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The leading edge solutions for digital libraries

ABSTRACT

Today, new information technologies as digital storage, digitizing, printing and network have reached maturity. These technologies, far from being a threat, are opening new possibilities to books, publishers and libraries. Consequently the role of the libraries in the information society is going to change. They must face four challenges which are the following: Preservation, Digitization, Access to knowledge and Management of the legal context.

The evolution can be summed up in one magic world, the Internet.Yet, the Internet is just a tool-admittedly a formidable one that leverages knowledge and culture, but which should not be confused with the content and ideas it conveys in the manner of a pipe.

The history of books is a long series of crises and developments. The first revolution was qualitative and involved the substitution of codex for volumen at the beginning of the millenium; the second was quantitative and entailed the invention of the printing press which permitted much wider dissemination of the Bible; the third was intellectual as the publication of the encyclopaedia generated the spirit of the Enlightenment; while the fourth was the transition from books as works of art and craftsmanship to their industrial production and led to a dramatic growth in readership. It is the change of scale and the resulting freedom rather than the revolution in publishing techniques that is the key here. The advent of the Internet provides the same sort of increase in scale and freedom. By allowing seamless integration of scanning, storage, indexing, consultation, transfer and printing within a single virtual space-time unit, digital technology will make it possible to realise the dream of a virtual universal library.

Ever since the great days of the Alexandria library, the Western mind has yearned for a universal library. Callimaque was the brilliant librarian of the city founded by Alexander the Great towards 331 BC. He was the first great librarian whose concern for conservation was inseparable from his desire to share this heritage. This standpoint has long been and is still seen as a contradiction. For the first time in the history of mankind, however, the concern for conservation and the concern for dissemination of knowledge are no longer irreconcilable. Today major scanning projects are under way at libraries across the world. Catalogues can now be consulted on the Net, and copyright-free works are scanned and sometimes even circulated over the Net.

In conclusion, the Internet presents a great opportunity for literature and libraries. Digital technologies are no longer used only to transfer or to print information but also to get the meaning of it and to share it.

BIOGRAPHICAL NOTE

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LIBRARIES

What is the role of libraries in the information society?

Good morning ladies and gentlemen, I am very pleased to be here in Rhodes to share with you our experience in Libraries.

Today my purpose will be to speak about the role of libraries in the information society. My presentation will be devided into three main parts

- the first one will focus on the challenges for libraries today.

- the second one will be an overview of the solutions that Xerox can offer and has already implement in Europe.

- Third, to be concrete, we will study the case of the Swiss national library.

So, let me start now with a definition:
« *The unique function of libraries is to acquire, organize, offer for use and preserve publicly available material irrespective of the form in which it is packaged, in such a way that, when it is needed, it can be found and put to use. No other institution carries out this long term, systematic work.*»
Green paper on the role of libraries in the modern world. EU
Now, let 's move to the first part of the presentation.

What are the Challenges ?

PRESERVATION
- MASS DESACIDIFICATION
- LONG TERM PRESERVATION ON ELECTRONIC MEDIA
- STORAGE CAPACITY OF TAPES x100 IN THE LAST TEN YEARS
- SPEED OF TRANSFER x 4

DIGITIZATION
- SELECTION
- FORMAT
- ACCESS
- DIGITAL PRESERVATION
- COSTS

Today, libraries must face four main challenges which are the following:
Preservation, Digitization, Access to knowledge, and Legal context.
Preservation of books is a fundamental issue. Out of the 4 billion documents held in european libraries, over 25% could be lost due to age, acid paper and inadequate care. Moreover, new information technology will not keep us away from a preoccupying reality: How are you supposed to preserve collections, even the digitised ones ?
We all know the misadventure of NASA which lost part of the data of the first missions in the moon. The rapid obsolescence of software and hardware makes you fear the loss of any information which is not regularly migrated.

On the other hand, more and more books or information are published in the world.

That brings me to speak of the second challenge: Digitization:

Using the latest technology, we can assure you that you can digitize old, precious and rare books by preserving them. Besides, Digital systems can be an answer to the issue of how to keep our written heritage. Optical recognition systems of printed works allows to have a memorization of pages, thus respecting their integrity.

What are the Challenges ?

ACCESS TO KNOWLEDGE
- ENSURING ALL CITIZENS ACCESS TO KNOWLEDGE
- ORGANIZING ACCESS TO KNOWLEDGE
  (including knowledge available through network)
- TRADITIONAL ROLE/ NEW ROLE
- STAFF AND USER TRAINING
- RESOURCES / FUNDING

LEGAL CONTEXT
- COPYRIGHT/ BALANCE BETWEEN THE RIGHTS OF THE USERS AND THE HOLDERS
- LICENCE AGREEMENT
- CONTENT CONTROL
- LENDING CHANGES
- CHARGES FOR USE OF LIBRARIES CATALOGUES

Using new information technologies as digitizing, Internet, digital printing, allows exchanges. On one hand, digital systems favour the sharing of catalogues' titles among all the libraries in the world. On the other hand, virtual libraries enable you to consult books that are in store elsewhere, in other libraries or any place.

Libraries' executives are the key players to organise access to knowledge, including knowledge that will be available through network. The implementation of this new environment must be done in respect of a legal context.

Everywhere in european countries, the national libraries are working closely with their government to define a legal context to transfer books, and more generally knowledge, through the network.

Obviously, the object of these law projects is to preserve the rights of the users and holders (book writters, publishers....)

What is the response of Xerox ?

IMAGING AND SCANNING
- DIGIBOOK RANGE = RENAISSANCE OF BOOKS
- DIGIPATH = TRANSFER ON INTERNET DIGITIZED DOCUMENTS

ELECTRONIC DOCUMENT MANAGEMENT SYSTEM
- FUNDAMENTAL PRE-REQUISITE FOR THE PROPER AND EFFICIENT OPERATION OF A DIGITIZED LIBRARY
- CAPABILITIES THROUGHOUT THE WHOLE VALUE CHAIN
  - EDMS STRATEGIC FRAMEWORK
  - SOLUTION DESIGN AND EVALUATION
  - SYSTEM INTEGRATION AND DELIVERY
  - SYSTEM IMPLEMENTATION AND SYSTEM OPERATION

Let us move now to the second part of the presentation and make a short overview of the Solutions that Xerox can offer to you.

Xerox can provide you a complete imaging and scanning solution through the Digibook range and the Digipath product.

Through digibook solution, you will be able to digitize very old books and documents by preserving them.

Through Digipath you will get access to all functionalities for transfer of digitized documents on the Internet and then capabilities to print them with high speed and good quality.

Moreover, Xerox can help you to reach your digital project library by making the design and evaluation of the solution architecture. We have references in this area such as the Swiss National Library, the Stadtbibliothek in München, the Library of Lyon...

LANGUAGE CAPABILITIES
- PROVIDING LANGUAGE AIDS TO USERS
EXTRA SOFWARE TRANSLATION (BASED ON LINGUISTIC PRINCIPLES)

REPROGRAPHICS AREA
- MANAGED BY YOURSELF OR OUTSOURCED
- CAPABILITIES TO PRODUCE GOOD QUALITY FAC-SIMILE
- CAPABILITIES TO WORK THROUGH INTERNET WITH PUBLISHERS
- ACHIEVE A READER SERVICE (BE ABLE TO DELIVER THE REQUESTED BOOK TO THE READER EVERY TIME)

To continue my overview, let me say to you that we have developed language capabilities in our European Research Center located in France. This is a key point if you consider that users as teachers, students, request more and more language aid to be able to work efficiently on the documents available, which come from everywhere in the world.

To conclude, I will say that Xerox can integrate a book publishing system to produce good quality fac-simile.
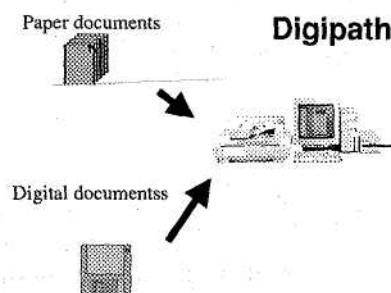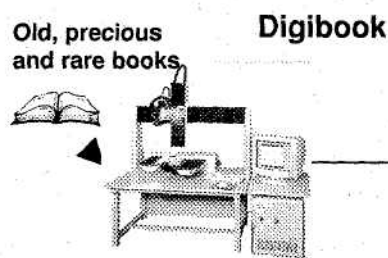
It is obvious that everyone prefers reading with a book in his hand than in front of a screen.

You can see on this tranparent that Digibook integrates completely digipath and docutech family.
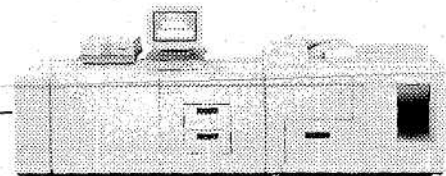
You can digitize, restore, file, consult, transfer and publish books or any documents in multiple format.

And through the net, you can give access to documents or you can decide to print them. You get the right scanner for the right document and you preserve the original one.

Calligraphy & Xerox CH - for Rare Books & P.O.D.

Old, precious and rare books

Digibook

Paper documents

Digipath

Digital documentss

DocuTech family

Graphic Arts - Xerox Europe

Customer Situation

- 22 State Libraries throughout Switzerland
- Many old documents decaying; objective to preserve rare works of CH.

Xerox Approach & Solution

- Live demo of Rare book production to 70 key Library staff - Joint initiative of Xerox, SNL & Calligraphy, a specialist book Printer
- Specially designed scanner (DigiBook) for old & delicate books
- Key was XDOD & ability to print at 600dpi with DT135
- Co-Operation with National Library of France & Xerox France
- Xerox made contract with specialist book Printer (Calligraphy)
- January 1999 - project for next 2,000 rare books begins
- New phases bring "services" and Document Management revenues
- Due to success, SNL now considering a contract for copiers
- The Swiss national Library decided to set up a huge digitization program a couple of years ago.
- The reason why they took this decision were:
  - the national law oblige them to answer any request of books.
  - There is no legal deposit process in Swizerland.
  - in 1999 they plan to digitize 2000 books.
  - in Year 2000 and the following, 5000 books will be digitized.

What is the role of Libraries in the Information Society ?

- IN THE INFORMATION SOCIETY, KNOWLEDGE IS A VITAL RESOURCE

- LIBRARIES WILL BE MORE CENTRAL IN THE INFORMATION SOCIETY THAN THEY WERE IN THE INDUSTRIAL SOCIETY

- LIBRARIES BECOME THE ORGANIZERS OF KNOWLEDGE

In conclusion I will say that if the 19th century was based on the industrial development, the 20th century is the one of the Service, the 21st century will be the century of Information and Communication.

Internet is changing completely our way of working and we have to include it in our projects if we do not want to be out.

Libraries will be a key player to continue to preserve our literary heritage but also to organize knowledge and its access.

It will be the link between past and future. To implement and to use the new digital technology is a challenge that Xerox can help you win.

Thank you .....