In the mid-80's, the industry's *status quo* is changed by two Japanese companies. In 1985, Nintendo releases its 8 bit Famicon console - renamed Nintendo Entertainment System (NES) for the US market²⁴ – followed, two years later, by the rival company Sega's own 8 bit Master System console. Close competition between the two leading companies is enhanced by the technology forwards, and the 16-bit generation consoles is introduced in the market even before the previous 8-bit era hits the top sales. In this dynamic industry environment the combined sales of the two companies reach the summit in 92/93, with 55 million units worldwide. Meanwhile, the teenager gamers had already been introduced to two first planetarium digital stars: *Mario*, the Nintendo's Italian plumber and *Sonic the Hedgehog*, Sega's charismatic mascot.

By early 1994 the 16-bit console market drops as the consumers were already anticipating the advent of the “next generation”.



Sonic the Hedgehog | Sega | 1981-2001



Mario Bros | Nintendo | 1981-2001

PC as leading platform

The first structural characteristic of the games industry was established with the relationship of the leisure software at home and the leisure software outside home –i.e., in the arcades. The second structural characteristic was established in terms of the development of two categories of hardware devices: the consoles and home computers.

When in the early 80's the first affordable home computers (by Sinclair and Commodore) got into the market, software games became their most popular applications, which allowed the development of a parallel software technology industry. Towards the end of the decade range machines like IBM-compatible PCs and less expensive games-oriented Atari ST and Commodore Amiga took the market.

CD-ROM technology became available as computer peripheral early in the 80's, but it was confined to limited institutional and corporate applications for archival storage. Some attempts were made to bring the CD-ROM technology into the software leisure market: in

1990, Commodore launches its *CDTV* and, a year after, Philips presents the *CD-I* system. None of these standards succeeded commercially but for the first time, the leisure software range of products went beyond the traditional games and reference and edutainment products were developed for the consumers.

By 1994 multimedia PC computing in homes took off, providing a platform for a new sector of CD-ROM PC based games which, taking advantage of the decline of the 16-bit console generation, became the most important game platform overall.

Sony and the next generation era

The next boom cycle for the games industry arrives in 1996, due to the success of advanced consoles as Sega Saturn, Nintendo N64 and, more important, the arrival of Sony.

Sony enters the market by launching the Playstation, a 32-bit console that presented an unprecedented price/performance level. Avoiding to address to the limited teenager's audience that characterised its console manufacturers opponents, the company set up a marketing campaign that putted the machine has a desirable commodity for twenty-something's by generating a consumer hype, while still appealing to youngsters²⁵.

Sony won the game: in 1999 the Playstation accounted for 2/3 of the world console market²⁶, outselling Sega's and Nintendo's offering as much as sixteen to one.

The "Next Generation" era of the super consoles affected the PC games market that, although remaining an important sector, is ceding its dominance to the consoles market.

4.1.2 Game genres

Traditional strategy, action and sport games are still the most popular genres in the market, and make the core business of most publishers. But the industry must move towards a greater flexibility, discovering new genres, in order to breed the appetites of a most mature and diversify market. The most common game genres are:

Role-playing games (RPG) / Adventure games – Games where the player is free to move from place to place in the game environment, interact with other characters, solve mysteries and puzzles, find and collect tools and weapons. Many RPG/Adventure games feature a storyline or plot that provides a rationale for the gameplay.

Action - Games characterised by simple action and response gameplay. Under the most basic definition the player's on-screen character can run, jump, roll, shoot or fly, but the defining

²⁴ In 1989 the Nintendo NES had sold 20 million units in US market, becoming its best selling toy.

²⁵ Rejecting the TV commercials, the console was promoted by style leaders and opinion formers, got into night clubs and music festivals, and was targeted in life style magazines.

²⁶ 2000 Statistical Yearbook.

obstacles are overcome by "physical means", rather than involved intellectual problem solving. Also called "platformers".

Shooting - Games consisting mainly of shooting enemies and avoiding bullets (or lasers, bombs, etc). Often, they contain power-ups, which improve the quality of the player's weapons, or add options like bombs, etc.

Fighting - Games consisting of one-on-one duels between two characters, one controlled by the player, the other controlled by either another player or the computer. The fighting may be executed hand-to hand, but characters may also use weapons, or have supernatural powers such as the ability to throw fireballs.

Racing – Games where the player chooses a car and speeds up in races. Most of them are inspired in real world contests like Formula 1, Rally and Formula 3000.

Sports – Games where the player can “perform” a sport activity, as soccer, golf, tennis, basketball, etc. Using 3D technology, they recreate the environment, rules and sportsmen of the game. Real sport stars and sport's associations sponsor/endorse most of them.

Simulation - Games which attempt to re-create, with as much detail and realism as possible, any "real" activity. They generally “put the player in the driver seat" of a tank, plane, ship, and so on.

Strategy/God-games – Games where the player controls computer-generated environments, like cities, civilisations, planets, ecosystems, and with available raw material have to create prosperity or become a dominant civilisation. Very often these games have a mix of strategy with adventure game, as in military strategy games.

4.2 Proposal

Choosing examples of cultural heritage usage in videogames is a difficult task, due to the myriad of titles edited in its brief history, and unclear borders between multimedia genres. In order to frame the search to eligible titles, the first concern was to search for a multimedia product that could have both characteristics:

To be a game: meaning “a closed formal system that subjectively represents a subset of reality”²⁷ in which players interact with higher or lower degree of emotional engagement.

Display cultural content as a tool for gameplay: defining cultural content as “the content that is acquired, recorded, processed and disseminated in cultural institutions museums, libraries, archives and other related facilities”.

The media supporting the game had no importance: On line, Off line and Hybrid Multimedia projects were eligible for the search.

4.3 Criteria

A key element in the evaluative methodology was to develop a criteria list that could capture the key elements of the product. The used criteria were divided into three categories, addressing core issues: conceptual model (ludic, entertainment, interactivity), visibility/treatment of cultural content and user/consumer focus:

4.3.1 Conceptual model

Does the product seek to provide entertainment as a primary feature?

People play games for entertainment. When users play games they are interacting with a self-contained structure with rules, a fantasy representation of a simplified reality. We are searching for a game or similar product with entertainment as main purpose.

Interactivity is the most important feature of a game, it defines the game entertainment value. Interactivity cannot be reduced to simple addition of variables such as frequency (how often users interact), range (number of choices available for interaction) and significance (how choices affect the matter). Interactivity is also measured by the impression that users have of being participants in the action of the representation [Laurel, p.20].

The most striking quality of games interactivity is to demand the player participation in the act of representation. When presented with the game subjective model, it's player's fantasy that will give objectivity to the representation, transforming it physiologically real.

²⁷ Crawford, Chris, *The Art of Computer Game Design*, p. 7.

By the contrary, what characterises most of multimedia productions dealing with cultural content is the display of an informative or educational driven concept. This is the core concept that reinforces its utility (valuable to users needs) while adopting different forms of usability (user friendliness). The entertainment value of the product is only reflected by a technology driven interactivity.

4.3.2 Cultural content criteria

What is the balance between cultural content and the tools that are used for gameplay?

The intended projects must gather a set of characteristics that clearly separates them from similar games:

scenario - valid representation of the reality: sites, objects and interactions;

goal - using cultural content as the gameplay structural focus;

Scientific validation - active participation of cultural specialists.

4.3.3 Target Audience

Is the product intended for Adult entertainment?

Products fostering cultural content through game entertainment models should consider the reflexivity of audiences over the cultural content that is provided. Which means to target the product to an audience within an age range from teens to adults.

Assessment can be achieved both by information on the product and by age rating systems provided by two major industry trade bodies - the Video Standard Council (VCS) from the European Leisure Software Association (ELSPA) and the Entertainment Software Ratings Board (ESRB) from the Interactive Digital Software Association (IDSA)²⁸.

²⁸ ELSPA Age Rating System: 3 to 10 years, 11-14, 15-17 and 18 plus.
IDSA Age Rating System: EC- ages 3+, E- ages 13+, M- 17+, AO- 18 later, RP (rating pending).

4.4 Selection

The selection process took two different approaches in order to identify leisure software products that could qualify to the criteria:

- By one part, to analyse the multimedia production from memory institutions (archives, libraries, museums, galleries and other cultural agents).
- By other part, to analyse the different genres from the games sector from leisure software market.

Memory institutions

First results of the search allowed identifying a typified multimedia production, or recurrent model, used by the majority of cultural agents, which can be segmented in the following genres:

- Reference/information (encyclopaedias, monographies, biographies, museography...)
- Education (single purpose interpretative or educational projects)
- Edutainment (educational products with entertainment approach)

Genre	Overall Goal	Interactivity	Target
Reference/ Information	Informative	Low	Teens/Adults
Education	Education	Medium	Children/Teens
Edutainment	Entertainment / Skill development	High	Children
Games	Entertainment	High	All audiences

Products corresponding to the two first genres were excluded from the selection, as they don't provide interactive entertainment as product's primary feature.

The former genre, edutainment, describes software that is educational but also entertaining to use:

*Edutainment is an entertainment experience or product that incorporates aspects deemed to be educational to increase overall worth or perceived value*²⁹.

Major types of edutainment software are simulation games, discovery programs (e.g. Dinosaurs) and animated books (e.g. Lyon King).

However, edutainment software was also dropped from selection: although they provide a perceived entertainment experience to the user, the overall goal of the product is to be educational, to enhance the process of learning. The content is set in order to provide user with specific skills development, which is an integral part of the product. Another characteristic is that these products are targeted for children.

Videogames genres

The World Wide Web was a natural choice for starting the investigation. There are thousands of sites dedicated to games and gaming resources, some of them organised as archives or games list³⁰. The search was also extended to specialised magazines and books, and also in-store information.

The analysis was made within the main video game genres available in the market, as follow:

Role-playing games (RPG) / Adventure, Action, Shooting, Fighting, Racing, Sports, Simulation, Strategy /God-games.

After analysing hundreds of titles, a shortlist of cultural related theme games was made, in order to be closely submitted to the evaluation criteria .

²⁹ Kolomyjec, William J., On Edutainment, 15th Annual Symposium on Small Computers in the Arts, Philadelphia, Pensivannia, 1995
<<http://www.napanet.net/~kolo/docs/scan95.html>>
³⁰ www.gamezone.com, www.happypuppy.com, www.gamesdomain.com, www.gamers.com, www.gamasutra.com.

Game	Genre	Scenario	Goal	Scientific Validation
<i>Anno 1602</i>	Empire Building sim / Strategy	N	N	N
<i>Corsairs</i>	Strategy/ Empire Building Sim	N	N	N
<i>Icarus</i>	Board game/strategy	N	N	N
<i>Pharaoh</i>	Empire building	N	N	N
<i>1942: The Pacific Air War</i>	Flight Sim/	Y	N	N
<i>1944: Across the Rhine</i>	Strategy	Y	N	N
<i>Caesar II</i>	Empire Building Sim	Y	N	N
<i>Imperialism</i>	Empire Building Sim	Y	N	N
<i>101: The 101st airborne in Normandy</i>	Strategy	Y	N	Y
<i>Age of Empires</i>	Empire Building Sim	Y	N	Y
<i>Civil War Generals 2</i>	Strategy	Y	N	Y
<i>China</i>	Historic adventure	Y	Y	Y
<i>Croisades</i>	Historic adventure	Y	Y	Y
<i>Egypte 1156 B.C.</i>	Historic adventure	Y	Y	Y
<i>Versailles</i>	Historic adventure	Y	Y	Y
<i>Vikings</i>	Historic adventure	Y	Y	Y

Th – Theme, TP – topic, Scv – scientific validation

Human History seems to be a heavy resource for most of the games dealing with cultural content, either by recreating famous military landmarks (e.g. *The 101st airborne in Normandy*, *Civil War Generals 2*), appealing to great historical characters (e.g. *Caesar 2*, *Pharaoh*) or civilization periods (*Age of Empires series*, *Conquest of the New World*).

They invite players to play “God”, by developing tactical strategy war battles, creating and managing empires and civilisations, or building a city from the ground up, controlling every aspects of citizen’s life, through real-time strategy game genre.

Cultural content provides the scenery of the game, but it’s not used as a tool for the gameplay development.

Scientific endorsement is achieved not in gameplay but recurring to encyclopaedias with a lot of historical information (e.g. *Civil War Generals 2*, *Age of Empires*).

A totally different approach was identified in the following titles: “*Versailles*”, “*China*”, “*Croisades*,” “*Egypt 1156 B.C.*” and “*Vikings*”. Developed as adventure games, the fictional stories respect the cultural and historical realities of the time in which they are enclosed.

The scientific validation, provided by specialists in each field, is also extended to the art concept of game’s scenery. They all display encyclopaedias with historical information. They drawback from the conventional adventure game pattern - strongly based in the exploration of fantasy worlds – enhancing a cultural dimension which is set up as a tool for gameplay.

A closer analysis allowed to identify that these are all French origin games, featuring a Historical Adventure sub-genre, an innovative concept that had it’s origin with “*Versailles, intrigue at the Court of Louis XVI*”.

5 RMN Ludo cultural collection: European Success Case

5.1 Réunion des Musées Nationaux

5.1.1 Mission

The Réunion des Musées Nationaux (RMN) is public establishment of industrial and commercial nature (EPIC) that falls under the French Ministry of Culture, involving different approaches: the cultural public service and the edition and commerce of cultural services and products.

This centenary Institution evolved from its original mission, acquisition of artworks, to become a National body with responsibilities in:

Acquisition - managing resources like admissions, state grants, donations, memberships, sponsorship, retail and licensing, among others.

Exhibition - scheduling and organizing the temporary exhibitions of French national museums and also organizing the international exhibitions.

Management of public services - elaborating ticket planning and overseeing conditions like access, ticketing, guided tours and reservations.

Edition and diffusion - commercialising products that fall into seven main categories: books, reproductions, video films, CD-ROMs, replicas, prints, jewellery and gifts.

Today, the RMN works with thirty-three museums that differ greatly in size. As well as the Louvre, the Musée d'Orsay and the Château de Versailles, smaller museums such as the Musée Eugène Delacroix in Paris or the Musée Magnin in Dijon are also included.

5.1.2 Historical Evolution

5.1.2.1 Creation

The French Government created RMN in 1895 to enrich the French national art collections throughout the acquisitions of artwork. The RMN mission was to collect and distribute funds to accomplish this goal.

At that time the RMN represented only four establishments: the Musée du Louvre, The Château de Versailles, The Musée du Luxembourg, and the Château de Saint-Germain-en-Laye (Museum of National Antiquities).

Following its creation in 1895, other main evolution on the status of the RMN can be found:

in the 30's with a definition of its financial organization and the nature of its assets,

in 1945 where it was defined as a public establishment with civil status and financial autonomy,

in 1981 when it confirmed its status of public administrative establishment (EPA) falling under the auspices of the State. The national museums are grouped in the RNM that must accomplish 3 main missions for them: acquisition, exhibition/diffusion and technical assistance,

in 1986, when the commercial activities are stated as a separate mission for the fulfilment of its prior missions.

The dynamism that characterized the editorial activities from the RNM over the last decade (both in traditional and new media publishing) led the organization to the top of the French art-publishing sector. A position reinforced by the impressive figures of circa 150 titles (books/catalogues) published annually and a multimedia catalogue of over 50 CD-ROMs that makes it one of the most comprehensive in its field in Europe.

The driving forces for this success can be found in the following statement:

“l'évolution de la structure même de l'établissement public, la politique éditoriale menée par les responsables de cette activité au sein de la RMN, enfin, la politique commerciale qui constitue un aspect non négligeable du dynamisme” [Hua, 1992].

In fact, in the end eighties the Rocard government set up as one of its priority objectives the modernisation of the public services. In 1990, after a year of conversations between the RMN and Ministry of Culture and Finances, Jack Lang (former minister of culture), in an effort to relaunch the culture and museums scene, signs a decree³¹ that institutes the RMN as a public establishment of an industrial and commercial nature (EPIC).

5.1.2.2 From EPAC to EPIC

Consequently to the regulatory frame evolution that took place in the 80's, the revenues of the RNM evolved from EUR23 M in 1981 to EUR36 M in 1989, 3/4 of this total accounted by the edition activities. We can then state that the administrative character of an establishment is not an impediment for the development of commercial and industrial activities (see figure 29).

³¹ Décret n° 90-1026 du 14 novembre 1990 relatif à la Réunion des Musées Nationaux et à l'École du Louvre.

In terms of financial constraints this means that the RNM has no longer a fixed budget to manage, having instead to create its own revenues in order to secure its functioning and corporate goals.

If evolution EPA/EPIC in RNM didn't result in a radical transformation on his nature and functioning, by other part meant a management turning point and also a redefinition of the nature of the contractual employee's policy.

The RNM has only two public functionaries: the President of the Board, which is nominee by decree, and the controller. All the others RMN's employees are recruited according to the rules of private right with a wage base negotiated through the definitions of their jobs. In practice, this allowed to grab professionals in equal conditions as offered in the market and submit them to their real competencies:

“La fonction publique n'a jamais formé d'éditeurs ni de spécialistes du marketing ou de la vente pour correspondance, d'une part; d'autre part, l'eût-elle fait, la grille des salaires de la fonction publique n'aurait pas permis des les garder très longtemps dans le secteur public” (Hua, 1992).

Figure 29 Commercial Revenues
In millions of Euro

	1981	1989	1996	1997
Commercial Revenues	23	36	60	64

Source: *RMN*

5.1.2.3 Management Structure Changes

Several management and operational changes were undertake at macro and micro level, in order to ensure the best position for a sustainable future:

At a macro level, and in order to fulfil its commercial mission, the RMN has to adapt itself to the conditions of the market. The necessity of increase a self-generated income is addressed in a management structure³², including financial, structural, planning, leadership and employment issues in order to improve the range of events, programs and services provided by the establishment.

In terms of internal organization, a senior-management structure aligns the current activities in two main functional areas: administrative and financial Direction and editorial and commercial Direction. The departments of editorial and commercial services are organised has business units that must be profitable, bounded (obligated to) by a financial responsibility and working closely with the support services provided by the other departments. An efficient

³² See anexe II - RMN

Human Resources strategy, appropriate to the reality of the market, is a key element for the success of this management model.

The planning of the commercial department activities is attached to a sustainable investment policy, as the resources raised by previous projects are the support of future initiatives:

“Même s'ils n'ont pas pour objectif exclusif la rentabilité financière, l'objectif de qualité culturelle étant au moins aussi important, les services éditoriaux et commerciaux devraient, dans cette nouvelle logique, dégager des marges et contribuer au financement des acquisitions et des expositions temporaires”³³.

5.1.3 Corporate Strategy

The RMN has to fulfil a double mission: the ultimate principle is to provide a public service (“to enlarge the national collections”) - but the approaches that must take to achieve it demand the use of commercial practices.

Derived from this the commercial mission objectives are set as follow:

Diversify the publishing collections, evolving the traditional productions.

Develop and modernise the points-of-sale.

Extend the reach in current and new audiences, by being more aware and responsive to their needs.

The corporate strategy is implemented in order to ensure that the different areas are working towards achieving the objectives:

“valoriser les collections publiques, et plus largement les ressources qui se trouvent au sein des musées, et les faire connaître au plus large public possible par une mise sur le marché à des prix raisonnables”[Hua, p.].

Facts and Figures

RMN’s recent performance can be measured by the facts and figures presented in this chapter. These numbers are divided according to its mission requirements.

³³ Rapport sur "les Musées nationaux et les collections nationales d'oeuvres d'art". Cour des comptes, Journal officiel, 1997.

5.1.3.1 Acquisition

Figure 30 Acquisition of Works of Art
Millions of Euro

Acquisition credits for national museums	1984	1986	1988	1990	1992	1994	1995	1996	1997
Total	8.7	11	18	22	19	21	13	14	22
Financed by:									
State Grants	57,3%	47,5%	43,1%	37,1%	35,2%	21,4%	19%	44,6%	45,4%
RMN	22,8%	38%	32,3%	33,6%	45,8%	54,4%	62,5%	46,1%	18,4%

Source: RMN

Figure 31 Credit Applied to the Acquisition of Works of Art
millions of Euro

Year	State Sponsorship	Patrimony Funds	RMN	Donations and Legacies	Mecenat	National Photographical Commission	Total
1994	2.2	2.3	11.8	3.1	11,72	0.1	21.2
1995	1.1	1.4	8.4	1.0	1.5	0	13.4
1996	0.9	5.5	6.6	0.1	1.2	0	14.4
1997	1.2	8.8	4.0	5.7	2.3	0	21.9

Source: RMN

5.1.3.2 Exhibition

Figure 32 Visitors to National Museums I 1994 to 1997
(Paying admissions, total admissions, in millions)

	1994		1995		1996		1997
10527*	15297*	9072	13167	9674	13 897	9963	13 725

Source: RMN

*exceptional figure corresponding to the opening of the new Richelieu wing of the Louvre museum.

Figure 33 Temporary Exhibitions Organized

	1982	1984	1986	1988	1990	1992	1993	1994	1995	1997
Exhibitions RMN	12	19	19	23	26	31	25	24	32	24

Source: RMN

Figure 34 Temporary Exhibitions Balance
millions of Euro

Exhibitions Results	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1996	1997
Production	5.9	3.2	2.3	7.0	5.9	3.7	6.4	9.5	18.0	11.3	10.4	11.5
Charges	4.2	4.6	3.9	7.2	10.0	6.7	9.2	12.4	20.9	14.7	13.0	12.6
Balance	1.7	-1.4	-1.7	-0.2	-4.1	-3.0	-3.0	-2.8	-3.0	-3.4	-2.6	-1.1

Source: RMN

5.1.3.3 Edition and diffusion

Figure 35 RMN's Revenues Breakeven

	1984	1986	1988	1990	1992	1996	1997
Sales (millions of Euro)	258	297	465	599	730	748	843
Commercial and Editorial products	45%	43%	41%	44%	47%	53%	50%
Tickets	20%	28%	26%	30%	28%	24%	22%
Temporary exhibitions Tickets	n.a.	7%	10%	4%	9%	7%	6%
Ratio "Products/Tickets"	2,19	1,54	1,57	1,45	1,70	2.21	2,27

Source: RMN

Figure 36 Commercial and Editorial Products | 1997

millions of Euro

Publications	12.2	19,1%
Images & Video	10.4	16,4%
Multimedia	1.0	1,5%
photo agency	1.4	2,2%
Moldes & Gifts	9.6	15,1%
Outside Products	25.2	39,6%
Others	3.8	6,0%

5.2 Multimedia Department

5.2.1 Multimedia Department in RMN

In 1993, the multimillionaire Bill Gates tries to buy the rights to great works of arts from French Museums for *Corbis*,³⁴ it's own digital stock image house. In a strong political reaction, Jacques Toubon – the French Ministry of Culture at the time – refuses, declaring that he didn't want France to be robbed from it's "patrimoine" – it's cultural heritage.

The RMN is caught in this political/cultural struggle: they drop the *Microsoft* dossier, a two-year negotiation concerning a partnership with the Gate's software house for entering into the electronic publishing.

Following this decision the RMN creates it's own multimedia division, intended to engage, ahead with specialised companies, in the creation of quality cultural on-line and off-line products. With a large experience in the traditional publishing sector, and managing an extraordinary cultural content asset, the RMN was eager to enter into the multimedia market.

The opportunity soon appears, when the French editor Montparnasse Multimedia (MM), by the hand of Pierre Raiman, proposes the co-production of a CD-ROM about the Louvre museum.

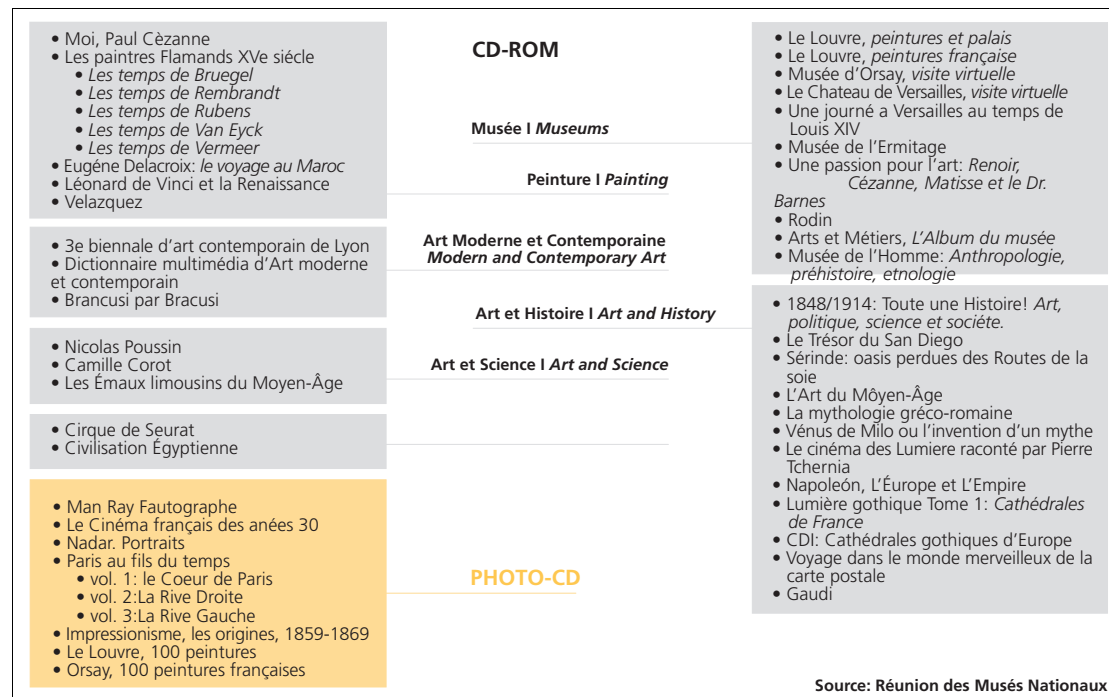
In the autumn of 1994, the CD-ROM "*Le Louvre, collections and palace* (RMN, MM)", arrives to the French market selling 60.000 units in less than a year and ranking the first place in best-seller's list. For the first time a cultural CD-ROM rivalled with the best videogames titles.

In 1996, the RMN distributed in the Millia's Festival³⁵ it's own CD-ROM based catalogue, consisting in an impressive collection of almost forty titles (jointly produced and published) covering exhibits on art and science, modern and contemporary art, and art and history (see figure 1).

³⁴ www.corbis.com

³⁵ European Festival

Figure 37 RMN Multimedia Catalogue | 1996



The RMN was emerging as a major publishing force in the segment, backed by the commercial success of titles as “*I Paul Cézanne*” (87.000 copies sold), “*Orsay Museum*” (38.000 copies in the first six months, France only), and *Louvre, collections and palace*” (200.000 copies, including 127.000 in France) [Magnets].

In September of 1996, “*Versailles, intrigue at the Court of Louis XIV*” (RMN, Cryo Entertainment, Canal+ Multimedia) arrives to the French multimedia market. Surprisingly, it wasn't a standard art publication but a videogame, intended to essay cultural multimedia formula for a juvenile audience. It's top sales predictions pointed 4.000 units.

With 300.000 copies sold until now, “*Versailles*” was the first title of a successful collection coined as “*ludo-cultural*”, and that is now enlarged with six more titles that together have sold more than 1.5 million copies all around Europe. Today, the game collection is the pillar of the RMN' Multimedia Department, as the Louvre “brand” seems to be sold out, after three CD-ROM titles³⁶ and a DVD version released.

³⁶ One million units sell, all versions comprised (1997, 2nd version, 1998, 3rd version): 450.000 in France, 200.000 in *bundle*, and about 400.000 in foreign markets (source, RMN).

5.2.2 Multimedia Department Roles

5.2.2.1 Functions

The RMN MM department works as small business unit (around 10 elements) with a head manager co-ordinating the work of the staff. Each person is individually responsible for a project and works autonomy. This is a work trust-based relation, only possible because every team member is highly qualified for the functions, having being recruited under the competitive private market rules.

The main role is to get funding for multimedia projects and ensure that they are profitable. In this sense the RMN MMD work as an interface between the museums and the marketplace:

By one part, they find ways of interpreting museums cultural resources in order to start multimedia projects:

“Museum X per se does not constitute a subject. We must find an angle a way of treating a museum as a subject”.³⁷

By other part, they ensure adequate partnerships in terms of production and development, recurring to the know-how of associated companies.

As stated by Michel Richard, head manager of RMN MM Department, the strategy is that *“multimedia in not an obsession, just another technology to deliver a cultural product to the public”* [M.R.]:

5.2.2.2 Services and Products

5.2.2.2.1 On-line Services

Institutional Museum Web-Sites –, ensuring an international presence of French Museums in the Internet. This project managed by the RMN, ensures that all 33 Museums will have it's own individual presence in the WW Web. The project also provides a (easy-to-handle) software application that allows the Museum to perform the web site actualisation when necessary. Already on-line are the following sites:

<http://www.louvre.fr/> (Musée du Louvre)

<http://www.musee-orsay.fr/> (Musée d'Orsay)

<http://www.chateauversailles.fr/> (Musée et domaine du Château de Versailles et de Trianon)

<http://www.museeguimet.fr/> (Musée des Arts asiatiques-Guimet)

<http://www.musee-afriqueoceanie.fr/> (Musée national des Arts d'Afrique et d'Océanie)

<http://www.musee-moyenage.fr/> (Musée national du Moyen Age - Thermes de Cluny)

³⁷ pag. 41.

<http://www.musee-rodin.fr/> (Musée Rodin)

<http://www.ac-nice.fr/chagall/chagall.htm> (Musée Chagal)

E-commerce sites, a project started in 1999, trying to explore the consumer demand for Internet sales. These outlets provide a selection of products from the RMN' commercial activities. The model intends to explore a synergy with the activities of mail order sale. Already on-line are following museum gift-shops:

<http://www.museesdefrance.com> (general store)

<http://boutique.louvre.fr> (Musée du Louvre store)

<http://www.boutique.musee-orsay.fr/> (Musée d'Orsay store)

<http://Versailles.entechfrance.com/boutique> (Musée de Versailles store)

The initial investment was from 2M francs, plus a second phase investment of 5M francs (in 2000). A financial institution co-produced, investing money and expertise in the project. Studies have been contracted by the research and development department, in order get detailed information VPC market. It is expected that profitability will be not reached before 2004.

5.2.2.2.2 Off-line Products

Since it's creation, the RMN MM department has developed multimedia productions in several optical supports (CD-I, CD-ROM, and DVD-ROM). However, when a new technology arises, they always want be the firsts to deliver a cultural product in the market.

All the titles have been launched in CD-ROM format, for obvious commercial reasons. The DVD format only comprises a dedicated version production: "*The Louvre, virtual visit*". Other DVD titles are an updated version of the encyclopaedia "*The 20th century*" and the three first games of the ludo-cultural collection..

The RMN multimedia products are addressed for five main publics:

large public, by creating collection guides, thematic programs, monographs.

teenagers already familiarised with new media practices (games).

children, from whom are created edutainment titles.

education sector, which consults initiation programs prior to museum and exhibition visits (museum virtual visit, encyclopaedias).

professional sector, from whom some scientific monographs are prepared.

In terms of genre, the production is segmented as reference/cultural, edutainment and games.

Cultural/Reference

RMN cultural/reference portfolio includes a collection of over 50 titles, probably one of the most comprehensive in its field in Europe. It comprises monographs, reference (art and history encyclopaedias) and cultural (museums, great artists, history, civilisations, classics, modern and contemporary art) and titles.

Edutainment/Children

Two titles have been developed: “*At the Circus with Seurat*”, and “*Artus, against the demon of the museum*”.

Games

In 1996, the RMN presents *Versailles, Intrigue at the Court of Louis XIV*, set as an historical adventure game. Since then five more games have been developed, originating the “*ludo-cultural collection*”: “*Egypt 1156 B.C., Tomb of the Pharaoh*” (1997), “*China: Forbidden City*” (1998), “*Paris 1313*” (1999), “*Pompeii, the Legend of the Vesuvius*” (2000), “*Louvre, the Last Curse*” (2000) and “*EGYPT II, The Heliopolis Prophecy*” (2000).

5.2.2.3 Achievements

5.2.2.3.1 Cultural/Reference

Although having developed a very extensive collection of cultural/reference titles, the market for these products is in regression, having to compete with titles from other cultural editors. Few reference titles are profitable.

A reference CD-ROM has an average budget of EUR0.25 million and has to achieve, at least, 15.000 units’ sales, both in national and international markets.

Jean Michel Richard, director of the MM Department states that commercial strategy is to explore brand notoriety, according to the following scale:

Museum

Artist

Historical Period/Art Movement

Country

However in terms of museums only the “*Louvre*”, “*Orsay*” and “*Versailles*” are commercial brands. The market for other museums would be too small. In fact, today 97% of the French youth recognises the name “*Louvre*”. The notoriety is from 84% in overall French population.

The Louvre brand has originated 3 different versions in CD-ROM (“*Le Louvre, Collections and Palace*” (1995), “*Le Louvre, French paintings*” (1997), reedited in 2000, “*Le Louvre, virtual visit*” (1998), reedited 2000 and one version in DVD (2000), resulting in 600.00 units of combined sales. The DVD-version was launched in March 2000, in order to grab the opportunity of being the firsts to have a cultural title in the market. It took 3 years’ labour, four co-producers and a budget of EUR1.1 million. Today, within the RMN Multimedia Department, the “brand” Louvre is considered to be dried out.

In the cultural/reference segment few titles achieved expressive volume sales (over 80.0000 units), as “*Musée d’Orsay, Impressionists*” (1996, reedited 2000) “*I, Paul Cézanne*” (1996, reedited 1999).

5.2.2.3.2 Edutainment

In 1996, the RMN addressed the children segment with “*At the Circus with Seurat*”, a multimedia product with an extraordinary beauty. However, it had too sophisticated speech and graphics for such young audience, and it was a commercial failure. It was reedited in 2000, with a new box design and targeted to a more adult audience... but there is the knowledge that the name Seurat has fable notoriety.

The second edutainment title appeared in 2000: “*Artus, against the demon of the museum*”. The children are invited to assume the character Artus, and play a mystery game, combining skill, logic and memory. It also has a creative section with games. However, the children run away from the mystery game, and go directly to the games section. The game budget was 1.5 M francs. In the first 6 months, the CD-ROM achieved 7.000 unit sales.

5.2.2.3.3 The Ludo-Cultural Collection

Versailles, intrigue at the Court of Louis XIV (RMN, Cryo Interactive, Canal+ Multimedia) was the first game title developed by the RMN. Initially targeted for a juvenile audience, “*Versailles*” was different from any multimedia product existing in the market. It allows, by the way of a game, that the player discovers Versailles’ society in the XVII century, being truthful regarding the scenario, historical context, characters (fictional and historical) roles and behaviours. First sales expectations didn’t exceed 4000 units. The overall production budget was EUR0.5 million. It sold 500.000 units, in national and international markets.

Following to the success of “*Versailles*”, the RMN has co-produced six more titles, creating the ludo-cultural collection. Altogether they have sold more than one million units worldwide.

As stated by Michel Richard, the ludo-cultural games are now sustaining the RMN MM department.

5.2.3 Business Model: Partnerships

The RMN multimedia projects always follow a partnership model. All the partners share the financial risk by an equity-funding scheme. Furthermore, each project functions as Single Purpose Vehicle (SPV).

Typically there are three kinds of partners: a publisher (RMN), a publisher/developer (software-house) and a financial investor, each one playing different roles in the partnership according to the nature of the projects.

However, this business model can also incorporate some risks in terms of middle long-term associations, creating dependencies that are not compatible in the framework of public-sector governance. The RMN dilutes this risk constructing its commercial strategy within a broad range of partnerships associations. This continuous diversification also brings other valuable assets, as the evolution and refreshment of ideas and concepts that new partners apply to the forthcoming projects.

There are also some constrains for the RMN when selecting the partnerships, as in France it's compulsory to use public contracts when projects involve funding greater than EUR45.700.

The legal procedure it's to make an "appel d'offre"³⁸, where the RMN drafts a detail call for tenders, including project specifications and publicity. The bidders draft a proposal based on conditions, and contracts are awarded according to a selection based in pre-established rules [Brochu, 1999].

This method includes specific procedures, conditions and requirements used for official documentation that will be used for reference by both parts.

5.2.3.1 WEB-SITE Model

(E.g. Institutional site)

The project is always a co-production (e.g. RMN/RMF) and its completion involves three players: RMN, museum and the web-site developer/host provider. The RMN manages the project for the museum, which owns the Intellectual Property Rights (IPR) over the content and the site. There is a client-supplier relationship between business partners. As there are no commercial issues involved, the relations are simplified.

Once the site is *on-line*, the museum is responsible for the updating, with the help of in-house software application.

The completion of the project involves three stages and involves 4 players: RMN MMD, a museum, web-developer and site host.

1st Stage: the museum owns and provides the content (images, text).

2nd Stage: The RMN and the Museum work together writing and navigation rules (script).

3rd Stage: The web developer is responsible graphical development. The web-site hoster: technical integration.

Figure 40 Web Site Production: Stages and Partners Relationships

WEB PROJECT STAGES				
	Content	Writing/navigation rules	Graphic development	Technical integration
Manages		RMN MMD		
Owms/provides	MUSEUM	MUSEUM		
Supplier			WEB DEVELOPER	
Supplier				WEB-SITE HOSTE

5.2.3.2 CD-ROM/DVD Model (Cultural)

The basic business process for a CD-ROM/DVD-ROM creation involves four different stages, as follow:

- *Publishing*, including funding, managing the development, packaging, manufacture, distribution and marketing of the product.
- *Development*, the design and creation of the product (i.e. coding). This done by publisher in house-resources or specialist development companies (sub-contracting).
- *Distribution*, ensuring that the product gets to the market shelves. It's done by specialist distributors or by the publisher directly to retail houses.

³⁸ In english, *invitation to tender*.

- *Retail/ mail Order/Online*, made through specialist software retailers, retail orders, and supermarket chains, mail Order Sale.

RMN CD-ROM business process is always undertaken through a partnership model, involving financial, publisher/developer and distribution issues. The producer partners equally share product ownership/IPR and financial risks/benefits. The main entity is the RMN.

When the RMN initiates³⁹ a CD-ROM project it's always in partnership with a co-publisher, as it allows filling internal gaps recurring to the *know-how* of the associated companies. It's also established a financial support. The model is always a co-production, accorded between the RMN and co-publisher partner, or if necessary, funds may be raised by the RMN via external investors. Partnership negotiations are very complex and contracts are very difficult to elaborate, as commercial and IPR issues (ownership, spin-off, and sequel rights) are involved.

Once the concept is accorded it's necessary to set the project functional specifications, the outline of the features and functions of the product. Each partner provides different resources.

The RMN gets the industry museum resources (images, photographic agency) and the author/curator, and the co-publisher gets the author (author/multimedia designer), it's own images and development skills.

Two agents work in the functional specifications: the content specialist (author/curator) and the multimedia specialist (author/multimedia designer). Each one has a specific contribution for the project:

On one hand, the author/curator masters the subject, having content knowledge skills.

On the other hand, the author/designer masters the medium (spatial content), providing technical skills.

The co-operation between them runs smoothly is the nature of the project clearly expresses the range of intervention of each author skills. This is the case of cultural/reference CD-ROMs, where the mastery of content gives the RMN/museum curator the authority to make choices and decisions in producing the final object. However, in games projects the balance of skills value is a potential factor of conflict for partnerships.

Once the CD-ROM concept is adapted and approved, the executive production (development) is delegated to the co-publisher. It's made through in house-resources, although a sub-contracted software developer may be involved.

The distribution is made using partners specific distribution channel capacities (e.g. RMN/Hachette) or/and through deals with large retail chains (e.g. Supermarkets, FNAC), ensuring that the product gets to the market shelves.

³⁹ Either the RMN starts the project, or a multimedia publisher/developer with whom it works proposes a subject.

Figure 41 CD-ROM Production: Stages and Partners Relationships

PARTNERSHIP ROLES	RMN	PUBLISHER/ DEVELOPER	FINANCIAL PARTNERS	MAJOR CHAINS
PRODUCTION	RISK SHARE	RISK SHARE	RISK-SHARE BRANDING	
PUBLISHING	BRANDING CONTENT (images/text) Author /curator	BRANDING EXECUTIVE PRODUCTION Author/designer		
DEVELOPMENT		Scriptwriting Programming Graphic Design		
DISTRIBUTION	Specialised Channels	Specialised Channels		CONTRACTED

5.3 Ludo-Cultural Collection

5.3.1 Background

Created in 1996, “*Versailles, intrigue at the Court of Louis XIV*” was a multimedia product designed to knock down the barriers of two distinct worlds that, until then, had never crossed their paths: the cultural world of museums and its editorial resources and the entertainment world of software games.

5.3.1.1 Genesis: Reference CD-ROM

The origin of “*Versailles*” arises in the mid-nineties when the RMN establishes a partnership with Canal+ Multimedia (financial partner) in order to create an interactive CD-ROM exploring the thematic of the Chateau de Versailles, a product aimed to be targeted for a general audience.

This title intended to enlarge the strong catalogue of cultural CD-ROMs of the RMN, one of the most comprehensive in its field in Europe- and its original concept was “*Versailles, une journée à la cour de Louis XIV*⁴⁰”, an idea developed by Phillippe Mari.

⁴⁰ Versailles, a day at the court of Louis XIV

Once the financial support and concept of the project were set, the RMN / Canal+ Multimedia issued a call for tender in order to engage a multimedia publisher/developer into the partnership. The document specifications were developed in collaboration with "Edition Textuel" and contained the basic information of the project and its requirements: they were mainly historic, including the date 1685 (when the Hall of Mirrors was completed), a description of prominent figures and the basic conception of the king's day.

Cryo Interactive, a young French game developer company (formed in 1992) replies to the call, drafting a proposal based on the initial conditions:

"The museum wanted to the company to show how it would reconstruct the palace of Versailles in computer-generated images: the initial model was very close to specifications, the product was very cultural, in 2D text". [Brochu, 1999].

As conversations follow, a new concept emerges. Cryo explores the potential of the original idea and takes the chance of proposing an innovative approach: to create an adventure game, a successful genre in the interactive entertainment market.

5.3.1.2 New Concept: Cultural Adventure Game

Cryo's approach to "Versailles" was to explore a model that came from the world of software games: an adventure game is an exercise of interactive storytelling, where the player interacts with a structure that involves problem-solving skills, lateral thinking and exploration of environments in order to solve a quest. However, Cryo's proposal was different from any game existing in the market. The "Versailles" game concept was to combine the ludic structure of the adventure fictional plot with the historical constraints of the time in which was inserted, allowing the player to discover a historical period, a society and its costumes, all respecting historical and scientific precision.

The RNM embraces the challenge as they glimpse the opportunity to get the attention of a younger audience to their multimedia products, as stated in an interview given by Laurence Herszberg, at the time director of the RMN's multimedia department:

"Notre mission, c'est la diffusion culturelle, et ce par tous les biais. Jusqu'à présent, elle est passée par le livre et l'audiovisuel. Aujourd'hui, c'est le multimédia. Les adolescents et les très jeunes adultes ne regardent pas les CD-ROMs de facture très classique. En revanche, quand on parle de jeu dans un environnement culturel, on répond aux attentes d'un tel public"⁴¹.

To essay a cultural multimedia formula for a juvenile audience: at the time, this was considered by the RMN the single opportunity for "Versailles".

⁴¹ Raillard, Gilles, Les Logiciels Ludo-Educatifs, 17-07-98, Radio France Internationale.

Expectations on a successful commercial performance were not even considered: the best sales prediction figures topped 4.000 units⁴².

Since its launch, in September 1996, the “*Versailles*” game has sold more than 500.000 copies (all platforms included), and it’s translated into over a dozen of languages.

Due to the outstanding commercial sales, what was meant to be a one single-project led to the development of a catalogue strategy, with the release of six new titles in the last four years and defined by the RMN as new genre of ludo-cultural collection.

5.3.2 Versailles, intrigue at the Court of Louis XIV



5.3.2.1 Game concept

“*Versailles, intrigue at the Court of Louis XIV*” is first-person adventure game for multiple platforms that uses Omni3D technology to thrust players into the role of a “Garçon Bleu” caught up in a conspiracy for the destruction of the Chateau of Versailles in the Reign of Louis XIV.

As you try to solve the plot, you’ll experience the social life at the Court, interacting with historical characters, collecting objects and puzzle solving, immersed in a full 360 degree panorama that recreates the 17th century Versailles down to the smallest detail, with historical accurate validation.

5.3.2.2 Description

A mad bomber is on the loose in Versailles, threatening to burn down the palace and kill the king, Louis the XIV, in the explosion. As Lalande, the king’s valet, you’re entrusted with a deadly pamphlet that has surfaced the evil plot. Bontemps, the king’s most advisor has commissioned you to find out who’s behind the conspiracy, but be aware: you only have a day to do so!

⁴² Source RMN, interview with Alain Bouverlaic.

“*Versailles*” brings you straightforward linear adventure game in a story broken up into a series of seven acts. Each act is self-contained, and Lalande must perform actions in pre-determined sequence in order to advance in story.

You’ll advance not only in story but as well in space, as each act also “opens” you new doors in palace. A map built in the interface will help you to find your way. As you move around the palace, you’ll see rooms filled with works of art, murals, furniture, and chandeliers as they were at the time of the *Roi Soleil*. Spot every place in detail with the 360 degrees panoramic view, as you’ll close up into great art works, as well find some hidden clues.

While working your way, the cursor will change into different icons helping you to pick up objects into your inventory, talk with people and listen to conversations, as it seems that many people in the Court has reasons to plot against the king. You’ll soon find out that opera is out of favour, as it doesn’t make the queen’s mood. Even so, you still can enjoy the magnificent baroque soundtrack that tunes the game.

Many of the characters and items that you’ll find in “*Versailles*” offer you the opportunity to access historic information about them. Doing so, and during gaming, you’ll be entering in the *Documentation Zone*, a reference database with maps, plans and over 180 information sheets, containing a short text, a captioned image and hypertext links.

If you want to take a break gaming, “*Versailles*” still offers two independent access modes: the *Documentation Zone* and the *Virtual Visit*. The former allows you to take a free visit inside the palace in 3D pre-rendered environment with hemispheric view, where you can have a detailed view of over 200 paintings (also available in the game itself). Objects and characters in this environment also give access to the *Documentation Zone*.

5.3.2.3 Key features

25 hours of gameplay in Versailles, one of History’s most beautiful palace.

3 access modes – *Game, Virtual Visit, and Documentation Zone*.

Introducing OMNI 3Dt^m, state-of-the-art technology that allows you to move freely in 3D environment and to view each location in a full 360-degree panorama.

Over 30 characters modelled in 3D from period portraits, bringing back to life 21 historical figures.

3D recreation of Versailles just as it was in 1685.

A vast collection of plans, maps and documentation to help you during the gameplay.

More than 200 paintings that you can study up close.

Soundtrack of 40 minutes of Baroque music, true to the period.

5.3.2.4 Genre

First-person historical adventure game.

5.3.2.5 Platforms/ languages

PC /Mac CD-ROM and PSX: French, English (UK), English (US), German, and Spanish.

In PC DVD-ROM format languages available are French, English (UK), English (US), German, Italian, Brazilian Portuguese, Spanish, Dutch, Finnish, Norwegian, Greek, Japanese, Mandarin (China), Korean.

5.3.3 Ludo-Cultural Collection

The historic adventure games of the RMN's ludo-cultural collection are targeted to casual gamers. They must have always a low entrance barrier, that is, players start to play the game almost immediately and understand at once what is happening.

Adventure games are narratives composed of segments, which are linked electronically by multiple paths and allow manifold combinations. The author creates a "map" of the story with alternate paths and various options; the player must use lateral thinking in order to choose the routes that allow the game character to advance in story. In terms of structure, the narratives may be linear, hieratical, parallel or networked⁴³.

The gameplay, that is the entertaining interaction between the player and the game world, is first-person point and click, in stories that evolve in branch tree of actions as talking, puzzle solving and manipulating objects into an inventory.

Then, as the player advance in the game, action alternatives are obvious and intuitive. This is achieved both by multi-option dialogues and creating icons that represent the action alternatives.

"Film and animation sequences are used to convey the plot. The sequence is a vehicle for supplying complex information that is relevant for the game, while serving to immerse the player in the story." [Faber, 1998].

⁴³ See annex V – Ludo-cultural Games.

5.3.3.1 Edition Timeline



5.3.3.2 Egypt 1156 B.C.: Tomb of the Pharaoh



Game Concept

Egypt 1156 B.C.: Tomb of the Pharaoh is a first-person adventure game for multiple platforms. It uses Omni3D technology to thrust players into the role of Ramoses a young Egyptian that, in the Reign of Ramses III, must solve a tomb robbery mystery in order to save his father's life, falsely accused from the crime.

As you'll try to unmask the real thief you'll be stepped into Ancient Egypt history, from embalming to mural creation in the tombs, to religion, politics and culture, immersed in a full 360 degree panorama that evokes the architecture of a 4000 year's civilisation, with historical accurate validation.

Key Features

Game fiction evoking the life in Ancient Egypt, with scientific historical validation.

Technology Omny3D™ gives 360-degree panorama over environments

SVGA graphics with thousands of colours.

Technology OmniSync™ synchronises the voices of characters with leaps movements and face expressions.

Over 30 realistic 3D characters, mostly representing actual historical figures

3 access modes – Game, Virtual Visit, Documentation Zone

Soundtrack extracted from *Music of Nile* (Virgin Records ed.).

Genre

First-person historical adventure game.

Platforms/languages

“*Egypt 1156 B.C.*” exists for PC/MAC CD-ROM, PSX in French, English (UK), English (US), German and Spanish.

In DVD-ROM format languages available are French, English (UK), English (US), German, Italian, Brazilian Portuguese, Spanish, Dutch, Finnish, Norwegian, Greek, Japanese, Mandarin (China) and Korean.

5.3.3.3 China: Forbidden City



Game Concept

“*China: Forbidden City*” is a first-person adventure game that uses Omni3D™ technology to thrust players into the role of a new promoted investigator trying to solve a crime conspiracy in the Forbidden City, in the Reign of Emperor Qianlong.

As you’ll try to solve the plot, you’ll experience the etiquette and rituals at the Chinese Court, interacting with characters as eunuchs, concubines and court officials, collecting objects and puzzle solving, immersed in a full 360 degree panorama that recreates the 18th century Forbidden City with historical and accurate validation.

Key Features

Over 25 hours of gameplay

30 characters (some are real historical figures) recreated in 3D using motion capture and OmniSync™ voice synchronisation.

First-person immersion graphics with 360 degree freedom, using Omni3D™ technology

Historical accuracy of 3D reconstruction

3 access modes: Game, Virtual Visit and Documentation Zone

Genre

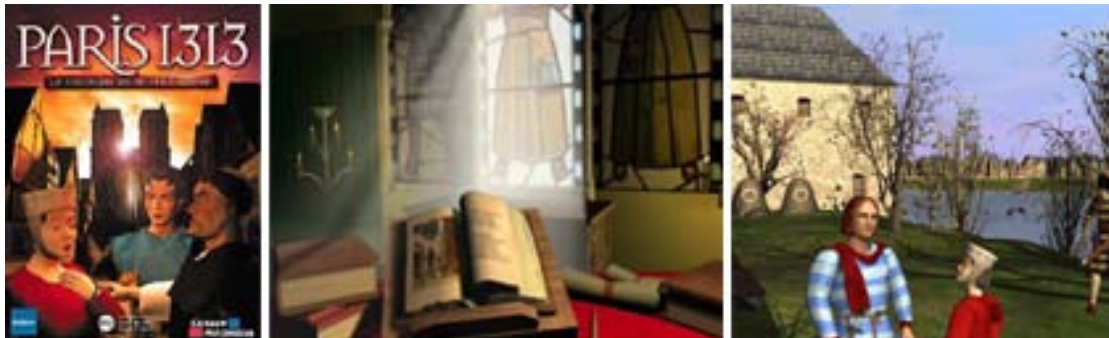
First-person historical adventure game.

Platform/Languages

Forbidden City exists for PC, MAC, PSX in French, English (UK), English (US) and German.

In DVD-ROM format languages available are French, English (UK), English (US), German, Italian, Brazilian Portuguese, Spanish, Dutch, Finnish, Norwegian, Greek, Japanese, Mandarin (China) and Korean.

5.3.3.4 Paris 1313, Le Disparu de Notre-Dame



Game concept

“*Paris 1313, Le Disparu de Notre-Dame*” is a first-person game adventure for multiple platforms that uses 3D technology to thrust players into the role of Rosemonde, Pierre and Jacques, each one having it’s own adventures in interrelated stories, in order to solve a crime in the 14th century Paris.

You’ll lead the trio of characters through a surprising medieval Paris with places such as taverns, castles, palaces, mazes and even a first-time-seen Notre Dame Cathedral with a

coloured façade and interact with historical characters, all evoked with scientific historical validation.

Key Features

game fiction evoking life in medieval Paris, at the time of Phillippe le Beau.

Reconstruction of medieval Paris, an evocation with historical scientific validation based on manuscripts and later representations.

A feature of 26 realistic 3D characters some representing historical figures.

2 access modes – Games and Documentation Zone

Genre

First-person historical adventure game.

Platform/Languages

“*Paris 1313, Le Disparu de Notre-Dame*” exists for PC/MAC CD-ROM, PSX in French, English, German, Italian, Spanish and Portuguese.

5.3.3.5 Pompeii, the Legend of the Vesuvius



Game Concept

“*Pompeii, the Legend of the Vesuvius*” is a first person adventure game for multiple platforms that uses 3D technology to thrust players into to role of Adam Blake a Scottish cartographer who, trapped by a goddess curse travels in time to Pompeii, in year 79 AD. He only has 4 days to find his fiancée Sophia, and convince her to leave the town prior to the Vesuvius eruption.

As you’ll try to save Sophia, you’ll be exploring the village of Pompeii with its forum, taverns and private houses, featured in a 360-degree representation with scientific historical validation.

Key Features

360° rotation in 3D image using CinView technology.

Reconstruction of Pompeii with the participation of the Superintendence of the archaeological site and international experts.

Non-linear game as you can move freely around the city.

3 access modes: game, virtual visit and Documentation zone.

Genre

First-person historical adventure game.

Platform/Languages

“Pompei, the Legend of the Vesuvius”, exists for PC, MAC CD-ROM, in French, English, German, Italian, Spanish and Portuguese.

In DVD-ROM format languages available are French, English (UK), English (US), German, Italian, Brazilian Portuguese, Spanish, Dutch, Finnish, Norwegian, Greek, Japanese, Mandarin (China) and Korean.

5.3.3.6 Louvre: the Last Curse



Game Concept

“Louvre: the Last Curse” is a first-person adventure game for multiple platforms that uses Phoenix VR technology to thrust players into the role of Secret Service Agent Morgane Sinclair who is tasked with breaking in to the Louvre Museum and finding and destroying the four Satan’s Keys, objects witch, when reunite, can provoke the Armageddon.

To achieve her mission, Morgane must travel through an ancient time portal and explore the Louvre in different time periods, as the Medieval Period, The Renaissance, The French Revolution and present time in a visual recreation with historical accuracy.

Key Features

Game fiction placed in four different time periods of the Louvre: from the medieval fortress of the 14th century, the King's Palace of the Renaissance and French Revolution to the Louvre Museum, at present time.

Technology Phoenix VR featuring 360-degree perspective over environments.

Genre

First-person historical adventure game.

Platform/languages

"*Louvre, the Last Curse*" exists for PC, MAC, and PSX in French, English, German, Italian, Spanish, Portuguese and Taiwanese.

5.3.3.7 EGYPT II, the Heliopolis Prophecy



Game Concept

"*EGYPT II, the Heliopolis Prophecy*" is a first-person adventure game for multiple platforms. It uses 3D technology to thrust players into the role of Tifet, a young talented doctor who has to save her adoptive father and the citizens of Heliopolis from a mysterious disease in the year 1360 B. C.

From mysterious disappearing, to strange revelations, Tifet's quest will lead players to discover the dubious relations between power and religion in the City of Sun. The 3D reconstruction brings back to life the market, the port, the streets, the Temple, the inhabitants in their day life, where the historical facts and city reconstruction are scientifically validated.

Key features

Discovery of Egyptian society in its religious and mythical aspects, during the 18th Dynasty.

25 characters and over 30 places represented in a hypothetical but conceivable reconstruction of the City of Heliopolis, based on other contemporary architectural details.

Wealthy and vivid atmosphere providing an intense immersion during gameplay

2 access modes: Game and Documentation Zone.

Genre

First-person historical adventure game.

Platforms/languages

“*EGYPT II*” exists for PC CD-ROM, PC DVD-ROM, and PSX in French, English, German, Italian, Spanish, and Portuguese.

5.3.4 Business model

The games domain is the notably the more complex for the RMN, as the partnerships are very difficult to manage.

The partnership always involves three main players: Cultural Institution (RMN/Museum), Publisher/Developer (Software House) and Financial Investor

5.3.4.1 Main Entity: Cultural Institution

RMN role: risk-share, branding, content provider/scientific validation, authoring (content validation).

The RMN is a co-producer and co-publisher. In games projects the main role is to provide the scientific criteria/cultural validation to the project. This is done not only providing content (text, images) and the respective Intellectual Property Rights (IPR) but also engaging a cultural specialist into the project functional specifications phase. It’s a critical task for the RMN, as many museum curators don’t show much interest in participating in a game project. Besides the intra-sector relationships tension, the RMN also has to manage product concept conflicts with the game co-publisher. However, in the end it’s always the brand RMN that states the cultural value of the product.

5.3.4.2 Developers: Software House

Game publisher/developer role: risk-share, branding, executive production, distribution, and merchandising.

The project functional specifications (features and functions) are clearly an expertise from the game publisher. The tension between the author/game designer and the author/museum curator are elevated, due to the gameplay restrictions that scientific validation may imply. The general impression is that parts must achieve “*a bom compromis*”.

However, and considering the collection evolution, it’s clear that the balance is pending to the game publisher as the stronger entity in product definition (see game evolution vs. partnership). The games publisher expertise in executive production, marketing and distribution are also essential to the economic success of the product.

5.3.4.3 Producers: Financial Investor

Financial Partner role: risk-share, branding

Unlike cultural/reference projects, where production may involve only the RMN and the co-publisher (1.5M francs budget), in game production an external investor secures immediate capital funding for the project. This is due to the raising commercial risk of the project, as RMN game budgets stand today at 4.5M francs (against 3M francs in 1996).

Until today the RMN worked with two financial partners: Canal+ Multimedia and France Telecom.

We can affirm that the value of this partnership surpasses the purely financial issues, as the both players also lend their public recognizable brands and advertisement channels to the product.

5.3.4.4 Collection Partnerships

Year	Game Title	Production	Publisher/	Developer/Distributor
1996	<i>Versailles</i>	RMN	RMN	
		CRYO	CRYO	Cryo
		Canal+ Multimedia		
1997	<i>Egypt 1156 B.C.</i>	RMN	RMN	
		CRYO	CRYO	CRYO
		Canal+ Multimedia		
1998	<i>Forbidden City</i>	RMN	RMN	
		CRYO	CRYO	CRYO
		Canal+ Multimedia		
1999	<i>Paris 1313</i>	RMN	RMN	
		Index+	Index+	Index+
		Canal+ Multimedia		Dramaerama (subcontracted)
		France Télécom Multimedia		

2000	<i>Pompeii</i>	RMN CRYO Interactive Entertainment Archeological Superintendence de Pompei	CRYO Interactive ARXEL TRIBE (subcontracted)	CRYO Interactive Entertainment ARXEL TRIBE (subcontracted)
2000	<i>Louvre, the Last Curse</i>	RMN Index+ France Télécom Multimedia Financing COFICINE (Consortium Générale de Financement et Contrôle Cinématographique)	Index+ ARXEL TRIBE (decors and 3D animations), sub-contracted	Index+ ARXEL TRIBE (decors and 3D animations), sub-contracted
2000	<i>EGYPT II</i>	RMN CRYO Interactive Entertainment	Index+ ARXEL TRIBE (decors and 3D animations), sub-contracted	Index+ ARXEL TRIBE (decors and 3D animations), sub-contracted

5.3.4.5 Partners Profile

5.3.4.5.1 Cryo

Created in January 1992, *Cryo Interactive Entertainment*⁴⁴ established itself as a creation studio in Europe, working for prestigious international publishers such as Virgin, Sega, GTE, Mindscape, Viacom or MGM.

In 1995, Cryo decided to enter the publication business, funding this evolution by opening themselves to 'Financière Agache', one of the holding companies of the Bernard Arnault group. This stage also marks the beginning of co-production partnerships with RMN leading, at the end of 1996 to creating the cultural game genre, first of all with “*Versailles, A Game of Intrigue at the Court of Louis XIV*”, followed by a full range during the following years.

Cultural games, adventures or strategy games are the basis of the game production. With strong investments in Research & Development, Cryo developed new technologies such as Omni 3D and Omni Sync or the creation of graphic development drivers.

PC software makes the core of its business, but game consoles and particularly Playstation have a growing share of 30% of its turnover. The Internet is also highly considered and has associated its On-Line business into the new entity Cryo-Networks. Its original positioning as

⁴⁴ www.cryo-interactive.com

creator of a new language (SCOL) to produce On-Line applications places it within the group as a major growth factor for the coming years.

Although a successful French company, the exportation market represents 70% of its turnover, making it a noticeable player in international markets. Between 1998 and 2000 they opened representations and commercial branches in Germany, UK, Italy, Scandinavia and Spain. Other markets were directly reached through the acquisition of major positions in local distributors covering Canada and USA, Benelux, Austria and Switzerland.

It is considered with other French companies like Infogrames and Ubi Soft an example on how energy and creativity can claim domination of the European market

5.3.4.5.2 France Telecom Multimedia

Created in December 1996, *France Telecom Multimedia Edition*⁴⁵, subsidiary of Wanadoo and part of the France Telecom group, achieved an active policy of co-production and co-edition throughout the participation in the development of over 15 multimedia titles, both CD-Rom and Internet, building an important multimedia catalogue.

The editorial politics of France Telecom Multimedia Edition, developed in response to the market expectations, organizes itself in three axes:

Education/Children

Games/Entertainment

Leisure/Practical Life

Their objective is developing original contents to the all audiences, spanning all supports, from CD-Rom to Fast Internet.

France Telecom Multimedia Edition sought to amplify this innovative co-production policy by continuing to develop projects that take advantage of the Internet potentialities and put Multimedia at the service of greater audiences.

In September 2000, Wanadoo announced the merger between its subsidiary France Telecom Multimedia Edition and Index, one of France's leading publishers of interactive games.

5.3.4.5.3 Index

Founded in 1992, Index⁴⁶ has become one of the premiere publishers of consumer games in the international market.

⁴⁵ www.wanadoo.com

⁴⁶ www.index.fr

Index began with the development and production of interactive programming. In 1994 developed and designed the CD-Rom “*Le Louvre, collections and palace*”.

In 1995 Index merged with the multimedia production company Arcad

France Telecom Multimedia Edition and Index have teamed up for several international successes since 1997, being “*Croissades*” the first title and also Index first game.

Since then both companies co-produced “*Vikings*”, “*Paris 1313*”, “*Dracula*”, “*Louvre, the Last Curse*”, all success titles that have been among French top 100 sellers.

“*Dracula*” success, 200.000 copies worldwide, was developed for Playstation, CD-Rom and DVD-Rom, consolidating the company’s strategy of reaching global audience in all platforms.

By combining their operations it is expected to further enhance their expertise in the convergence of games and Internet content. Wanadoo Editions provides a dynamic source of video games (both online and off-line), as well as educational programs for PCs, game consoles and Internet. The new Company’s catalogue already includes 47 titles, plus 3 ‘series’ of programs available on the Internet and 5 websites.

5.3.4.5.4 Canal Plus Multimedia

Canal+ Multimedia was founded in 1995, as part of Canal+ Group, with the objective of anticipating the evolution of the content industry, exploiting Canal+ copyrights in the leisure software market, mainly in the games sector.

Capitalizing from the strong influence from the foundation of Canal+, its editorial policy was segmented in five genres: Sport, Cinema, Humour, Reference and Selection Plus, the ludocultural products co-produced with RMN.

Assuming itself as a mean to explore Canal+ licences and rights, Canal Plus Multimedia policy is to own and produce multimedia content, delegating development and distribution to external companies. It also seeks expanding its catalogue throughout an active policy of buying licences and products from countries where Canal+ brand constitutes a true added value, Spain, Italy, Benelux and Scandinavia.

From the start, Infogrames was one of the partners that supported Canal+ Multimedia policy. Being Infogrames the owner of one of the best distribution resources of the market, making it a leader in Europe and 6th worldwide, was very important.

In March 99, that partnership evolved even further, in a joint venture between the European leader in pay-tv and Infogrames, with a 50% sale to the French developer/distributor. This joint venture constituted an advantage to both companies, adding development and distribution capabilities to the Canal+ money, licences and brand image.

5.3.5 Market analysis

The games market is extremely competitive and players are very careful about providing detailed market information over its products. Therefore, the market analysis for the collection will not cover a detailed information over each game results, but an overview of the collection.

5.3.5.1 Production

In 1996, “*Versailles*” had a total budget of EUR0.5 million (EUR 0.25 million in production). In 2001, the production budget from a historical adventure game stands for EUR0.75-0.85 million5.5M, plus EUR0.3 million for marketing. Faced with the progression of games budgets, the RMN tries to dilute this risk engaging financial partners into the project.

The reason for the increasing value of games budgets is the production duration. Today a game production with 3D technological features as an average duration of 18-24 months, involving dozens of qualified professionals.

Depuis le début des années 1990, les budgets des jeux vidéos n'ont cessé d'augmenter de façon importante. Ils sont en moyenne compris entre 10 et 20MF mais peuvent atteindre 60MF, augmentant les risques financiers pour les producteurs comme pour les développeurs. La principale raison en est la durée de production qui est passée de quelques semaines à plusieurs mois, la moyenne se situant entre 18 et 24 mois. Ces véritables super-productions nécessitent aujourd'hui plusieurs dizaines de personnes qualifiées dans des domaines très variés. [Hojzan, 1998].

5.3.5.2 Marketing Plan

The marketing actions analysis of these products is going to be addressed dividing the usual four P's, Product, Pricing, Placement and Promotion.

5.3.5.2.1 PRODUCT

The product is designed according to intended target: a game with cultural added value, aimed at teenagers and young adults. The results are a bit different as the main consumers base is made by 25-40 year old gamers.

The product is arranged in a collection, taking advantage of gamers' fidelity, as most of them acquire two of three games.

A large colourful box helps to increase the consumer awareness of the product in the shelves. The concept art for the Box always has a double strategy. By one part reinforces the cultural value of the game displaying images from architectural places (e.g., the Louvre Museum façade). Then it portrays a character or action of the game to set the ambience of the intrigue.

5.3.5.2.2 PRICING

The product is placed in an average high price tag of the game market. This relatively high pricing gives the game a premium feel, without becoming heavily overpriced and scares the casual consumers.

RMN's defends a restrictive price policy, maintaining as long as possible the game price. The intended effect is that the RMN's games value is not eroded by time.

Product bundling is also used for old titles, selling two at a discounted price. The RMN feels apprehensive with this strategy, having second thoughts about mixing cultural themes (e.g. "China" and "Versaille").

5.3.5.2.3 PLACEMENT

The game is sold not only in the usual stores but also through large department stores

RMN - own stores, museum stores, e-commerce site	13-15%
Game developer - usual game channels, e-commerce site	85%
Financial partners (France Telecom, Canal+ MM)	0-2%

Regarding the selling sites, the distribution reflects the country's channels. In the French market the breakeven is as follows:

e-commerce	5%
Mail order	5%
General Stores	90%
Specialized stores	10%
Department Stores*	45%
Hypermarkets	45%

*Fnac, Virgin – 40-45%

The French and German markets account for 50%, with the other 50% through out the world.

5.3.5.2.4 PROMOTION

Each game release requires a marketing campaign involving a 2M francs budget. The game publisher/developer has the expertise on this market, and is responsible for the marketing strategy, although it uses the additional mechanisms provided by other partners.

The marketing strategy is divided in the following main actions:

Public Relations

Public Relations (PR) represents the stronger marketing effort. It usually comprises press releases and lobbying, two or three weeks before the game release, taking advantage of RMN's name and the media friendly interpretation of the games. Journalists always like to talk about cultural issues and games are not an exception. The articles are always very positive about the product.

RMN also provides the sites for the release soirées. Few places in the world can compete with the Louvre or Versailles itself, contributing to generate to a positive word of mouth.

Facing negotiations

The PR effort is complemented by negotiations securing facing places in department stores. This extremely important in any multimedia product, as the visual contact is (almost) the only consumers' product experience prior to the decision to buy.

Direct mail

The game publisher/developer uses its database of clients, sending promotional material as printed flyers/catalogues and CD-ROMs containing game demos and game trailers.

Marketing actions in shops

Direct marketing actions complement the publisher/developer contribution, including product demonstrations in specialized chains as Fnac permitting the user to have a direct contact with the product.

Free Gifts

Adding free gifts like tickets to the Louvre museum also contribute to the cultural added value perception. RMN access to these freebies is also great synergy.

5.3.5.3 Sales

The collection presents an extraordinary consistence in volume sales. Almost all titles achieve to sell over 300.00 units.

The only title that wasn't a commercial success was "*Forbidden City*". The RMN attributes this poorer result to the fact that the theme isn't supported by a strong myth, doesn't constitute an archetypal.

Year	Title	Sales	
		France	Europe
1996	Versailles	180.000	320.000
1997	Egypt	200.000	350.000
1998	China	60.000	150.000
1999	Paris 1313	na	na
2000	Pompeii	30.000	90.000
2000	Louvre	na	na
2000	EGYPT II	50.000	130.000

Source CRYO, 2000.

Platform Breakdown

PC	65%
Console (PSX)	25%
Mac	8%
DVD	2%

The platform sales reflect the market. Although consoles represent 50% of the market, they appeal to a younger audience, not the regular customer of the Ludo-cultural collection.

5.3.5.4 User Demographics

According to Mattieu Saint-Dennis, Cryo's Group Manager, five years ago, when "Versailles", the first title of the collection appeared the typical gamer breakdown was:

20% casual gamers

80% hardcore gamers

Today, the scenario has inverted with:

80% casual gamers

20% hardcore gamers

This evolution is in tune with the overall leisure-software market evolution. With the market expansion, soft core or casual gamers are becoming the major

This is also in tune with a game characteristic aimed to general soft-core audiences, revealing the developers insight of the market evolution.

Other valuable demographic information is:

The age is between 25-40 years old, a little bit older than the 28, industry average.

The socio-cultural level is high.

82% of buyers are males, however 40-45% of players are females, suggesting entertainment for all the family and purchase for gift purposes.

The consumer is very loyal.

He's not looking for technological hype features.

He doesn't copy or lend the game.

80% have 2 titles and 40% three titles.

5.3.6 Intellectual Property Rights

The use of cultural materials in interactive multimedia requires acknowledgement and/or negotiation of new intellectual property rights.⁴⁷ As cultural information has no geographical borders, legislation and agreements must be developed in the international social and legal context. The differences in national copyright law are currently a barrier to the development and distribution of multimedia products [Davis, 1996].

The inability to protect intellectual property in multimedia has been pointed out as a great barrier to investment in interactive multimedia, specially regarding the dissemination of cultural heritage. At the European level, efforts have been made in order to respond to the new challenges of the technology and information society, namely in the harmonisation of the national laws of copyright and related rights, in order to benefit both right holders and users. This has been done both by the vertical integration of international Treaties (The WIPO Copyright Treaty (Geneva, 1996), the Berne Convention for the Protection of Literary and Artistic Works (Paris, 1971) and the Rome Convention (1951)) and by the compelling adoption of Community Directives⁴⁸.

However, other interpretations must also be introduced and deserve serious reflection:

*“It could also be said that the greatest barrier to the exploration of the enormous potential for the dissemination of culture through interactive multimedia is not the inability to protect intellectual property but the inability on the part of rights owners to rethink objectives and priorities for dissemination of text and images world-wide”.*⁴⁹

Today, Cultural Heritage institutions realise that, in this new digital environment, their assets have a vast potential for financial appreciation, which are in a position to evaluate and sensibly exploit in relation to their declared corporate objectives.

A major concern towards the future should also be that we may assist a sensible copyright exploitation, rather than narrow copyright protectionism.

5.3.6.1 IPR in RMN

The elaboration of contracts concerning the production of multimedia projects implies complex legal exercises:

On one hand it must take in account rules of public right;

⁴⁷ Intellectual property refers to creations of the mind. Copyright is a legal term describing rights given to creators for their literary and artistic works [WIPO].

⁴⁸ (COM (97) 628 final and SN 2696/00 (PI)).

⁴⁹ Rees, Jeremy. Intellectual Property Rights and Digital Imaging. < <http://www.cidoc.icom.org/ipr1.htm>>

On the other hand, it must also requires the observation of rules of private right, namely Intellectual Property Rights code and practices.

In 1996, the French Ministry of Culture in response to the acknowledgement of this difficulties, creates a guide of elaboration of contracts concerning Multimedia and the Public Cultural Patrimony. The document addresses both the creation and exploitation of multimedia works edited in CD-Rom format, and the cases were the public person acts as a co-publisher or co-producer. Although its content doesn't include specific juridic clauses, as they depend on thecnical, financial, juridic elements related to each operation, it poses the general principles that should be take in account, namely:

The nature of the work and the conditions for its creation;

Its forms of exploitation, difusion and comercialisation

The IPRs owned and those that are granted.

The contact guide also points the interest of a preamble introduction, and the interest of enouncing important principles, in benefit of the public institution, namely:

Enouncement of it's corporate principles (difusion and knowledge of cultura assets) wich must be preserved, and therefore giving the righth to control and ensure the scientific, artistic quality of the work.

The property of works be reproduced gives the public institution the right to procede both to their exploitation and define its modalities.

The RMN recognizes the importance of such guidance in the framework of its activity as multimedia publisher. Today, the patnership bussines model with private entities, although evolving complex negotiations, secures that the RMN acts as the Main Entity of the projects, due to the principles that have been enounced above. Summarizing, they are empowered with the decisive control of the works created.

5.3.7 Collection Evolution

The games of the RMN ludo-cultural collection are based on the same model: an adventure game with historical/cultural connotation. Each game allows the player to assume a fictional character in an ancient society, or very famous historical context, as the Vesuvius Eruption, the Ancient Egypt, or the Forbidden City.

The games universe always tries to portrait a strong cultural archetypal, a myth or legend that grabs people's imagination.

The notoriety of the place where the action takes place is the main criteria for the selection of the game cultural context. The logic is to select a very famous world site, a magical place that allows spectacular graphic reconstitutions and then find legitimacy for RMN. This is achieved

both by engaging a cultural specialist (museum curator, archaeologist, researcher) and providing content resources into the project (see table 1, jogos).

In terms of content functional specifications, the product is usually structured in three access modes: game, documentation zone and visit mode.

The “game mode” provides an entertaining experience with added value content. Although featuring a strong historical value is not aimed to be educational, or to give the players mastery in content:

“The historical adventure games objective is not to get a degree in history, is just to make and adventure and, at the same time, learn a lot of things”. Jean Michel Ouillon, former RMN multimedia Project Leader.

“The historical adventure games don’t aim to be educative. They just to provide the player a correct sense of the cultural dimension where the action takes place”. Romane Sarfati, Cryo production manager.

The “visit mode” allows the player to explore and admired in detail the scenario where the game action takes place. This feature strengths the cultural value of the product, has the 3D reconstruction of the environments is always supervised and validated by cultural specialists.

In fact, the games action usually takes place in historical sites long gone, deteriorated or altered.

The “documentation zone” is a built-in encyclopaedia organised by themes, with essays containing a short text, a captioned image ad hypertext links, covering the period on cultural, historical, religious and political subjects of the game historical context. During gameplay or visit mode the user can also access the encyclopaedia.

As stated by Michel Richard, RMN multimedia Department manager, the collection evolution has been characterized by two different tendencies:

game stories (scenery) are getting weaker, in terms of integrating a cultural dimension into the plot.

there has been a technical evolution, in terms of graphic display.

5.3.7.1 Content evolution

Unlike most of games today, the RMN's cultural adventure games are targeted to novice gamers. For this public game complexity, strange settings and graphic violence are not appealing [---].

The main challenge in creating a historical adventure game is to create a good story, one that provides added value content. Beryl Chanteur, RMN' manager and also the scenarist of *Pompei, the legend of the Vesuvius*, explains why this is extremely difficult:

“To develop the game story I had to spend three months on libraries studding the subject. For the development of the fictional plot I had several historical restrictions as the volcano explosion, which took place in only four days, and the historical truth, as I could never save the villa. As I was developing the story, its plot was constantly being altered by the supervision of the historical specialists. For example, it wasn't possible to save Pompidious, the noble that hosts the hero. His death was then justified has a matter of honour”.

The relations between the author/scenarist and the co-author/cultural specialist have a conflict potential, which affects the final product both in terms of playability and cultural connotation.

In terms of content, the collection evolution reflects the difficulty of engaging scenarist into cultural games.

In “*Versailles*”, “*China*” and “*Pompeii*”, the cultural dimension of characters, habits, social relations that contextualize the fictional story are carefully integrated into the plot. However, in titles like “*Egypt 1156 BC*”, “*EGYPT II*” and “*Paris 1313*” the main intervention of the author-curator was to avoid historical errors. In “*Louvre, the Last Curse*” the game story is very fantasist. The heroin travels in time and helped with high tech gadgets lives adventures in different eras of the Louvre museum. Here game cultural connotation resides in the recreation of the Louvre museum in different eras.

5.3.7.2 Technological evolution

The games of the RMN ludo-cultural collection are characterized by spectacular graphical reconstitutions of famous historical sites, which grab the players' imagination.

“Versailles” allows players to explore the palace just as it was in 1685, featuring details that no longer exist, as the ambassadors staircase and the garden maze.

“Egypt 1156 B.C.” depicts architectural environments in such richness and detail that place the players in Ancient Egypt.

“*Forbidden City*” allows the player to explore the palace as it was in the 18th century.

“*Paris 1313*” evokes a plausible medieval Paris and coloured Notre Dame cathedral.

“*Pompeii*” allows the players to promenade in the streets of the 1st century village.

“*Louvre, the Last Curse*” features a visual recreation of the museum building in different times, from the Medieval Period, to present time.

“*EGYPT II*” essays a plausible reconstruction of the city of Heliopolis.

The visual strength of this collection resides not only in the scientific quality and detail of the 3D reconstruction, but also in by the sense of immersion during gameplay:

“*Versailles*” was the first game that allowed players to have a panoramic view in environments constructed through 3D and rendered images. The Omni 3D technology (Cryo) allowed the players to choose his point of view in an animated environment.

The second game, “*Egypt 1156 BC*”, Cryo introduced the Omni Sync™a technology that allowed a synchronisation between the voice and lips movements and expressions of characters, increasing the realism of dialogues (also used in *China*).

The following games featured this innovations and improvements, namely in the games graphical display (millions of colours).

5.3.8 The Collection’s Future?

Today the RMN wonders about the collection future, as they feel that they are running out of themes.

According to RMN’ managers is not a question of quality of content, but finding archetypes that grab people imagination. After releasing “*Versailles*”, “*Egypt*”, and “*China*” they felt their margin of manoeuvre was shortening.

Two more titles will be released in the end of 2001: “*Versailles 2*” and “*Jerusalem*”, the second adventure of Adrian Blake (the hero of *Pompeii*).

6 CONCLUSIONS

The necessary conclusions if this thesis are presented in this chapter. These conclusions are focused not only on the several subjects analysed, cultural heritage, leisure software and RMN's case study, but also the interactions between them and some overall considerations.

Cultural Heritage

Cultural Heritage is one of Europe's most important assets. The enormous variety of valuable content not only in its physical evidence but also, in a much broad sense, the knowledge gathered throughout centuries in memory institutions like museums, galleries, archives and libraries are virtually impossible to copy or otherwise recreate.

Information and Telecommunication Technologies (ITC) is clearly a field to apply the cultural heritage resources, reinforcing Europe's cultural identity, promoting cultural diversity and raising access to culture by developing innovative products and services from an emergent digital cultural market.

I think that this is the main challenge that the Information Society poses to cultural institutions. Cultural institutions are organisations in the service of society, having an essential role in the conservation and dissemination of heritage cultural assets, as they communicate values for present and forthcoming individuals and societies. However, if they continue to ignore this reality, or even delay an active participation, they will face the risk of losing their own identity in a near future.

As we enter in the 21st century, ITCs are already part of citizen daily life either in its public and private spheres, shaping the manifestations of the *Information Society*. The systematic exchange and mediation of digitalised information is becoming the dominant model for economical and social development, through which companies and organisations increase their efficiency, effectiveness and competitive positions contributing growth of the society overall economy. By other part, the use of information is becoming an essential part of our private activities, resulting in an increasing public demand for cultural products and services. Today information is becoming a trade good, a commodity that can be bought and sold.

This can constitute a serious risk for cultural institutions as they are not "owner" but "holders" of cultural heritage. It is inevitable that organisations dealing with the supply of information will recur to the extensive public resources in order to deliver digital content.

Without the active participation of cultural institutions, we face the risk that cultural heritage will be supplied as mere piece of information, without constituting a critical mass of content.

Business Relations

However, expectations on a cultural market driven by the digitalisation of Cultural Heritage depends in the establishment of a proper interaction between Cultural Heritage and Digital Content sectors, as very different business cultures are involved:

Cultural institutions are conservative by nature, used to make business their own way for decades or centuries now, and this new digital world is looked at with extreme care and some suspicion.

On the other hand, the Digital Content Industry, with very dynamic players in development, publishing and marketing sectors, cannot afford by their own nature not to live fast, because of sheer necessity to survive such a dynamic and innovator market, stress CH sector lack of commercial reality and conservatism.

In the last decade the relations between these two sectors have follow the “river model”, suggesting the separation of main players. On one hand the upstream business activity is with IT hardware and software companies, acting as technological suppliers, and on the other hand, downstream activity with e-publishers acting as business players, already eager of cultural content to please a broadening customer base.

In consequence of such structural relationships, the CH sector hasn't been able to affirm itself has strategic and influential player in the Digital Content market.

Also this model represents a clear danger to cultural institutions, as the digital content market evolution is assisting a maturation era, with huge concentration of Developers, Publishers and New Media owners (TV or Telecom Operators). In the near future, minor cultural institutions will not be able to restrain such a market pull and there are serious risks of loosing their influence and control over their assets and knowledge.

Other more participative models are better suited for the cultural heritage institutions, as the partnership models that the Réunion des Musées Nationaux (RMN) uses. Only these models, trough responsibility sharing in both economical risks and digital content creation can provide better products, some cultural content control and, also important, bigger revenues.

The IPR issues are also in line with the technological evolution. As the known examples of the music and film industries suggest, traditional media regulation is going to be essential in these new markets, so legislators must pay a special attention to the protection of Cultural Heritage, as it can be misused if not properly protected.

Cultural Heritage resources are human spirits creations protected by the laws of copyright and related rights. Therefore it's imperative that the development and marketing of new products and services based on the digitalisation of cultural heritage respect the integrity of original material, in order that it can be distinguished from edited or altered material.

Digital Cultural Heritage and Multimedia Interpretation

An essential issue on digital content is that it is not a mere recreation of the physical content in the digital world, but its ability to embody an architectural display that enhances creativity and interest on users.

For almost a decade now, CH institutions produced an ever increasing number of products and services, but educational and reference CD-ROMs, institutional websites and professional products are the only examples of this interpretation.

The existing CH multimedia interpretation can be in large extent characterised as a mere prolongation of established Cultural Institutions activities, failing to make innovative use of the new supports and worse, failing in setting broad socio-economical implementation by moving to wider user markets.

Business relations between the two sectors are to blame because they create profound limitations in the interpretation of cultural resources multimedia potential, due to the lack of interaction between the players.

There is an urgent need for new authoring (business) models that remove inter-sector barriers and new products that express greater interactivity and interest, thus market acceptance.

Entertainment

An essential question for offering new products is framing the business markets in witch CH institutions can be placed. Museums and other CH institutes provide cultural heritage

preservation and dissemination, but also amusement to its visitors. In this broad sense Cultural Heritage Institutions are competitors in the Leisure Market.

Cultural Heritage Institutions have already surpassed its own borders to other leisure activities. Publications, images and videos, gifts, etc. are commonly explored products, incorporating CH contents and knowledge.

In the advent of Information Society, a new product is gaining importance in economical and social terms. Leisure Software already overtook video retail sales and film exhibition in Europe. Its world market value is expected to reach USD20 billion in 2001.

Leisure Software

Expanding their offer, CH Institutions have produced or participated in interactive entertainment, mainly through multimedia products that explore informative or educative models, such as Reference and Edutainment CD-ROMs. The larger part of Leisure Software Market, video games, is still unexplored, as CH institutions experience in this genre is limited to only one example.

Case Study

Cultural Heritage exploration of video game surprisingly comes from a reputable, centenary institution: RMN's Ludo-Cultural Collection.

Throughout time, RMN can be considered paradigmatic for the Cultural Sector, always being able to accompany changes and reinventing itself to better serve its purposes.

To dissect this case it is mandatory to analyse RMN, in terms of objectives, strategies and organisational changes necessary to produce such a success.

RMN's creation was visionary. By combining in one institution the responsibility to acquire works of art to national French museums, the synergies created permitted the funding and negotiating power that no institution alone could achieve.

For the objective of this thesis, two advents are considered to have particular importance:

The change from EPAC to EPIC, turning RMN in a result driven market competitor,

The creation of the Multimedia Department, in order to respond to the Technological Revolution taking place, in direct response to the Bill Gates' Corbis approach.

The first factor created the need to pursue economically sound projects, getting rid of Public Service mentality and forcing internal reorganisation in order to captivate the best human resources the market could offer. Furthermore the direct responsibility that finding own funds arises, makes RMN engage in a closer manner all the projects it promotes.

The creation of the multimedia department opened RMN to the very competitive Leisure Software Market. It is important to state that RMN's bet in Multimedia has a strategic importance. Nowadays the Multimedia Department is responsible for only 1,5% of RMN's revenue. It is not changing their core business, but it is building from now the necessary competencies to thrive in the Information Society.

Critical Success Factors

RMN Multimedia Department Partnership Business Models and active participation of the partners in all the production cycle are considered the main critical success factors.

Following EPIC's behaviour, the multimedia products are developed in autonomous projects. As all the projects have management and financial autonomy, RMN's product managers have total freedom in choosing the required business model.

The business models are very adaptive, depending on the risk and cost of the project. As the projects diverge from RMN's core business (higher risk) and/or need bigger investments (higher cost), the business models become more participative, from simple service contracts to joint venture partnerships.

The Ludo-cultural games are the more risky and expensive products produced. In this sense they have the more participative business model, an elaborated partnership joint venture with publishers/developers and producers/financial investors, all sharing costs, risks and revenues.

This way as the RMN multimedia products diverge from its core competencies, formal cultural dissemination, incentives the active participation and knowledge of the best players in the

leisure software market, maintaining its control in the process through the participation of its curators, that have a final word in the cultural content use.

Participative models carry their own difficulties. Maintaining equilibrium in the relations is no easy task and all the parts share criticisms due to such a close relationship. The main complaint of the developers is the excessive inference of RMN's advisers, the curators, that in their words limit the creativity of the developers. On RMN's side, the increasing importance of the developers, in technical, financial and distribution terms, gained through success projects, can shift the balance and make RMN totally dependent. To dilute this dependence, RMN chooses different partners, taking advantage of the strong French games software sector.

The partnership program was of extreme importance in defining the Ludo-cultural collection. It allowed developers suggest RMN's cultural content to explore new genres, from a reference title (the original idea) to a game. This was the creation process of the ludo-cultural collection, starting with "*Versailles*", with Cryo and France Telecom as Partners.

The second critical success factor is RMN's market driven approach, represented through the active participation in the entire product cycle: definition, development and marketing.

The joint venture collaboration expands from product creation into product marketing. All the players have to engage in marketing efforts and RMN exceeds in its participation.

RMN uses its influence and capacities for cultural lobbying and hosting events in cultural sites like the Louvre, leading to a very positive word of mouth even before the game is in the market.

The partners market capacity is also explored through their own sphere of influence and market distribution chains, contributing decisively for the game's success.

Ludo-cultural collection

The ludo-cultural collection started with "*Versailles*", an original idea for a reference title. Initially intended for the youth market, the collection user is far different. The mainstream, older and educated consumer it reached opened the games market to new audiences.

All the players think that the original concept is beginning to dry out. Explored up to its 7th title, strong themes miss and audience is becoming saturated.

The major criticism that I make to RMN is their lack of vision, as Ludo-cultural is considered as a product catalogue and not a new genre. Sticking to Historical Adventure product expansion seems like a lost opportunity. The Software Games universe is very rich and full of exciting genres like simulations, strategy, and so many others that could profit from true cultural contents.

Furthermore, the success example should make RMN more willing to take other chances. They have the cultural content, the internal organisation, the business models, the financial partners and a large community of inventive risk taking developers eager to succeed. To bad others are going to take advantage of it.

Ludo-cultural or Culturtainment: a new genre

RMN named its historical adventures with cultural content as the Ludo-cultural Collection, meaning cultural games. But Ludo-cultural, as the Ludo-cultural product model, is somewhat restrictive and can be very limitative.

I believe that we are facing a new genre that can and surely will be exploited beyond the existing model, leading to new uses of the concept of joining culture and games or even better using interactive entertainment for cultural purposes.

In this sense I want to introduce **Culturtainment**, as in entertainment (“amuses or interests and gives pleasure”) with cultural content, going beyond the original concept and freeing imagination to its future uses.

Culturtainment is also close related to another Leisure Software genre, edutainment (educational entertainment). Using a similar but different nomenclature can help genre identification and still separate in the consumers’ mind the final purpose of these products, to educate or to give sheer pleasure.

7 RECOMENDATIONS

I didn't want to finish without making some general recommendations drawn from this thesis that could help CH institutions interested in Culturtainment.

Cultural Heritage can be a major driver for Digital Content industry. On the other hand Multimedia poses itself as an extraordinary mean to Cultural Heritage dissemination, reaching new markets and audiences, complementing the traditional offer. Leisure software and above all Games are still underexplored markets for Cultural Heritage Contents and Cultural Heritage Institutions.

In my opinion, Cultural Heritage Institutions that want to succeed in this very competitive market should pay special attention to the following recommendations:

Surpass the notion that games and related software are not proper vehicles for cultural use and dissemination;

Join in intra-interests, inter-European groups, in order to increase cultural content offer, thus negotiation importance;

Reorganise business processes, in order to become more market driven;

Develop expertise in marketing and business promotion, in order to attract investment;

Organise projects through joint venture partnership business models, in order to gain from partners' experience;

Share costs, attract financial partners, especially Telcos and Media Groups that can add more than money;

Engage throughout the entire production cycle, participate actively in the marketing efforts, as these prove to be essential to the success;

And overall, be inventive and innovative, as newer opportunities are there to be explored in the dawn of Information Society.

APENDIX

I Bibliography

II Glossary

III RMN

Organizational Structure

List of Museums

MBA Contacts

IV Personal Interviews

Alain Le Bourvellaic, RMN

Beryl Chanteur, RMN

Françoise Lombardi, RMN

Heléne Tronc, RMN

Mattieu Saint-Dennis, Cryo

Michel Richard, RMN

Romane Sarfati, Cryo

VI Ludo-Cultural Games

Versailles 1685, a Game of Intrigue

Egypt 1156 B.C.: Tomb of the Pharaoh

China: Intrigue in the Forbidden City

Paris 1313, Le Disparu de Notre-Dame

Pompeii, the Legend of the Vesuvius

Louvre: The Final Curse

EGYPT II, the Heliopolis Prophecy

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The following **bibliography** refers to the list of all the books, documents, market studies and other data sources that have been directly used in the thesys.

Following, I also include a **research bibliography** consisting in a list of the books and other documentation sources that I access and study for the structuring, development and knowledge of the different subjects mentioned in the thesys.

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CORDIS <<http://www.cordis.lu/>>

CRYO <www.cryo.fr>

DATAMONITOR <www.Datamonitor.com>

ELSPA - EUROPEAN LEISURE SOFTWARE PUBLISHERS ASSOCIATION <<http://www.elspa.com/>>

EUR-LEX <<http://europa.eu.int/eur-lex/pt>>

EUROPA <<http://europa.eu.int/>>

EUROPEAN AUDIOVISUAL OBSERVATORY <<http://www.obs.coe.int/oea/en/index.htm>>

France Télécom <www.wanadoo.com>

ICAM <<http://www.icam.pt/>>

IDSA - INTERACTIVE DIGITAL SOFTWARE ASSOCIATION <<http://www.idsa.com/>>

INDEX <www.indexplus.fr>

INTERNATIONAL GAME DEVELOPERS ASSOCIATION <<http://www.igda.org/>>

INTERNATIONAL GAME DEVELOPERS NETWORK <<http://www.igdn.org/>>

MINISTÈRE DE LA CULTURE ET DE LA COMMUNICATION <www.culture.gouv.fr>

OECD <www.oecd.org>

RÉUNION DES MUSÉES NATIONAUX <www.rmn.fr>

SCREEN DIGEST <www.screendigest.com>

VASARI <<http://www.vasari.co.uk>>

WIPO - WORLD INTELLECTUAL PROPERTY ORGANIZATION <<http://www.wipo.org/>>

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CULTIVATE INTERACTIVE <<http://www.cultivate-int.org/>>

LE MONDE INTERACTIF <<http://interactif.lemonde.fr/>>

GAME DEVELOPER MAGAZINE <<http://www.gdmag.com/>>

WIRED <www.wired.com>

TIME <www.time.com>

ECULTURE, <digicult@cec.eu.int>

Video Game resources (selected)

Gamasutra - The Art & Science of Making Games <[HTTP://WWW.GAMASUTRA.COM/](http://www.gamasutra.com/)>

Game Archeologies <[HTTP://WWW.UTA.FI/~TLAKJA/GA/](http://www.uta.fi/~tlakja/GA/)>

GAMES BIZ <[WWW.GAMESBIZ.NET](http://www.gamesbiz.net)>

GAMES INVESTOR <[WWW.GAMESINVESTOR.CO.UK](http://www.gamesinvestor.co.uk)>

Games, Gamers and Gaming Culture <[HTTP://WWW.KNOWLEDGE.HUT.FI/](http://www.knowledge.hut.fi/)>

Video Game Library <[WWW.ERASMAZZ.COM](http://www.erasmazz.com)>

II. Glossary

AAA Game - a popular game.

Cutscenes- periods of dramatic development that intersect the action sequences in a game. They are rendered in still pictures or video and are usually accompanied by some type of dialogue. In most action games, cutscenes serve as the only form of plot progression.

Engine- the main program that controls all of the game's functions, from calculating collision, physics, and the position of onscreen objects, to receiving input from the player and outputting sounds at the right volume. The engine ties everything in the game together and causes it all to happen.

Game Designer- is responsible for the overall concept and feel of the game. They decide the mission, theme, and rules of play.

Developer – a person or company who develops games.

Gameplay - the important and hopefully entertaining interactions between a player and the game world.

Latency-In online multiplayer games, latency describes the amount of time it takes data to be sent from the player's machine to the server and back again. Measured in milliseconds, latency is typically the amount of delay the player will encounter between the press of a button and the resulting action onscreen. For instance, if a player's latency is 100 milliseconds, and the player fires a weapon, the weapon won't register as having been fired in the gameworld until one tenth of a second after the button has been pressed.

Level designers – they work with artists and programmers to lay out smaller sections of the game.

Level - also known as "stage" or less commonly "board," a level is one self-contained, consistently themed area of a game.

Linearity - sequential order of events or levels. Linearity is directly related to interactivity. A movie is linear, it has a beginning middle and an end. Generally a movie is only viewed in its linear order. This makes it non-interactive. In most games a story is intended and some linearity is needed. This allows plot to be added to the game.

Multiplayer - mode of gameplay involving two or more players. Multiplayer can be carried out with multiple people playing on the same system or over the Internet. Almost all competitive games include a multiplayer option. *See single player.*

Non-Linearity - Linearity is sequential action. A movie is linear. Non-linearity designs allow players to face levels or challenges in a game.

Perspective –position of the camera relative to the player's character. *First-person perspective* denotes a view from the character's own eyes, while *third-person perspective* refers to a camera position somewhere outside the character, usually floating behind the character.

Perspective- position of the camera relative to the player' character. First-person perspective denotes a view from the character's own eyes, while third-person perspective refers to a camera position somewhere outside the character, usually floating behind the character.

Plot - an element all too often missing from video games, the plot ties events together into a coherent story.

Power-up - an item in a game that grants the player temporary powers. Power-ups can enhance a character's weaponry, strength, speed, life, or a variety of other attributes but is usually removed either after a set amount of time or when the character dies.

Prerendered - graphics that are calculated for game scenes that are too complex for the game system to handle in real time. The scenes are constructed on far more powerful computers and then are saved in a format the game system can use. Although they may look better than the best graphics the system is capable of producing on the fly, the looks are at the expense of freedom. *See real time.*

Producer - Someone who coordinates and supervises a game's development.

Publisher - Anybody who markets games.

Real time - When a game is referred to as being in "real time," the system is calculating everything in the gameworld piece by piece, as it happens. The term is especially applicable to graphics. When the graphics are being produced in real time, the player can move around them with complete control. Any game that allows 3D freedom of movement is calculated in real time; Super Mario 64 is a fine example. *See prerendered.*

Scenarist (writer-designers) – a person who writes game text and dialogues.

Single player - The mode in a game meant to be played alone by one player. *See multiplayer.*

Storyline -The setting for the game, including such things as an introduction to the characters, their location, and the reason they do what they do.

Transition -The sequence between levels, often consisting of storyline development, special effects, or cinematics.

Omni 3Dtm : It's an utilitaire like " QuickTime VR ", that allows visualising a rendering plenoptic of images created by 3D Studio.

Omni Synctm: It's an utilitaire of precalculated lipsync, developed in order to simplify and reduce the games cost localisation.

Milia - International market of interactive programs.

III. RMN

Organizational Structure

List of Museums

MBA Contacts

Réunion des Musées Nationaux
49, rue Etienne-Marcel
75001 Paris

Attention:

Mr. David Strepenne
Responsable commercial/multimedia sales manager

Lisbon, 21st September, 2000

Dear Sir,

My name is Beatriz Vieira da Silva and I'm a teacher in the Department of Communication Design at the Faculty of Fine Art of the Lisbon University.

I'm currently taking my master degree, *EMMABA – European Master in Multimedia and Audiovisual Administration*, an initiative set up with the backing of the European Union's MEDIA II European programme, in partnership with five European University Centres: the University of Metz (France), the New University of Lisbon (Portugal), the Lapland University and the Kemi-Tornio Polytechnic (Finland), the University of Athens (Greece), the University Paris 8 (France) and the Centre of Applied Industrial Design (Greece).

For my MBA thesis, which carries the title "*The European play of culture - bringing edutainment into cultural multimedia projects*", I've proposed to analyse the multimedia initiatives from the "Réunion des Musées Nationaux", or "RMN", in the category of *edutainment*. Attached to this document I'm sending the thesis proposal so that you can evaluate the general intentions of my study.

I would rather appreciate your collaboration, regarding information that I can use in my thesis. The kind of information that I am expecting to learn from you is:

- Background on the creation of the Videogames catalogue: driving force, concepts, etc.
- Experience: successes, failures, learned errors, etc;
- Partnerships: who, why, what RMN expects from them, etc;
- Future: strategies, tendencies, ideas,

I could also use market information, like market studies, projects financial and sales figures, etc.
Any kind of information would be much helpful, even existing public domain written material.

Can you please help with this?

I am running short on time, so I need a fast response. If necessary I can travel to Paris for a meeting.

Needless to say that all the information you provide will be used strictly for academic purposes, and I'll be honoured to send a copy of the final work to RMN.

Also, if any references or additional information is needed, please feel free to contact me or my Supervisor.

Sincerely yours,

Beatriz Vieira da Silva

Contacts:

e-mail: vieiradasilva@mac.com

Tel. +351 21 758 32 50
mobile. + 351 93 6264620



UNIVERSIDADE DE LISBOA
FACULDADE DE BELAS-ARTES

Largo da Academia de Belas Artes
1200 Lisboa / Tel. 346 61 48 / Fax 342 76 35

Direction des Musées de France
6, Rue des Pyramides
Paris

Attention:

Mrs Françoise Cachin
Directrice

Dear Madam

My name is Beatriz Vieira da Silva and I'm a teacher in the Department of Communication Design at the Faculty of Fine Art of the Lisbon University.

I'm currently taking my master degree, *EMMABA - European Master in Multimedia and Audiovisual Administration*, an initiative set up with the backing of the European Union's MEDIA II European programme, in partnership with five European University Centres: the University of Metz (France), the New University of Lisbon (Portugal), the Lapland University and the Kemi-Tornio Polytechnic (Finland), the University of Athens (Greece), the University Paris (France) and the Centre of Applied Industrial Design (Greece).

For my MBA thesis, which carries the title "*The European play of culture - bringing edutainment into cultural multimedia projects*", I've proposed to analyse the multimedia initiatives from the "Réunion des Musées Nationaux", or "RMN", in the category of *edutainment*. Attached to this document I'm sending the thesis proposal so that you can evaluate the general intentions of my study.

After several attempts to contact a superior responsible from RNM, I've finally got a positive in answer last September, when I was promised some of the information I need.

I'm extremely concerned because time has passed without any further developments, inspite my repetitive efforts. At this point I still have no information and furthermore no perspective of getting it, as my contact in RNM doesn't answer my phone calls anymore.

I've struggled hard to defend such a thesis, as I find the French cultural multimedia initiative to be an example to follow. I also believe this kind of approach can set an example in European collaboration in the spirit of the Media II program, leading to real opportunities within the European Multimedia market.

I was aware of the possible difficulties I could face, but nevertheless the effort would be worthwhile.

Unfortunately my opinion is changing and I am now facing the risk of not being able to complete my Master Degree due to the timeframes expected.

Can you please help me !!!???

The kind of information that I am expecting to learn is:

Background on the creation of the Videogames catalogue: driving force, concepts, etc.

Experience: successes, failures, learned errors, etc;

Partnerships: who, why, what RMN expects from them, etc;

Future: strategies, tendencies, ideas,

I could also use market information, like market studies, projects financial and sales figures, etc. Any kind of information would be much helpful, even existing public domain written material.

I'm desperate and certainly didn't expect the French RMN to treat me with such an indifference.

If you feel a positive feedback is possible, contact me through the following:

Faculdade de Belas-Artes Universidade de Lisboa
Largo da Academia de Belas-Artes
1249-051 Lisboa

tel. + 351 93 626 46 20

tel. + 351 21 346 61 49

fax + 351 21 342 76 35

Sincerely yours,

Beatriz Vieira da Silva

Lisboa, November 3, 2000

Lisbonne, le 21 novembre 2000

Direction des Musées de France

Fax n° 00 331 40153625

Mme. Françoise Cachin,

Je vous écris en tant qu'orientateur de la thèse de fin de MBA de Mme. Beatriz Vieira da Silva, qui termine en ce moment son EMMBA – *European Master in Multimedia and Audiovisual Administration*, à l'U.N.L. (Université Nouvelle de Lisbonne), une université d'État associée à ce programme du Media II (actuel Media Plus) européen, et dans lequel participent aussi l'Université de Metz, l'Université de Paris 8, la Lapland University et l'Institut Kemi-Tornio (Finlande), l'Université d'Athènes et le Centre (grec) de Design Industriel Appliqué.

Mme. Vieira da Silva, elle-même professeur à la Faculté des Beaux Arts de Lisbonne, travaille sur le thème *The European play of Culture – bringing edutainment into cultural multimedia projects*, et s'est proposée analyser, comme *case study*, les initiatives multimedia de la Réunion des Musées Nationaux (RMN) de France dans le cadre de l'*edutainment*. Pour mener à bien son projet de travail, elle a besoin d'un contact bienveillant et efficace de la part de RMN, un contact qui puisse lui faciliter les informations dont elle a besoin pour sa thèse de MBA.

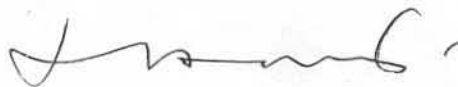
Les autorités portugaises qui encadrent la recherche et la publication de travaux universitaires sur l'audiovisuel et le multimedia européens tiennent très à cœur que ces recherches puissent aboutir, et qu'elles puissent participer à l'étude et à la discussion stratégique des politiques européennes concernant ce secteur. Bien sûr, la thèse de Mme. Vieira da Silva n'aura pas la projection d'une réflexion "nationale" ou "européenne" sur son domaine de recherches, mais elle peut devenir un instrument de formation très important au Portugal, où le secteur multimedia fait, si l'on peut dire, ces premiers pas. Sa recherche est également intéressante dans le cadre de la réflexion que les pays de l'Europe du Sud mènent, tant mal que bien, sur leur rôle et leur capacité d'intervention dans le domaine des contenus culturels dans un environnement multimédiatique.

Je suppose que vous n'aurez pas, personnellement, la disponibilité nécessaire pour répondre à la sollicitation d'un jeune chercheur qui s'adresse à RMN pour lui demander des informations sur les initiatives multimedia de l'institution. Mais peut-être pourriez-vous désigner quelqu'un à qui Mme. Vieira da Silva pourrait adresser ses questions, et qui pourrait maintenir avec elle le contact institutionnel dont sa recherche a besoin. Le Portugal a été, jusqu'hier encore, un pays où le français était la deuxième langue nationale, et notre liaison à la culture française est encore forte. C'est normal qu'un chercheur portugais qui choisit comme thème de son travail l'activité d'une institution française prestigieuse, et qui jouit d'une projection européenne indiscutable, espère trouver, auprès de cette institution, l'appui – il s'agit uniquement d'informations utiles – qui lui permettent de mener à bien son entreprise.

Je vous transmets les données et le contact de Mme. Vieira da Silva, au cas où il vous est possible de trouver quelqu'un qui puisse, en contact avec elle, représenter RMN en matière de multimedia:

Dra. Beatriz Vieira da Silva,
Faculdade de Belas-Artes, Universidade de Lisboa
Largo da Academia de Belas-Artes
1249-051 LISBONNE PORTUGAL
tel. + 351 93 626 46 20
tel. + 351 21 346 61 48
fax + 351 21 342 76 35

Merci infiniment,



Docteur João Maria Mendes, professeur associé à Université Autonome de Lisbonne,
enseignant au EMMBA à l'UNL

IV. Personal Interviews

Alain Le Bourvellaic, RMN

Beryl Chanteur, RMN

Françoise Lombardi, RMN

Helène Tronc, RMN

Mattieu Saint-Dennis, Cryo

Michel Richard, RMN

Romane Sarfati, Cryo

Also e-mail interviews with:

Marie-Christine Vaz, FT Multimedia

Alain Le Bourvellaic

14/ 15 December 2000

Head Manager

*Réunion des Musées Nationaux
Department of Research and Development*

The following notes were taken during the reunions with Mr. Le Bourvellaic. The interview model was not accepted.

Direction des Musées de France (RMF) – represents the national museums of France (10.000 people).
Intervention at the scientific level.

Réunion des Musées Nationaux : cultural public service and the edition and commerce of cultural services and products.

In the field of cultural communication, the RMN has to harmonise the public service with market forces.

General description

Funds provenience: donations, buildings, actions, and money.

Receives directly all economic the resources from French museums (e.g. ticketing from museums).

Production of catalogues, books (since 1993, co-production in TV movies).
Since 1995, co-production in multimedia.

The RMN was the first French art editor

Commercial issues

Exhibitions

The exhibitions are a commercial product that brings benefits. An important role for the RMN is to bring people into the museums, a work done in collaboration with the museums themselves.

The RMN manages 30 exhibitions a year, ensuring partnerships with French museums. The curator controls the editions, the themes, but not the money.

Products

The RMN has always carried commercial activities (calcographic and replica workshops of the Louvre). In 1793 was the created the sculptures replica workshop, reactivated by the RMN in 1971. They also have the calcographic workshop (since Coultbert).

They are entrepreneurs, opening commercial outlets (boutiques and bookshops) which provide an important turnover. They manage 30 boutiques in 34 museums. To this own network is added various independent shops in France, and worldwide:

Distribution partners:

Foreign distributors: Japan (Fudji distribution network), Italy (Allemandie - art editor).
French book distributor - Le Souil.

Publishers

Exhibition catalogues- the RMN was the first French publisher of art.

In the 30's: publication of postcards guides and catalogues for permanent national museum collections and temporary exhibitions.

The RMN publishes 150 books a year. Although they have the means (human resources, cultural content, and knowledge) they don't overcome this book-publishing amount, in order not being accused unfair competition (Cultural Ministry policy).

They compete with other French editors:

Flamarion (independent editor: Group Valentino, Corrieri de la Sera)

Edition du Seuil

Gallimard – groupe/ editions Gallimar

Editions Jean Michel Place

They also provide two catalogue services: mail-order sales and electronic sales.

Turnover: 400M francs in ticketing, 500M francs in editorial production.

Multimedia Department

Their role is to have money and make profitable multimedia products.

Except the director, all the people working at the RMN has private contracts.

1. They work in autonomy (trust in people). This system only works because the RMN has enormous resources. It's a centralised structure that manages the Louvre, Orsay, Versailles.

The RMN it's a networked structure. The museums that want to live by it's own don't have any chance in being editors. This happens in France, Italy, Spain, Portugal, USA...

2. In the RMN all the projects are deemed to be profitable. They have a good work school and act very fast.

Functions for the future, regarding multimedia

Fight piracy

Defend the interest of profession and of art editor.

Diminish the multimedia VAT tax, because is too high (books are taxed at 5%)

Access to a distribution panel. They are asking a market study, in order to act properly over the sales mail orders market. Today they already receive a market study over the multimedia market tendencies (GFK-weekly TOP 100 sales of software, France) this allows improving their score as multimedia publishers.

They are in a process of competence: culture is commerce product.

The museums compete with other related leisure activities, as Opera, cinema, theatre...

Also other private multimedia publishers (French, Italian, English) can make a CD product about the Louvre. The RMN must identify its market competitors.

Multimedia market analysis (GFK) – evolution, price, distribution. They access to this market study in order to clarify which are the best products.

Games are the best multimedia category. The culture category is in regression, as the lifestyle evolution favours games and practical life.

For the RMN multimedia is not an obsession: it's just one of the new technologies available in order to deliver a cultural product to the public.

Why did the RMN succeed in the multimedia market?

They had in hands the Microsoft dossier, and then there was a reaction against them (1991/1993). Montparnasse Multimédia replaced the association.

I. 1995 was the year that France discovers the Multimedia. It was the year that the RMN releases the Louvre.

With a contract copied from the audiovisual world, they received money in advance (Beterlsman-worldwide; Fudji-japan).

II. Video game creation

Ludo-cultural category. Games that evoke famous historical, cultural sites: Versailles, China, Egypt. The RMN develops associations with developers, partnerships with private entities. In *Versailles* game they were exploring a formula. From 4.000 unit sell expectation, it reached 300.000 (France and worldwide).

Two product ranges are the nsustain of the Multimedia Department: Louvre and Ludo-cultural collection.

The strategy: to multiply the private partnerships, never depend in only one partner. To work by title.

These co-productions, in the financial level, are very difficult to manage.

RMN (publisher)

Industry:

Images games, curator, and scientific validation.

Ensures also financial partner.

Gallimar (co-publisher)

Images, multimedia author (scenarist), money (if necessary)

Distribution of benefits/risks: 50%/50%

At the technical level, the production is delegated to the co-publisher.

Multimedia Production investments:

1995/1996

1M 300.000 Francs - Louvre

3Mfrancs – Versailles

2000

Reference title – 1.5 M francs

Game 5-10 M francs

The multimedia titles are produced according to the content notoriety:

1. Museum, Artist
2. Historical period
3. Country
4. Historical Character

Ludo-cultural collection:

The model proposes to recreate famous sites, in a history that evokes a famous theme, a cultural archetypal.

In Versailles, the public enters in a Versailles that no longer exists. In Paris 1313 we presented a coloured Notre Dame façade. In Egypt 1313, the curator/author intervention was to ensure that historical errors were avoided. Pompeii was the most successful scientific intervention. We engage private Pompeii's consultants into the project. In Louvre, the last course, the game appeals to imagination. The set is only feasible, as there are no document form that time, and the history has nothing to do with the reality.

Our most difficult task is to engage scientific consultants, curators into these projects.

It's also difficult to have young game designers (scenarist) that want to make cultural games.

The collection has scenery weakness. The stories have to be stronger in order to make the public return. The biggest problem in this team effort is that the museum curators or specialist are not interested on working in this kind of projects.

 Romane Sarfati

12 December 2000

 Producer of Historical Adventure Collection

Cryo Interactive Entertainment

1. *A partnership model has been assumed between RMN, France Telecom and Cryo Interactive for the development of a new product: the cultural game. What is the paper of each partner? What are the specific competencies that each one brings to the project?*

Each partner as very precise competencies, as follow:

Cryo: Conception/development, distribution, and merchandising.

The RMN ensures the historical direction and cultural validation of the product. They also provide photographs, documents, and scientific consultants (usually a museum curator). Another important contribution is the Intellectual Property Rights.

The Canal+ Multimedia/France Telecom is essentially financial partner: they put money into the project. Another contributions are publicity and the development of games site.

2. *The success of "Versailles" has been followed by the yearly release of other titles: e.g. Egypt (1997), China (1998), and Pompeii (1999). Was a catalogue strategy assumed since the beginning?*

Not at all. It happened that we developed Versailles and then it was just "wait and see".

3. *Within the game industry the Intellectual Property Rights (IPR) issues are strategic (e.g. spin-offs and sequels). Who owns the IPR for the games?*

They are split in proportion with the number of producers.

4. *The concept of "cultural games" is created due to a market analysis or sustained by other kind of previous evaluation/research?*

None of the above. At the Time the RMN made an "appel d'offre" in order to develop a multimedia CD about Versailles. Cryo proposal is to make a game. We won because we had the OMNI 3D technology.

5. *Do you consider that the cultural game is perceived/placed as a multimedia product or rather a game product?*

It depends on the countries. In France is clearly perceived has a game, as well as in Germany. In the UK it doesn't work the same way: they are considered multimedia products. The same happens in the States.

6. *How to you classify these games according to its typology (adventure, role-playing, action, strategy, etc...)?...*

They are clearly developed as adventure games.

7. *Should it be classified as an edutainment product?*

Not at all. To educate is very different to sensibilize. These games don't want to educate anybody.

8. *What is the primary audience/target (youth, young adults?) Have you any sales data related to the consumer profile?*

I think that it's public it's between 25-40. These are very specific figures, that I'm not sure. You will have to check with Mattieu (Cryo's marketing director). Maybe 50/50 male and women?

9. *Although a base model concept for the games can be identified (e.g. the player is an avatar that must solve a mystery/crime) we can state that a cinematography approach has been taken since "China", with the dialogues between the characters. What are the main tendencies, strategies that you have followed to improve the user experience?*

The product has evolved in terms of technology. We must improve the story (scenery) and the player immersion, besides working the cultural dimension. The CRYO's technology has improved with Cryogen™, the new games motor that allows the pre-rendered. It's far more complicated technology, but also more immersive. (See annexe 3D Technology).

 Mattieu Saint-Dennis

13 December 2000

Marketing Brand Manager

Cryo Interactive Entertainment

1. What are the specific competencies that each partners brings to the project?

Cryo brings the technology and graphic know-how. The RMN the cultural expertise, they control the game. They also have an excellent press cabinet. The France Telecom and Canal+ Multimedia brings pure co-production.

2. Which are the different channels of distribution used? What is the specific weight of each one of them? The sales made by e-commerce are already relevant?

The distribution sales are generally as follow: RMN (13-15%), CRYO (85%), Financial Partners (0-2%). Regarding the selling sites:

e-commerce	5%
Mail order	5%
General Stores	90%
Specialised stores	10%
Department Stores*	45%
Hypermarkets	45%

Also the distributor margins are between 25% - 35%.

3. In the last three games ("Pompeii", "Paris 1313", "Louvre, la malediction") specific web sites have been created to support the release of the product. How do you perceive the importance of this new channel?

The game's web sites are important due to the press media. In we put important information for the journalists, as details on the story, characters, main features, and also make available downloads of images of the games.

4. What has been the sales performance/evolution for each title?

Year	Title	Sales	
		France	Rest of Europe
1996	Versailles	180.000	320.000
1997	Egypt	200.000	350.000
1998	China	60.000	150.000
2000	Pompeii	30.000	90.000
2000	Egypt II	50.000	130.000

5. What do you consider that is the main strength/weakness of the product?

The major strengths are: accessibility, the RMN, adult placement, added value –the adults don't want to loose time.

The weaknesses: the are Half game/Half culture. They are also Repetitive. Also should be more amusing.

6. What are the marketing mechanisms used? What is the average marketing investment?

In terms of marketing, only for the French and German market, we invest between 1M-1, 5M francs. And then we sum 500.000 francs for rest of Europe.

The marketing actions are structured in the following main actions: Press Contacts (the stronger), Direct mailing (clients database) and Stores (facing negotiations).

The most important it's the press: the newspapers love to talk about a cultural game, as it's a more intelligent game. The "actions of hype" are very important for others developers, not to us. Some editors talk about the product 9 months before its release, like in Jurassic Park. Cryo's objective, by the contrary, is that the newspapers (e.g. *Le Monde*) talk about the cultural game three weeks prior to its release.

7. *Do you think that it's a game or an edutainment product?*

It's a clearly a game that has an added value, because you can learn. That's the way that it's perceived in markets like the French, German and English.

8. *What is the primary audience/target for these games?*

They are all occasional gamers, thereby the game must have a very clear concept, and it can not be a mix. Five years ago, when the collection appeared it had 20% of casual gamers and 80% of hardcore gamers. Today the relation is of 80% casual gamers and 20% hardcore gamers.

This is the profile of the French player, which is very close to the German player. It's not so certain to the rest of Europe, as we are talking about a very fragmented market.

9. *And the gamers demographics for this collection?*

Their age is between 25-40 years old. If we consider the buyers, only 18% are women. However, in the gamer's universe, 40 to 45% are women.

They are very loyal consumers: 80% have two titles of the collection. 40% have 3 titles.

They don't pirate, also aren't searching for the last technological advances and don't even lend the games. Regarding the education, they have a high socio-economical level. Either buys the product as a gift or to instruct themselves.

10. *The games catalogue has taken in account different platforms (PC, MAC, and Console). What is the weight of each one of them? Can you devise a technical strategy for the future?*

PC - 65%, Console- 25%, Mac- 8%, DVD- 2%

11. *Which is the actual average investment each game, considering the development, marketing and distribution phases?*

The investment in production is around 5/5.5 M francs. In marketing 1 M/ 1.5 M.

12. *What is the historical adventure game life cycle? Is it very different from other games in the market? Can you confirm me this?*

The life cycle is about 5 years (according to its success this number can be higher or lower)

It depends also on its release date (its different if game release in December or January)

In general terms it's 40%, then 25, 15, 5, 5 etc. in volume sales.

In terms of value (turnover) it's 50% then 30%, and then variable. The sale price lows with the life cycle.

Therefore, this life cycle is very different from the existing games genres in the market, that generally make 75% of sales in the first year. The historical adventure game price also reduces much more slowly.

 Françoise Lombardi

15 December 2000

 Manager, Project Leader - Louvre DVD-ROM

 Réunion des Musées Nationaux
 Multimedia Department

1. *What is the concept of the DVD Louvre?*

It's a product addressed to the general public, using the "recites" narration model. Here the narration is used as a classic audio-visual support. Regarding the content it provides a virtual visit to the collections. It also has a database with the history of Louvre and the History of civilisations.

2. *What are the mains differences regarding the other reference products?*

Regarding the content organisation, we have found out that complex trees don't work for the general public. In the CD of the Impressionists (Orsay CD-ROM) we have putted in first the search engine and only after the virtual visit. Now we invert the structure order, in order to attract the general public.

3. *Can you give me details about this title, in terms of production?*

We needed 3 years to launch the DVD and 4 co-producers, for a budget of 6/7 M francs.

4. *Do you think that regarding for the temporary exhibitions, you can develop CD-ROM exploring the virtual visits model?*

Not at all. The timings are too tight: it's impossible to develop a CD-ROM for a temporary exhibition. The curators only conclude the work in the last minutes prior to the opening. It's both a question of timing and availability, as they are not willing (or don't have time) to collaborate in such a multimedia project.

5. *How do you see the Louvre based Multimedia productions?*

The "Louvre" product is dry out. We have launched the DVD-ROM version because we wanted to take the opportunity to be the firsts of having a cultural product in the DVD-ROM market.

6. *And your edutainment titles?*

Some years ago we had the CD-ROM "Cirque avec Seurat". It didn't work out because it had a children target and, at the same time, very sophisticated graphics. Now we have re-published the title in a new box: we are trying to appeal the adult target. The question is that nobody knows the name "Seurat": it name isn't a "brand" name.

Regarding the game Artus, children just run away. First of all, the character doesn't work very well (it's a mouse). And the children don't even explore the CD-ROM they go directly to the game.

 Michel Richard

15 December 2000

Head Manager

*Réunion des Musées Nationaux
Multimedia Department*

1. *You have built a catalogue of over 50 multimedia titles, exploring different product genres. What is your strategy regarding the interpretation the resource that you have available for multimedia productions?*

The multimedia department strategy is always to take in account how the cultural content works not the technological support of the product. The technological support is decided in a second stage. Louvre, Orsay, Versailles are brands, so they work well in multimedia products. If we take in account the other French national museums, the audiences are too short. The public for other museums is too short.

2. *How does the department set game partnerships?*

It is very important to understand the savoir-faire that partner can provide to the products. It was a logic of invitation tender that we adopted since the beginning, achieving good results due to the RMN' product control. It would be good to reassume this procedure again. However, there are not so many possible partners in France. It is very important to diversify the partners in order to avoid dependencies. For example, when Cryo started to work with us, in the Versailles game, the company was still a very small developer. It was also due to the success of this product that the company started to grow, getting a stronger position as partner. It was the same situation with Index, another game developer/publisher partner. And even in the reference sector, our partnership with Montparnasse Multimedia is following the same way.

3. *What are the strongest products, those who are commercially successful?*

The games of the ludo-cultural collection, the Virtual Visits and the Louvre CD-ROM, DVD-ROM. However, the theme Louvre is "au but the la demarche", after three versions in CD-ROM and a Version in DVD.

4. *And the Ludo cultural-collection?*

It follows the Versailles concept: to create an adventure game with historical/cultural connotation. After the release of the three first titles are starting to have the same problems that we had with the Louvre productions, because the feel that we are running out of themes. It's not a question of quality of content, but archetypes that grab people imagination. What are the themes we can explore, after Jerusalem (the next title)?

5. *What is the collection target?*

It's a family public that buys these products, not the hardcore gamers.

There has been an evolution in the investments for production?

In 1996 Versailles had a cost of 3 million francs. In 2000, the games already cost 5M francs.

6. *These games are an RMN collection or a Cryo/Index collection?*

That's a very good question. Our intervention in the video game sector is the far away the most complex to the RMN, due to the partnerships that are very complex. Our partners have a savoir- that we lack, in terms of production, technology and distribution. Our role is to bring scientific criteria/validation

and they originate conflicts to the product. Therefore, each production has to be a "bon compromise". At the end, we have the feeling that the product gets out of our control: our partners don't mention us at the foreign markets. We can say that the public hasn't the notion that this is also a RMN collection, but a game publisher collection.

7. *You have now been releasing two game titles a year. Are you increasing your game production?*

We respond to the market characteristics. There are two fundamental timings for releasing a CD-ROM production. First of all the September month, as Christmas it's the strongest time of the years in terms of sales. Then we have also the Millia Festival, which brings much publicity and visibility due to media coverage. Then we have to launch the product, as soon as possible.

8. *Do you think that is a profitable collection?*

Not all the titles have been profitable. The break-even for each product is at least in 100.000 units. This means that most of the time it's the foreign audiences that pay the games. The product lifetime also causes us problems. After two years of being released the product sale price is reduced, and the same happens three years after. This reflects in our volume sale but not in the turnover. Therefore, there are two important factors for success: time and foreign market sales. We try to implement a policy of not reducing the product price, as it may imply the perception that it loses cultural value.

With Forbidden City we have lost money. We think that it wasn't a strong theme, a strong archetypal. Once again, we need 2/3 years to get money back and at least 100.000 units to pay the product. However we don't function exclusively in profit logic.

9. *How do you characterise the collection evolution?*

In terms of product we note an evolution in the graphical quality of the product, however also the game scenery is getting feeble, in terms of story. We sometimes get the feeling that the characters only move in empty scenery, they are only walking characters.

 Beryl Chanteur

15 December 2000

 Manager / "Pompeii" Game scenarist

*Réunion des Musées Nationaux
Multimedia Department*

1. *What are the main constraints when developing the ludo-cultural games?*

Games with a mix of different genres are not friendly to a casual user. We can not have develop games were people must consult texts in order to advance. This would mean to stop playing and start reading. The game publishers don't allow this kind of approach.

2. *What was your methodology to develop the game story?*

To develop the game story I had to spend three months on libraries studding the subject. For the development of the fictional plot I had several historical restrictions as the volcano explosion, which took place in only four days, and the historical truth, as I could never save the villa.

3. *What were the main problems that you had to face, as game scenarist, when working with cultural specialists?*

As I was developing the story, its plot was constantly being altered by the supervision of the historical specialists. For example, it wasn't possible to save Pompidious, the noble that hosts the hero. His death was then justified has a matter of honor.

4. *What is the evolution regarding the collection previous titles?*

We must work under budget restrictions. We can not develop several open ending because is too expensive. We tried to improve the gameplay, by trying to break the story linearity. Between day one and day two the characters have to accomplish a series of tasks. It helped us a lot having already the images form the villa (this was done by the infographists). Then we developed a networked structure, that is in order to reach the next level, the players has to perform several tasks, but the order to do so is free.

5. *The partnership model causes problems/conflict to the game production?*

We had to change the story three times, due to the scientific supervision. In the middle of the project the developer changed the technology: this affected the quality of the product, as there was no time and budget for putting movement in the leaps of characters as they speak. Due to all this problems, we also had no budget to work the product sound, in order that the music meshed in a richer form with setting and plot. The solution was to buy small excerpts of music, free of forfait, from a soundbank.

6. *How do you think that the games should be in the future?*

We have three main defies: game must develop towards non-linearity, they must have display a hybrid structure (mix genre styles) and also an evolution in terms of graphic display. The last question poses an issue in terms of tehcnology: should we explore 3D thecnology or pre-rendered?

Helene Tronc

15 December 2000

Manager Museum sites

*Réunion des Musées Nationaux
Multimedia Department*

The RMN role is to make the global management of the project, which is financed both by the RMN and the Réunion des Musées de France. The project objective is to ensure an international presence of French museums on the internet.

The players involved in the process are:

1. Museums – they provide a list of content resources (images and text) then, with the help of the RMN, the information structure is defined.
2. WEB Developers (*mosquitoweb*) They define the visual line of the site, which is different for each museum. The service is provided always by the same company.
3. Site Hosts (*Reef*) – besides the site allocation, they develop a software application that allows the museum to do the site actualization.

V. Ludo-Cultural Games

Versailles 1885, a Game of Intrigue
Egypt 1156 B.C.: Tomb of the Pharaoh
China: Intrigue in the Forbidden City
Paris 1313, Le Disparu de Notre-Dame
Pompeii, the Legend of the Vesuvius
Louvre: The Final Curse
EGYPT II, the Heliopolis Prophecy



Versailles, intrigue at the Court of Louis XIV

A mad bomber is on the loose in Versailles, threatening to burn down the palace and kill the king, Louis the XIV, in the explosion. As Lalande, the king's valet, you're entrusted with a deadly pamphlet that has surfaced the evil plot. Bontemps, the king's most advisor has commissioned you to find out who's behind the conspiracy, but be aware: you only have a day to do so!

Versailles brings you straightforward linear adventure game in a story broken up into a serie of seven acts. Each act is self-contained, and Lalande must perform actions in pre-determined sequence in order to advance in story. You'll advance not only in story but as well in space, as each act also "opens" you new doors in palace. A map built in the interface will help you to find your way. As you move

around the palace, you'll see rooms filled with works of art, murals, furniture, and chandeliers as they were at the time of the *Roi Soleil*. Spot every place in detail with the 360 degrees panoramic view, as you'll close up into great art works, as well find some hidden clues. While working your way, the cursor will change into different icons helping you to pick up objects into your inventory, talk with people and

listen to conversations, as it seems that many people in the Court has reasons to plot against the king. You'll soon find out that opera is out of favour, as it doesn't make the queen's mood. Even so, you still can enjoy the magnificent baroque soundtrack that tunes the game. Many of the characters and items that you'll find in *Versailles* offer you the opportunity to access historic information about them. Doing so,



and during gaming, you'll be entering in the *Documentation Zone*, a reference database with maps, plans and over 180 information sheets, containing a short text, a captioned image and hypertext links. If you want to take a break gaming, *Versailles* still offers two independent access modes: the *Documentation Zone* and the *Virtual Visit*. The former allows you to take a free visit inside the palace in 3D pre-rendered

environment with hemispheric view, were you can have a detailed view of over 200 paintings (also available in the game itself). Objects and characters in this environment also give access to the *Documentation Zone*.





Egypt 1156 B.C.: Tomb of the Pharaoh

It's the year 29th of the Reign of Ramses III and the tomb of the pharaoh Sethi I has been desecrated and looted. You play Ramose, a young Egyptian man whose father has been wrongly accused from the crime. Assigned with an encoded message to decipher, you'll only have three days to reveal the real thief and avoid your parent's execution.

Egypt 1156 B.C. is a linear/hierarchical adventure game in a story broken up in 6 acts. Each act is self-contained and placed in different locations, such as the Tomb of the Pharaoh Seti I, the Temple of Ramses II, the village of Deir el Mehdeh and Domain of Amon-Re, realistic

represented in a full 360-degree panorama. The gameplay is first person point-and-click with third person action and transition cutscenes, in a story that evolves in branch tree of actions as talking, puzzle solving and manipulating objects both in and out your inventory.

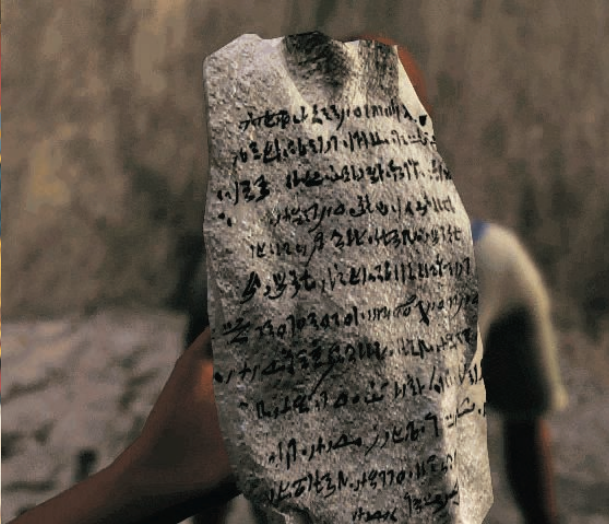
As you try to disclose the cryptic message you'll have to explore the environments helped by a mouse controlled cursor that indicates hotspots in order to collect clues and objects, talk with characters in multioption dialogues which are played as cut scenes. Attention is needed has a wrong

choices can end the game.

Egypt 1156 BC offers three access modes: Game, Documentation Zone and Visit Zone. The Doc. Zone is a reference database organised by themes, with over 180 information sheets containing a short text, captioned image and hypertext links, which cover architectural, social, political and religious subjects from the Ancient Egypt civilisation. In the Visit Mode you can explore the game's location, as well as get information on objects and places by being redirected to the Doc Zone texts.

The game uses motions capture with OmniSync™ voice control when talking with characters.

How is your investigation coming along, Ramose?





China: Forbidden City

A day rises in the year 1775. A highly ranked eunuch has been killed in the Forbidden City and the Emperor Qialong himself has assigned you to investigate the murder. As Superintendent Hang Ying, you'll only have until sundown to proceed the investigation reporting back and learn what to do, as you'll find a new clue or corpse.

China: Forbidden City it's a linear adventure game where the player has to perform actions in a predetermined sequence in order to advance in story.

The gameplay is first person point-and-click with third person action and transition cutscenes, in a story that evolves in a linear sequence of actions as talking, puzzle solving and manipulating objects both in and out your inventory.

A map helps you move around quickly in the walls and gardens of the Imperial City where you explore the environments helped by a mouse controlled cursor that indicates hotspots in order to collect clues and objects, talk with characters in dialogues which are played as cutscenes.



During gaming you'll also have the opportunity to access information on many objects characters and items. Doing so, you'll be entering in the Documentation Zone, a reference database with over one hundred sheets, containing a short text, a captioned image and hypertext links.

China: Forbidden City provides three different access modes: Game, Documentation Zone and Virtual Visit. The last one allows you to freely explore the environments of the City. Objects, characters and places are also linked to the Doc. Zone.



Paris 1313

It's 1313 and Philippe le Beau, king of France has commanded the construction of a mechanical clock, which will set the Time of the kingdom, until then played by the bells of churches. But this morning Paris has awoken with a terrible tragedy, as Adam, the Parisian clockmaker, has fallen from the top of the Notre Dame and his body disappears. Tragedy or accident? It's up to you to find out, as you'll lead Rosemonde, Pierre and Jacques in separate investigations to solve the mystery. But beware, they need each other to find out what happened

to the missing person of Notre Dame.

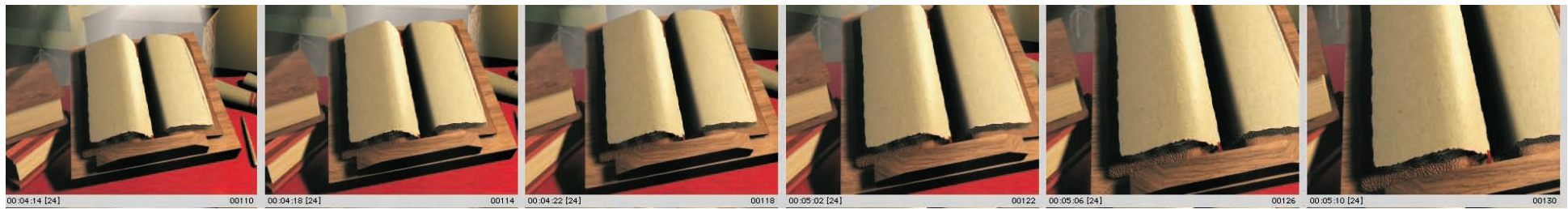
Paris 1313, Le Disparu de Notre-Dame is a parallel adventure game in a story broken up in nine acts. The game relies in an original gameplay with multiplicity points of view along with reflection and physical tasks. It presents three main characters, following individual segment stories in each act. In order to move the story forward, in each act the player has to lead at least two of the three characters (in any order), which will have

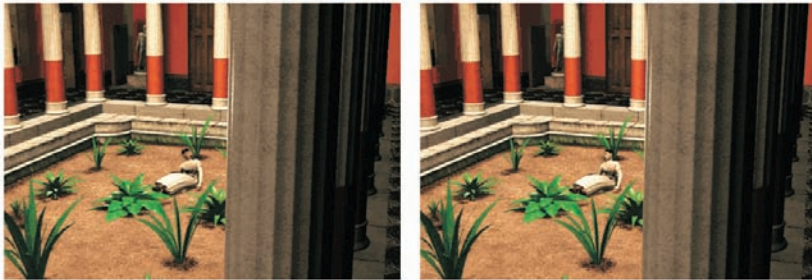
specific goals to accomplish, from puzzle solving, to multi option dialogues, and action games. As the story evolves the episodes interrelate, and the protagonist will move on together in the end part of the game.

The gameplay is first person point-and-click and third person 3D interactive screens and transition cutscenes, in stories that evolve in branch tree of actions as multi-option dialogues, puzzle solving and action games.

Along with the fiction plot the story's historical context is given by two plot elements. By one part, the invention of a mechanical clock, by other part, the relations between the King Philippe IV le Bel and Guillaume de Nogaret, chancellor de rei, after the French victory in the papal conflict.

Paris 1313, Le Disparu de Notre-Dame offers two independent access modes: the game itself and a Documentation Zone. The former





Pompeii, the Legend of the Vesuvius

It's 1918 and you play Adrian Blake, a young Scottish cartographer who's in a cave in France: the same place were, one year after, Ishtar, the goddess of love, has saved your life in return of affection. But you love Sophia and the goddess as condemned her to wander history without any memory of both of you is. The curse takes place, and now Ishtar awakes you in Pompeii, in the year 79 AD, with an assumed identity as your only asset. You only have five days to find Sophia and convince her to leave town, has it will be turned in ashes by the mount Vesuvius eruption.

Pompeii, the Legend of the Vesuvius is a networked/hierarchical adventure game in a story set up in four parts. As you evolve in the game's plot you be drawn to a detailed realistic re-creation of Pompeii and deal with the lifestyle, customs and inhabitants of the city. During gaming you can also access information on the places and objects you're examining, by clicking an "amulet" object that will redirect you to an encyclopaedia with written articles about them (see details below).

The gameplay is first person point-and-click with 360-degree panning and third person action/transition scenes, in a story that evolves in networked and branch tree of actions as talking, puzzle solving and manipulating objects both in and out of inventory.

In order to progress in story you'll have to explore environments helped by a mouse controlled cursor that indicates hotspots in order to collect clues and objects, talk with characters in multi-option dialogues which are played has cutscenes.

Pompeii, the Legend of the Vesuvius offers three different access modes. Game, Documentation Zone and Visit mode. The Documentation Zone is a built-in encyclopaedia organised by themes, with essays containing a short text, a captioned image ad hypertext links, covering the period on cultural, historical, religious and political subjects.

The Visit mode allows a tour on game locations without playing, providing information on places and objects by being redirected to the Doc. Zone.





LOUVRE: THE LAST CURSE

It's present day and you play Secret Agent Morgane Sinclair, whose father has recently deceased. A previously taped message tells you that he had discovered the secret of Satan's Keys, four objects created by the Black Templars, in the 14th century. He assigns you to find these objects and destroy them, as if they are brought together, they will start the Armageddon.

Your mission will be a time-traveller adventure, as you'll have to infiltrate in the Louvre Museum and helped by an ancient time gate, search for the Satan Keys in different eras of the Louvre's past. Using logic, high-tech gadgets and weaponry

you'll be drawn into worlds of intrigue and mystery.

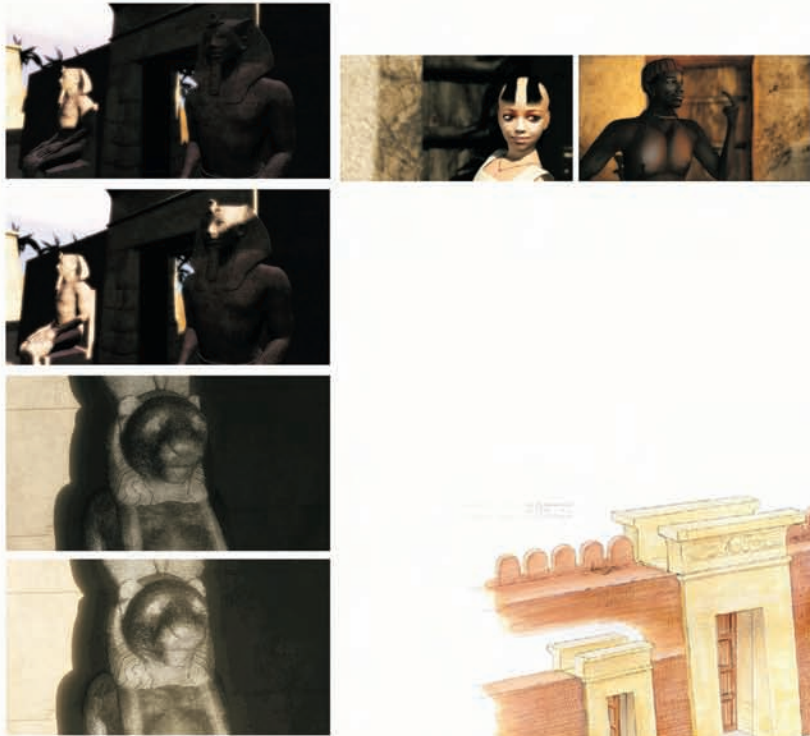
Louvre: L'Ultime Malédiction is a networked/hierarchical adventure game in a story set up in six parts. Each part is self-contained and placed inside the Louvre at different eras: as the story progress you'll be exploring the building as it was in the Medieval period, the Renaissance period, the French Revolution Period and Present time, realistic represented in 360-degree perspective.

The gameplay is first person point-and-click and third person action and transition cut scenes. You can only travel in certain

directions by exploring the interface with a moused control icon that changes indicating hotspots. Exploring the environments provides you a networked/branch tree of actions as talking with characters, collect and use objects, and puzzle solving. Objects are placed into an inventory that has a limit of 8 objects (which sometimes can be combined) forcing the player to manage his resources by changing objects into magic chests that are sparse around the environment. Attention is needed since you can die or be captured, and there are few timed puzzles.

Inside the inventory there's a "Louvre's Dictaphone", consisting

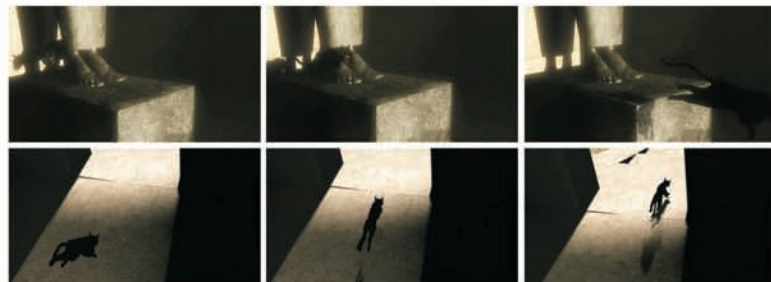
in 10 recorded messages with some clues to the game that mainly provide information (in form of history lessons) on the museum's evolution since the 14th century to the present days. The inventory also contains a Louvre map that allows movement from one area to another, once you've been there before.

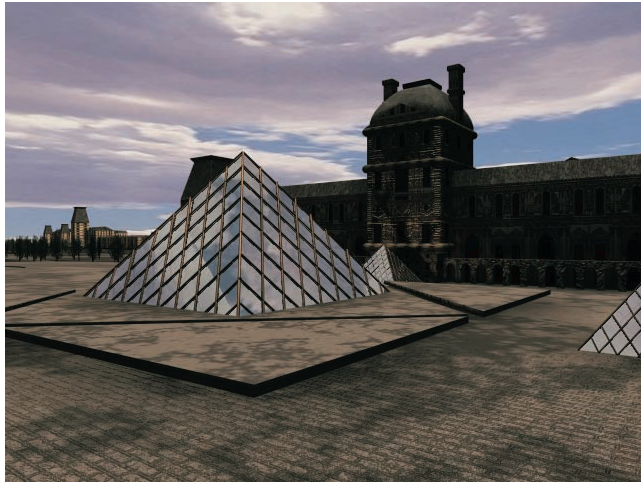


EGYPT II, the Heliopolis Prophecy

"EGYPT II, the Heliopolis Prophecy" is a first-person adventure game for multiple platforms. It uses 3D technology to thrust players into the role of Tifet, a young talented doctor who has to save her adoptive father and the citizens of Heliopolis from a mysterious disease in the year 1360 B. C.

From mysterious disappearing, to strange revelations, Tifet's quest will lead players to discover the dubious relations between power and religion in the City of Sun. The 3D reconstruction brings back to life the market, the port, the streets, the Temple, the inhabitants in their day life, where the historical facts and city reconstruction are scientifically validated.



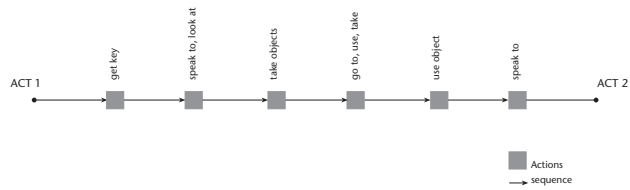


Louvre
The Final Curse

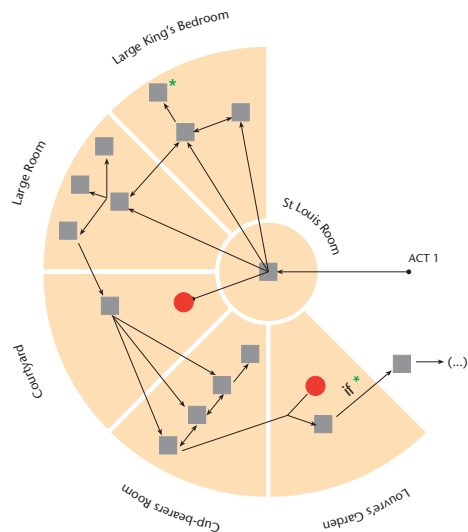
GAME STRUCTURES

Adventure games are narratives composed of segments, which are linked electronically by multiple paths and allow manifold combinations. The author creates a "map" of the story with alternate paths and various options; the player must use lateral thinking in order to choose the routes that allow the game character to advance in story. In terms of structure, the narratives may be linear, hierarchical, parallel or networked

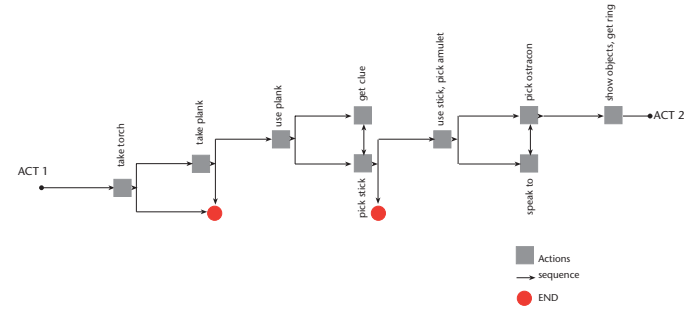
VERSAILLES Linear Structure



Louvre, L'Ultime Malédiction Networked Structure



EGYPT I Hierarchical Structure



PARIS 1313 Parallel, Hierarchical Structure

