An introduction to digital libraries

Jens Vigen, 3rd CERN-UNESCO School on Digital Libraries, Dakar, Senegal, Nov. 2011
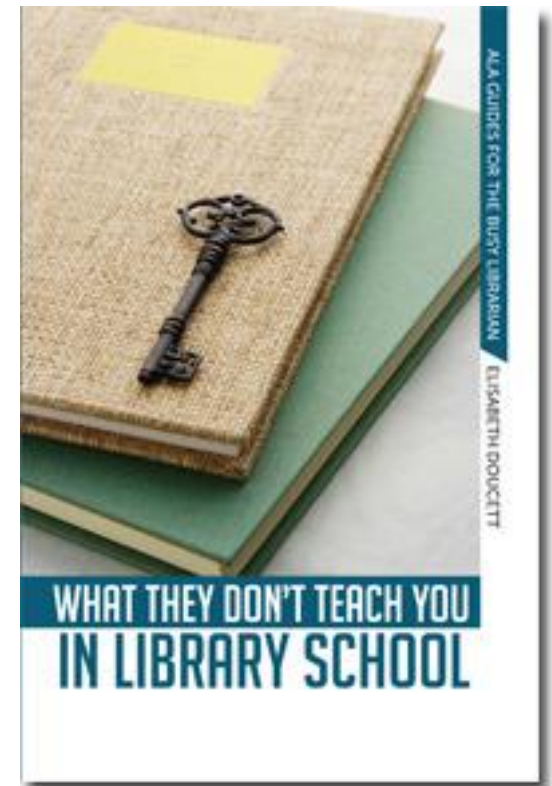
I. Digital libraries

Digital libraries

vs

traditional libraries

Traditional libraries will **EVOLVE** to digital libraries

Digital libraries require multidisciplinary skills

- Subject and community knowledge
  - Targeted services
- Technical knowledge
  - Tools, protocols, transport
- Information science
  - Models for information access and storage
- Human factors
  - Usability, adaptability
- Law
  - Digital rights management (DRM)
- Economics
  - The big deals
  - New models

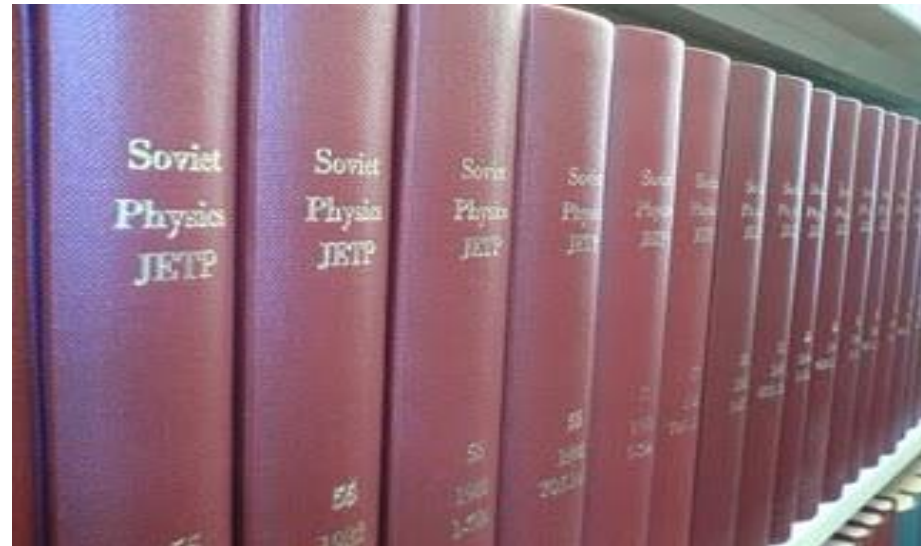WHAT THEY DON'T TEACH YOU
IN LIBRARY SCHOOL

Libraries differ from the Web itself

Things might grow organically;

while libraries are maintained.
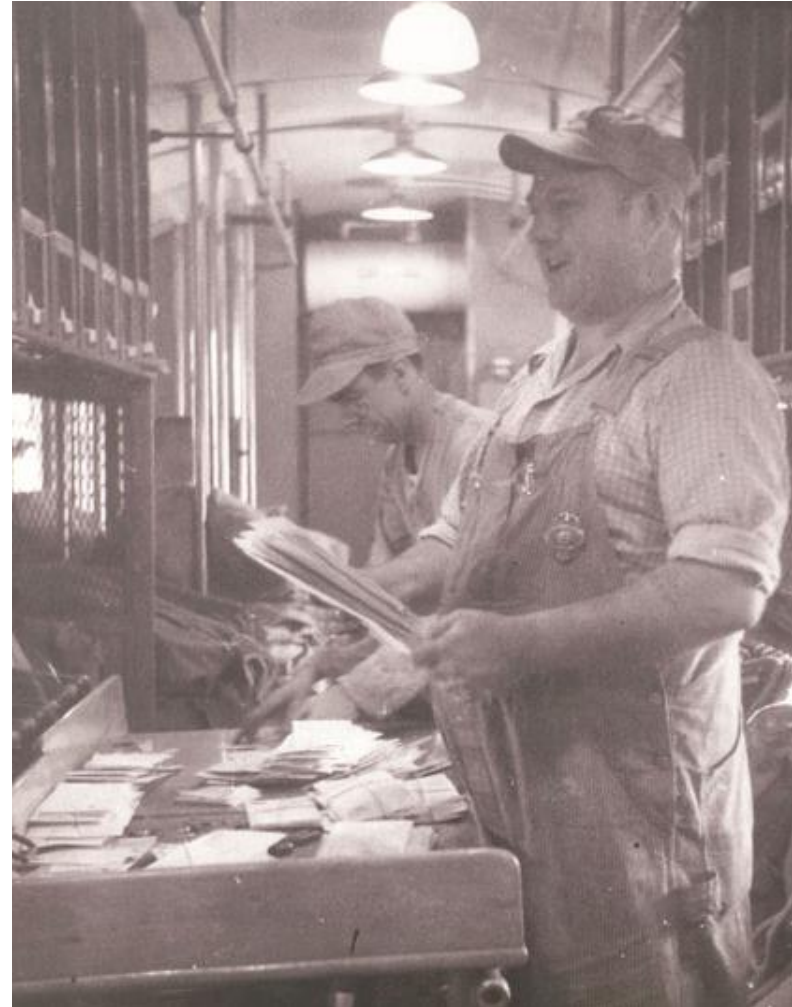
Digital Libraries versus the Web

- The input to digital libraries is controlled
- Digital libraries do have targeted customers
- The Web has low archival & management characteristics

Content, services and long-term preservation

Which level of access?

- Different perceptions and definitions

- Definition will vary over time

- Definition varies depending on who's talking
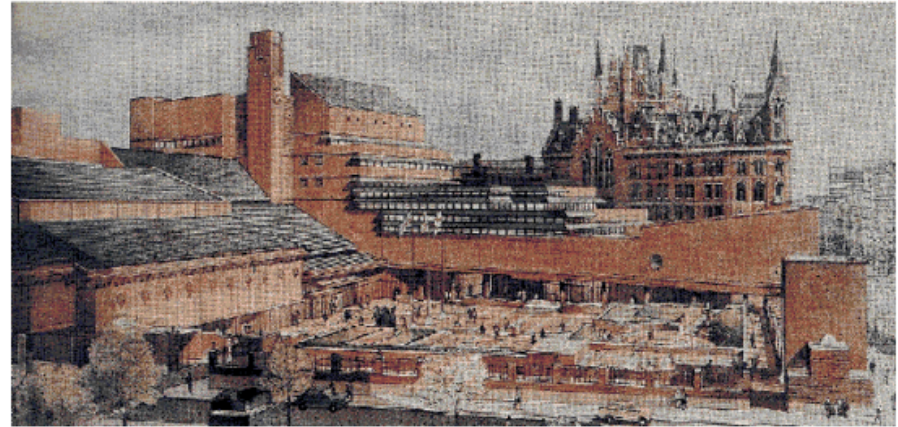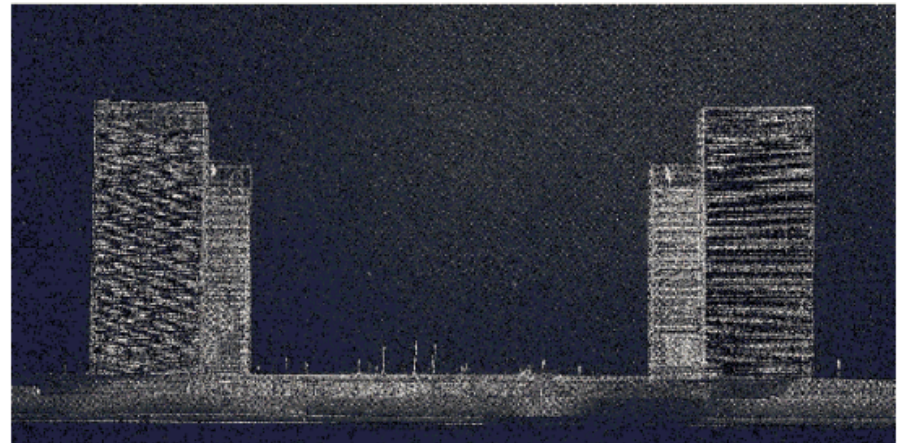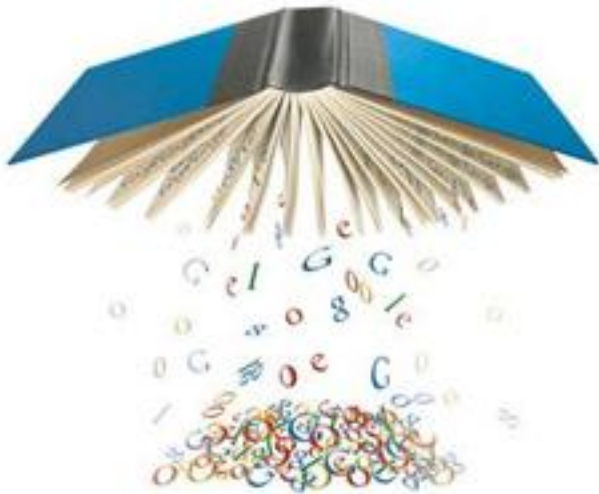
- Will soon also include data

The cost of libraries

Each of these libraries cost more to build than the cost of scanning its books
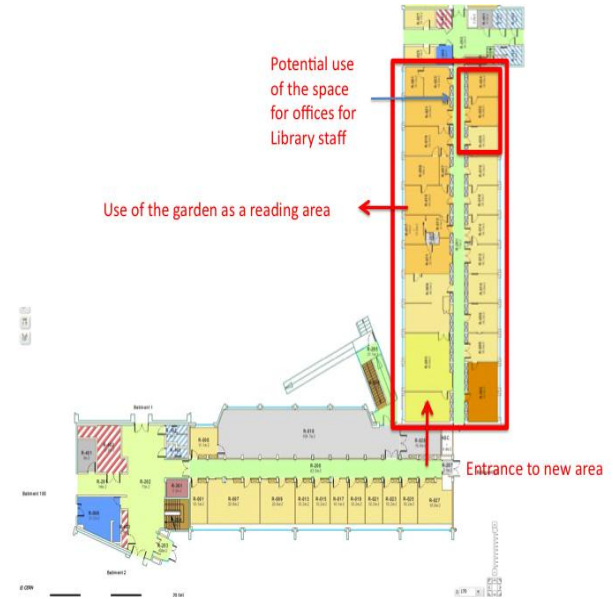
The British Library, London   £450M

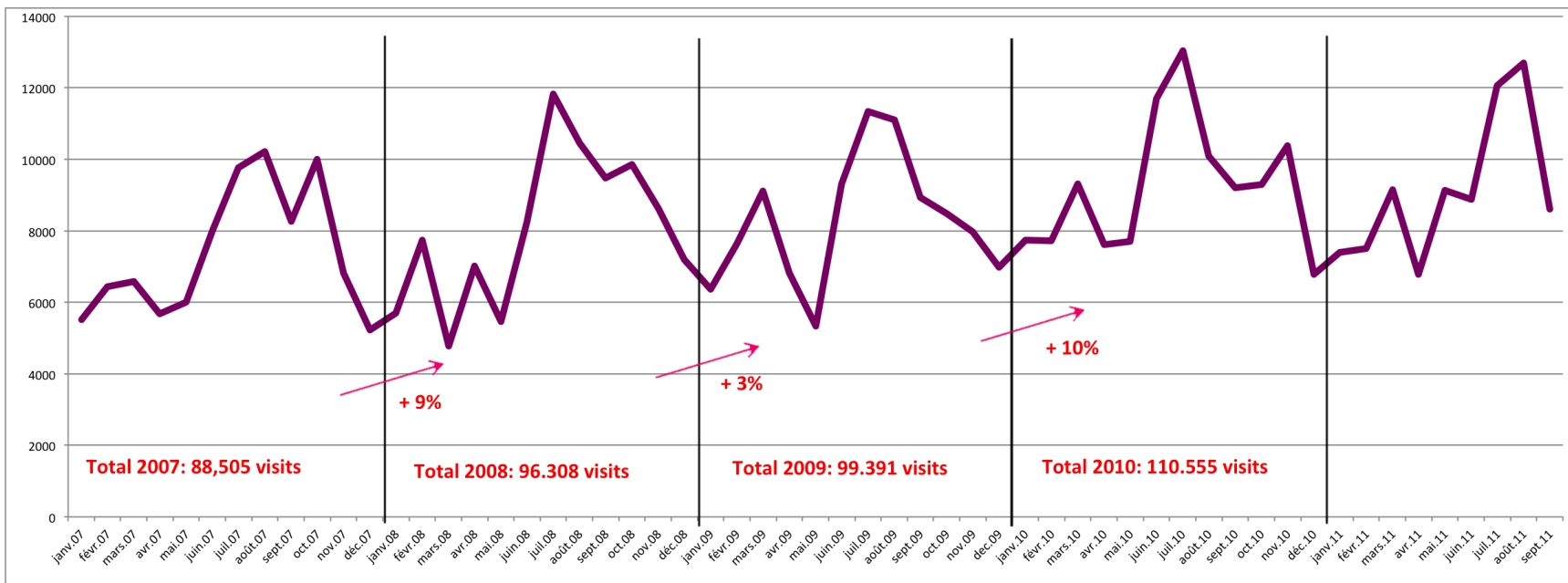The Bibliothèque de France, Paris   FFr 5B

The classical library
information, public workspace and services

Potential use of the space for offices for Library staff

Use of the garden as a reading area

Entrance to new area

More and more visitors …
online and in the reading rooms

Total 2007: 88,505 visits   + 9%   **Total 2008: 96.308 visits**   + 3%   **Total 2009: 99.391 visits**   + 10%   **Total 2010: 110.555 visits**

Digital libraries vs traditional libraries

A hybrid model

will exist for many years to come

Digital libraries vs traditional libraries

Your users will be able to **CHOOSE** how to read the information

"Lone scientist" stereotypes

Max Munk
http://history.nasa.gov/SP-4103/ch4.htm

H. J. E. Reid
http://history.nasa.gov/SP-4103/ch4.htm

Enrico Fermi
http://www.anl.gov/Media_Center/logos20-1/fermi01.htm

John Stack
http://www.hq.nasa.gov/office/pao/History/x1/stack.html
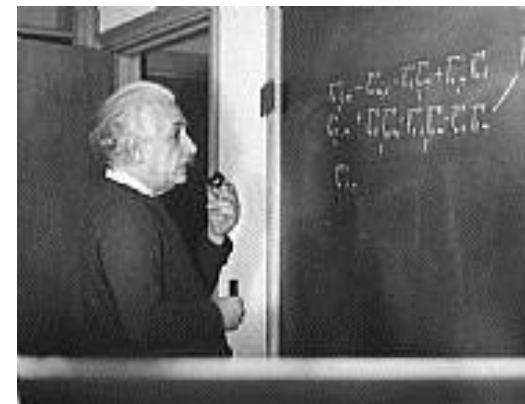
Albert Einstein
http://www.artnet.com/artist/92724/Vishniac_Roman.htm

Slide borrowed from Michael L. Nelson <mln@cs.odu.edu>

Science done in collaborations
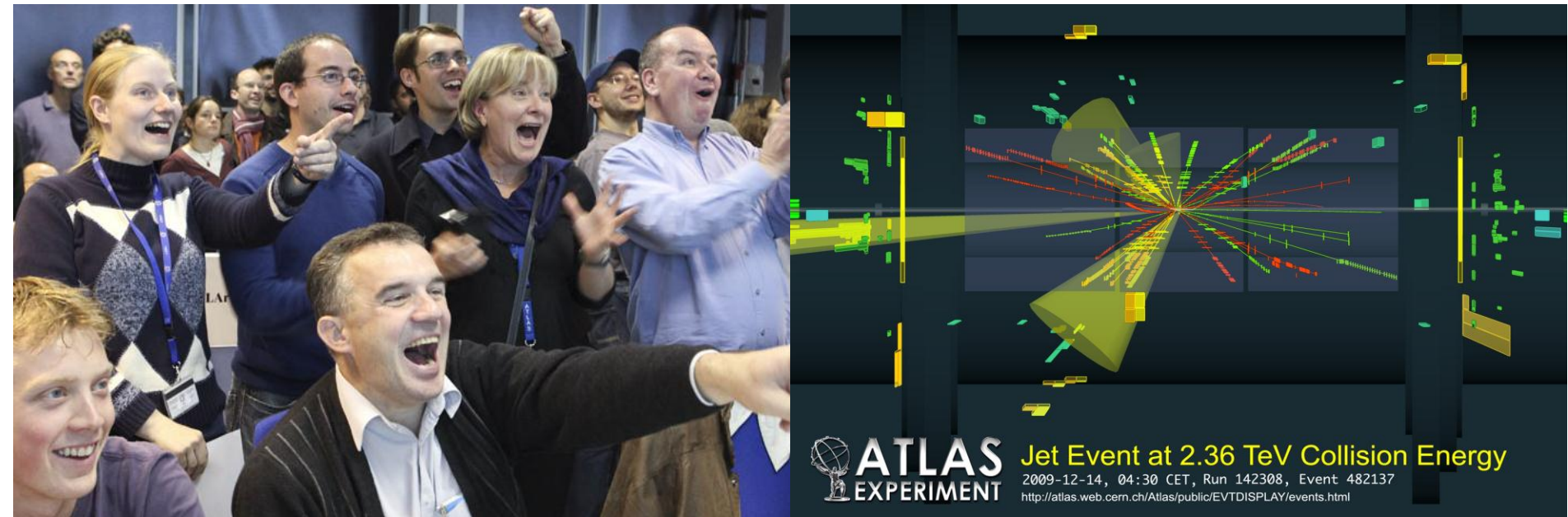
Several people will be able to access the **SAME RESOURCE** at the **SAME TIME**

Digital libraries vs traditional libraries

No more physical SPACE CONSTRAINTS

... while disk space is required

BOOKSHELF

Size: 80x28x202 cm

Fits: 46 books

HARD DISK DRIVE

Size: 10.1x14.6x2.5 cm

Fits: Thousands of books

Offering users **FULL TEXT search**

Council and Committee of Council

Search:

| fulltext:bohr | any field ▼ | **Search** | **Browse** |

Search Tips :: Advanced Search

Search collections:

| Council and Committee of Counc... ▼ | *** add another collection *** ▼ |

| **Sort:** | **Display results:** | **Output format:** |

| latest first ▼ | desc. ▼ | – or rank by – ▼ | 10 results ▼ | split by collection ▼ | HTML brief |

Council and Committee of Council   72 records

☐ 1. **Draft Minutes**
   Procès-verbal (Projet)
   CERN/0261/Draft
   14th Meeting of Committee of Council ; 1958
   English - 📄PDF

Digital libraries vs traditional libraries

Converting a scanned-1958-type-written text (a reproduction?) into machine readable text is not always obvious

The DIRECTOR-GENERAL pointed out that, as Professor Amaldi was not yet a member of the Scientific Policy Committee, he should be appointed a member of that Committee in replacement of Professor Bernardini, who had joined the CERN staff. Moreover, it would be necessary for the Council formally to re-elect Professor Niels Behr, Professor Scherrer and Sir John Cockcroft members of the Scientific Policy Committee, as they had been serving on the Committee for 3 years.

The Committee agreed that Professor Bohr, Professor Scherrer and Sir John Cockcroft be put up for re-election as members of the Scientific Policy Committee.

In the first case **Bohr** became **Behr** …

The precession of a **FULL TEXT search** depends on how much is spent on OCR and automatic/manual inspection/correction

Digital libraries vs traditional libraries

Readers can **JUMP** from one book to another just **CLICKING**

Digital libraries vs traditional libraries

Be aware; fancy solutions does not need to be expensive

SFX: Overview

The Keystone of the Library's Electronic Resource Infrastructure

SFX® is the most widely used link server and the linking solution of choice for over 1,500 libraries worldwide.

SFX provides users with context-sensitive links to article full-text and other library-defined resources including the online public access catalog (OPAC) local holdings, preferred document-delivery suppliers, related Web-based resources and services, local information repositories, and a range of other services.

SFX--an integral part of the library's information infrastructure

Open source alternatives exist:

"Go Direct" does basically the same and is free. The application is maintained locally and can easily be extended if needed.

"Submit "the triplet" to DOI and voila!

Open source alternatives exist:

In the CERN Library we do all this within the framework of Invenio.

| Home | Site Map

| Discovery & Access Solutions | eResource Management Solutions | Integrated Solutions | Products and Services | Key Benefits | News & Events |

Helping libraries manage eContent

LATEST NEWS

TDNet is an Information Management company that provides innovative tools and services, to help libraries and information centers to effectively discover, access, manage and maintain their electronic resources. Our international client base includes academic, corporate, government and medical libraries, as well as national and multi-national consortia. *TDNet* enables libraries to design customized e-research environments for their patrons and maximize their investment in online resources while containing costs.

DIGITAL Libraries are (still?) a COMPLEMENT to TRADITIONAL Libraries
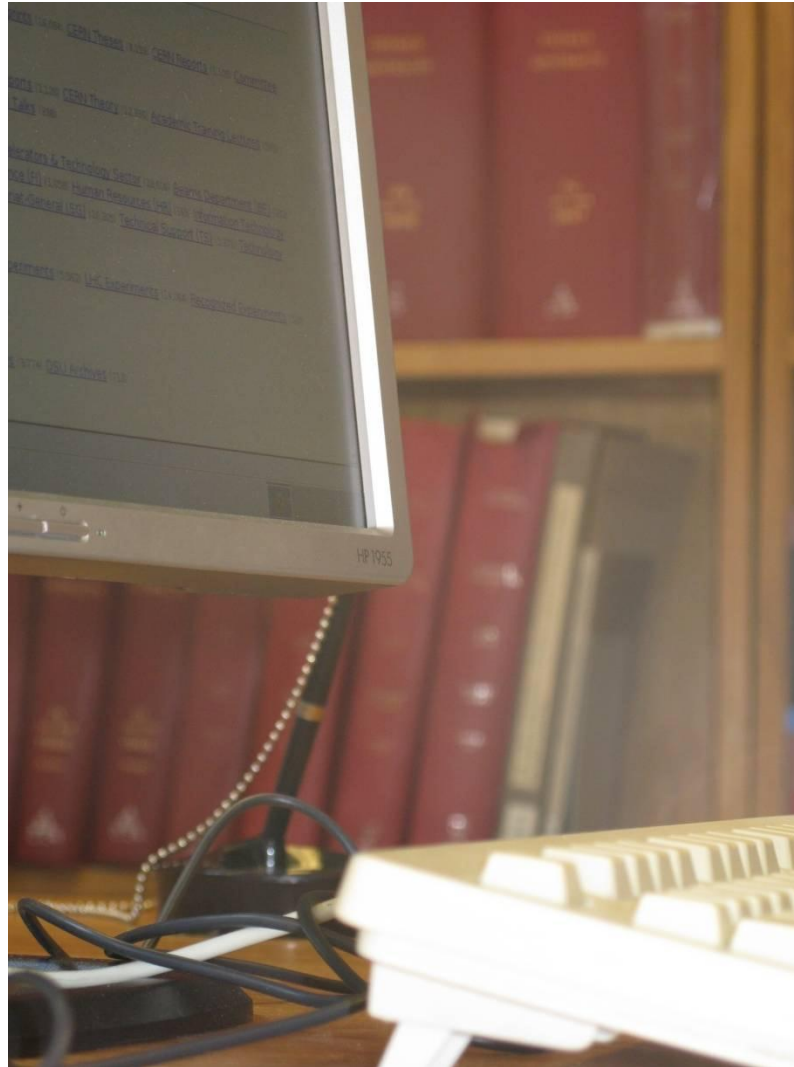
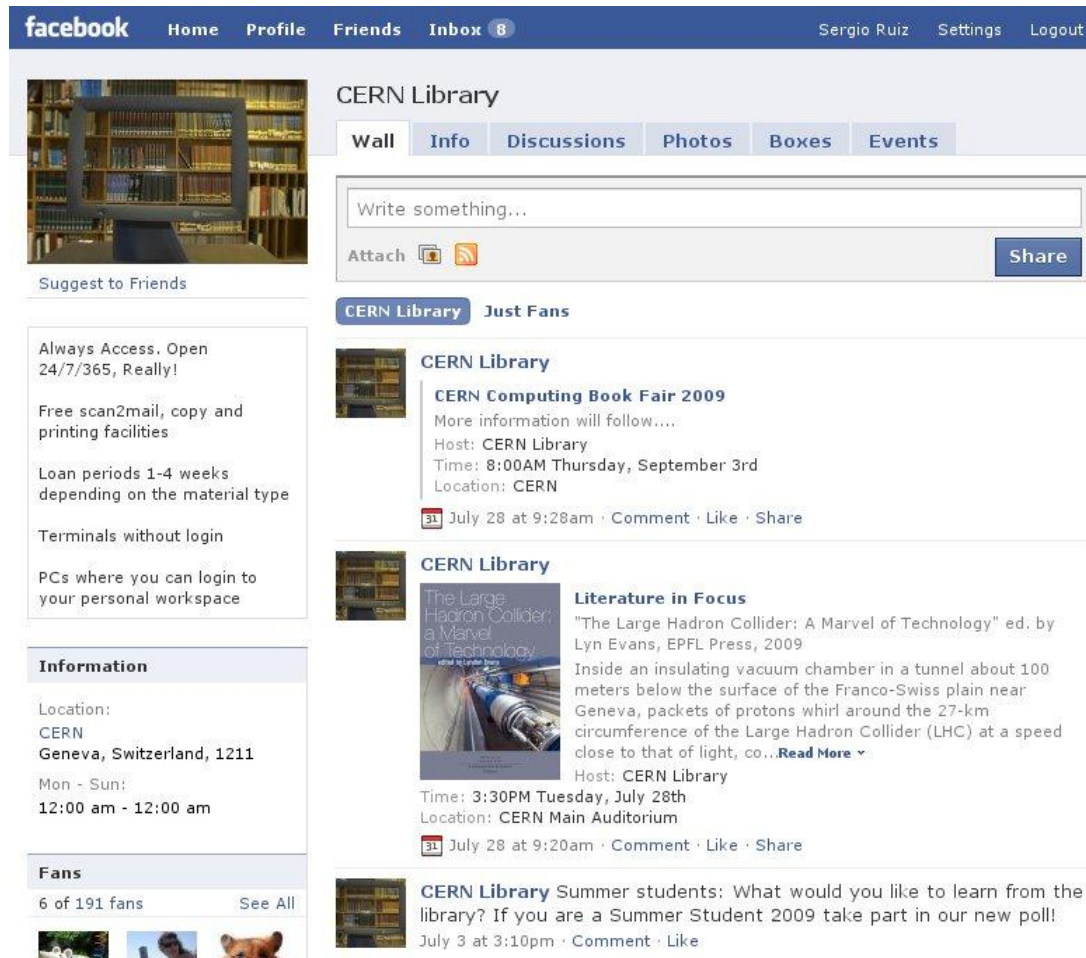# I. Digital Libraries

Requirements

Requirements

Think **WIDE!**

A road is hardly never getting too wide ...

Requirements

What is **EXCITING** for your **USERS?**

Exploring new channels …

Library Induction Clip
Presentation of Library for new arrivals

© CERN

A short clip introducing the library - used in the induction process for those new to CERN.

Produced by: CERN Video Productions
5 min 20 s min. / 05 June 2010 / **CERN AV**
Keywords: CERN Library, Library, Induction, Induction video, Presentation of library

Language: English
Source Medium: DVCproHD PAL

Reference: CERN-MOVIE-2010-117

See also:

English subtitled version

Computer Security at CERN

DG - Global Network
DG speech Global network Welcome
Network Global CERN

animation of the synchronization of beam
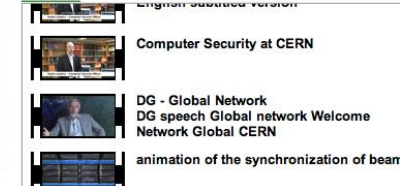
Reaching out to all new comers
Have a look yourself
http://cdsweb.cern.ch/record/1270161?ln=en

Your users SHOULDN'T NEED ANY TRAINING

Setting up a digital library is CHALLENGING

In order to make it SIMPLE for the users

Be CREATIVE

Pro & cons

- Digital libraries are clearly superior at:
  - Dissemination, sharing, linking, storing information variety

- Traditional libraries have other advantages:
  - Lots of copies keep stuff safe
  - Who will archive the future research information?
    - The publishers?
    - The institutions?
    - The libraries?
    - The authors?
  - Will digital object collected today still be accessible in 50 years?

image from: http://www.ancientegypt.co.uk/writing/rosetta.html

New boarder lines are being made

- Publishing
  - Shelf publishing
  - Institutional publishing
  - Commercial publishing
- Publishing as a business
  - Is there a future in selling content?
  - Converting to selling services related to content
- Where does publishing stop and libraries begin?

Your Writing   Your eBook   Your Money
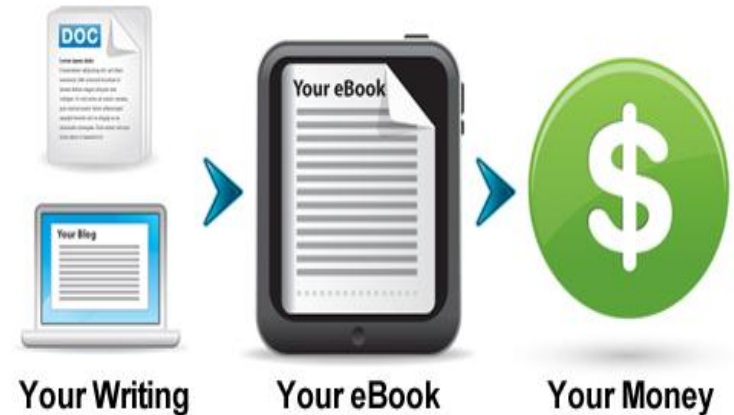
Paradigm shift

- Transition from paper to digital hypermedia
- There is a high degree of comfort from books for the following reasons
  - Portability, compact, light in weight and comfortable to read. Anything you can't read in bed will never displace a book.

With many new tablets entering the market,
The situation might however change rapidly

Paradigm shift (contd.)

- Reliability
  - Reading books would still be possible even if every computer on earth were down

- Familiarity with the medium
  - The pages of a book are easy to turn, the book can be opened to any page, and the linear hierarchical organization of the material is easy to grasp

... but it is not easy to think in a DIFFERENT WAY

Be tough with yourself and patient with your users