An introduction to digital libraries

Jens Vigen, 2nd CERN-UNESCO School on Digital Libraries, Rabat, Morocco, Nov. 2010

I. Digital libraries

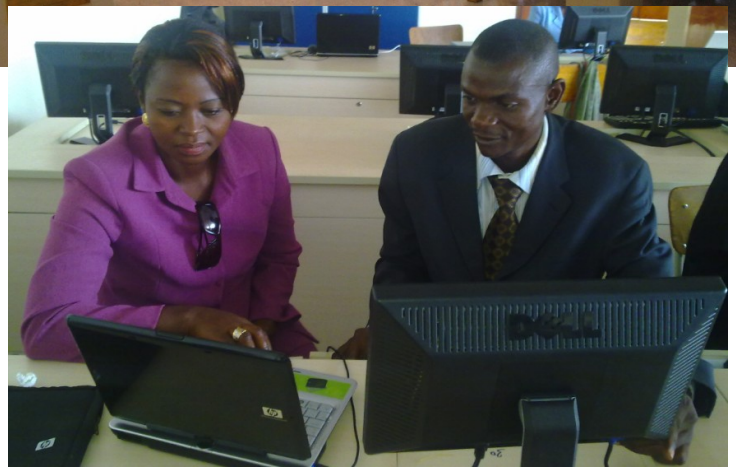
Digital libraries

vs

traditional libraries

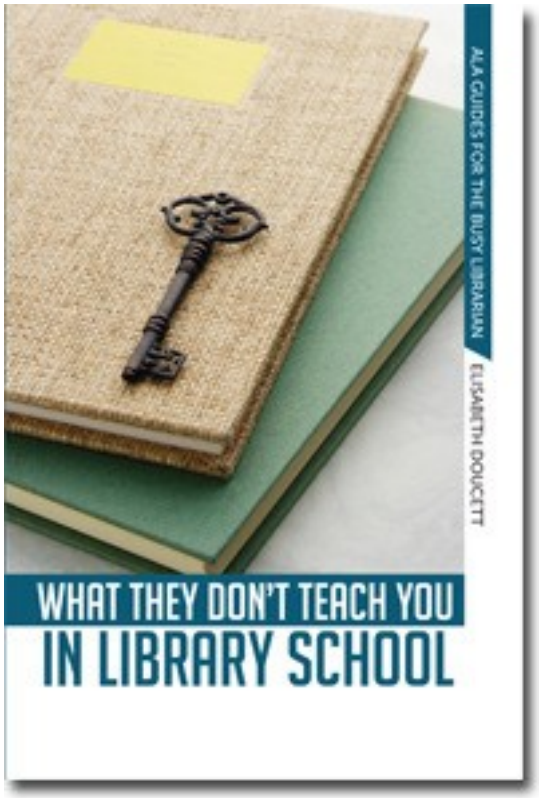
Digital libraries vs traditional libraries

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 of information access and storage
- Human factors
  - Usability, adaptability
- Law
  - Rights management
- Economics
  - New models



Digital libraries vs traditional libraries

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

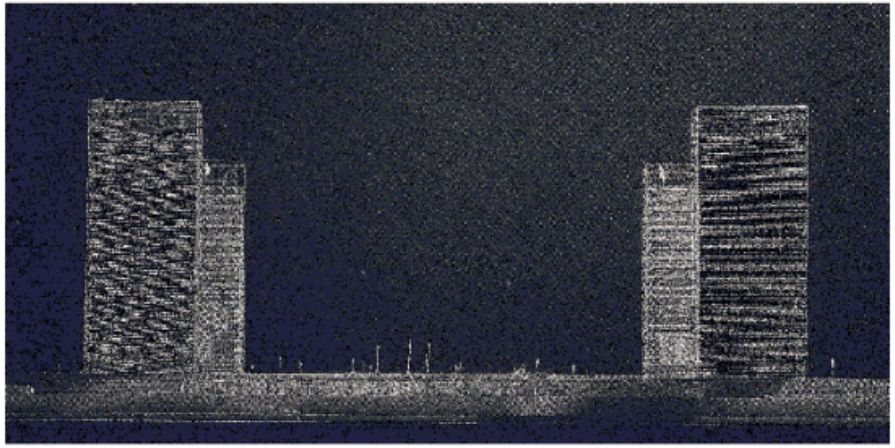
Content, services and long-term preservation

Digital libraries vs traditional libraries

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

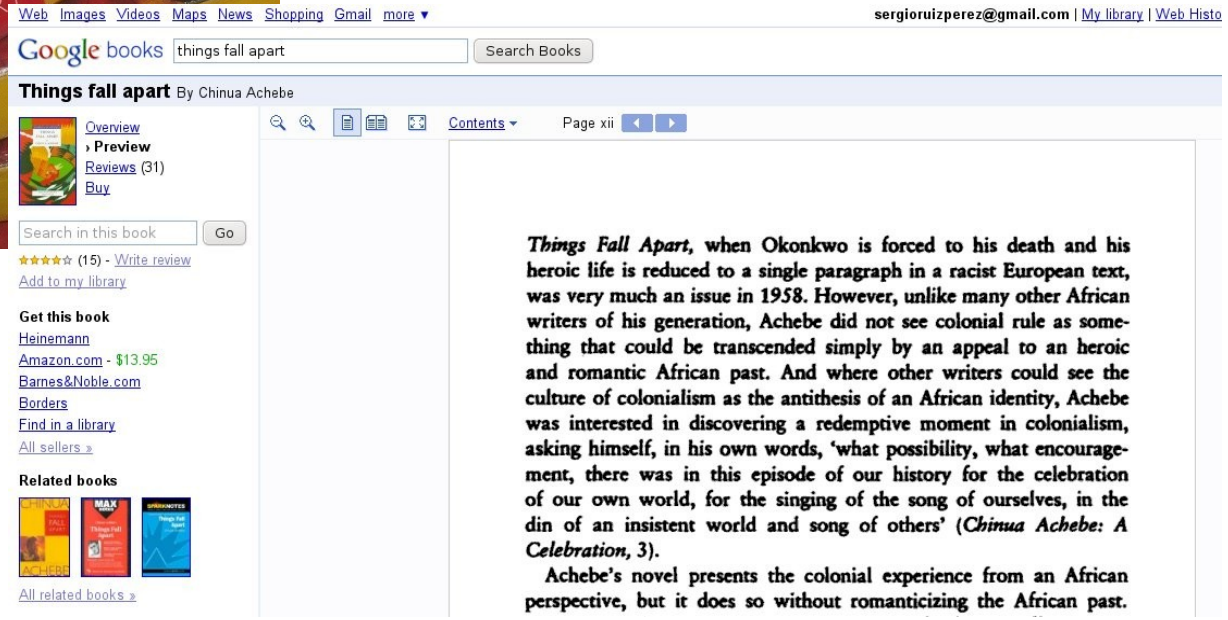
Digital libraries vs traditional libraries

A hybrid model

will exist for many years to come

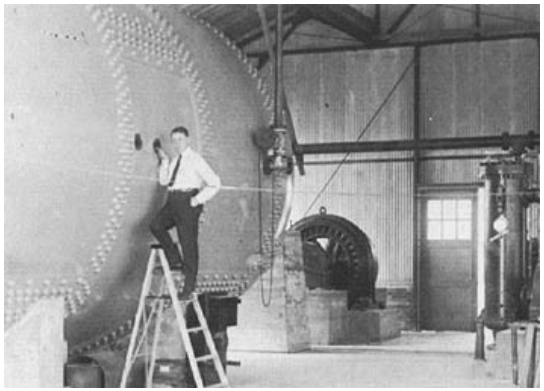
Digital libraries vs traditional libraries

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



Digital libraries vs traditional libraries

"Lone scientist" stereotypes

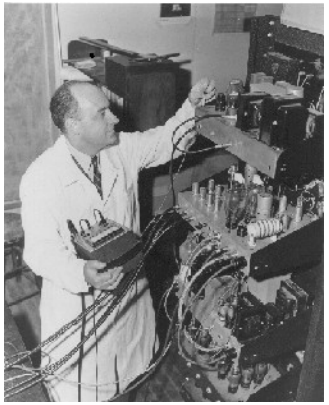


Max Munk

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

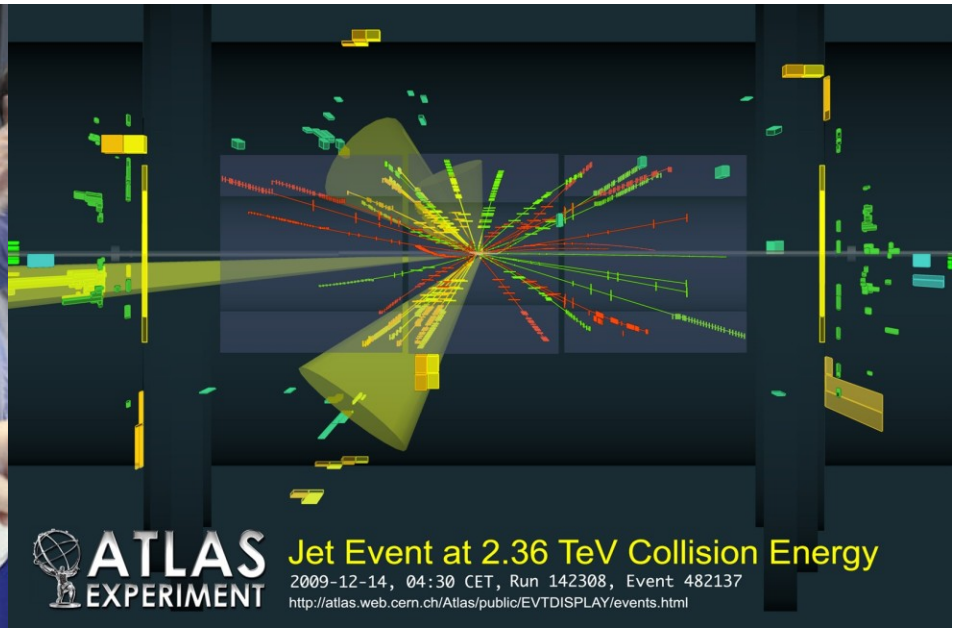
Albert Einstein

http://www.artnet.com/artist/92724/Vishniac_Roman.htm

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

Digital libraries vs traditional libraries

Science done in collaborations



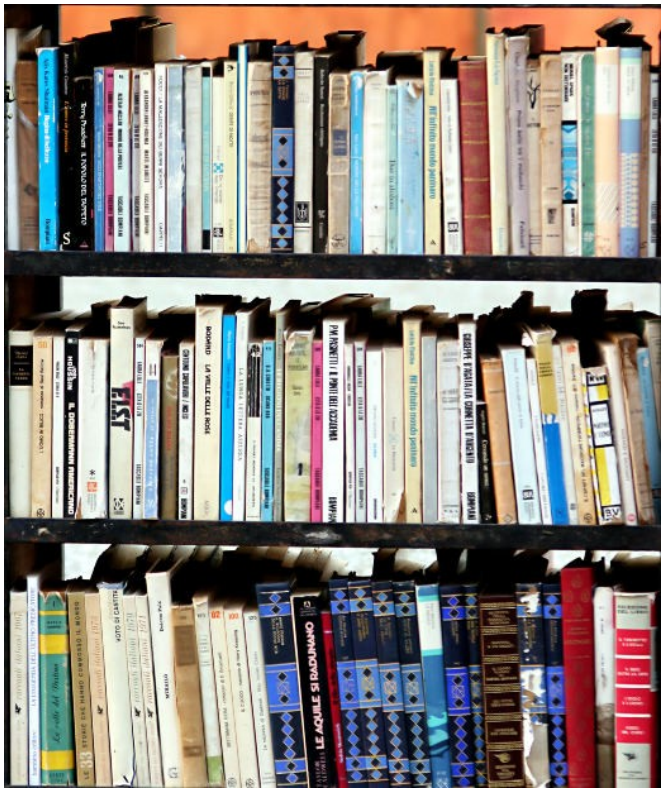
Digital libraries vs traditional libraries

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

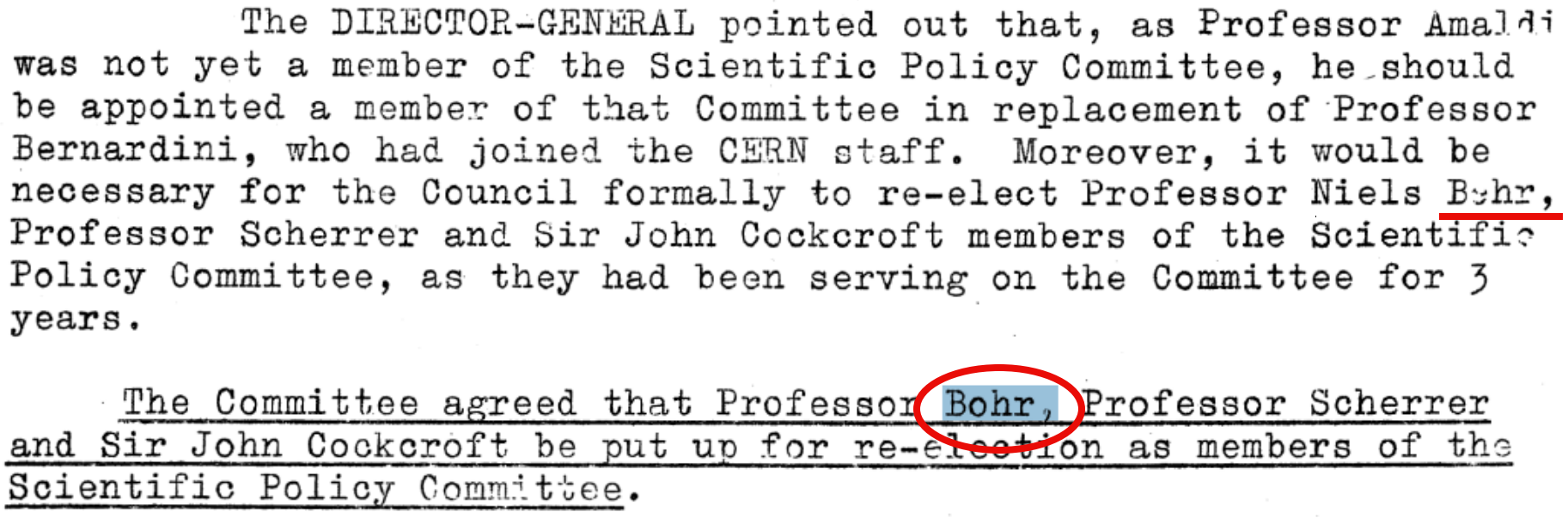
Fits: Thousands of books

Digital libraries vs traditional libraries

Offering users **FULL TEXT search**

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**

Proof. We have just shown that Ψ gives a bijection between $\mathbb{RP}^2/S_3$ and $\mathcal{M}$, and we can give $\mathcal{M}$ a topology which makes Ψ a homeomorphism. Proposition A.1 shows that Φ is a homeomorphism between $\bar{\mathcal{S}}_m/\sim$ and $\mathbb{RP}^2/S_3$. □

References

[1] P. Baird and L. Danielo. Three-dimensional Ricci soliton
Math. 608 (2007), 65–91.
[2] F. Bourliot, J. Estes, P. M. Petropoulos, and P. Spinde
geometric flows. Preprint at arXiv:0906.4558v1 [hep-th].
[3] A. L. Besse. Einstein manifolds. Ergebnis Mathem
Mathematics and Related Areas (3)]. Springer-Verlag,
[4] X. Cao, J. Guckenheimer, and L. S f-Coste. The backw
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[5] X. Cao, Y. Ni, and L. Saloff oste. Cross curvature flo
Pacific J. Math. 236 (2008), o. 2, 263–281.
[6] X. Cao and L. Saloff-Coste. ross curvature flow on locall
at arXiv:0805.3380v1 [math.D G].

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

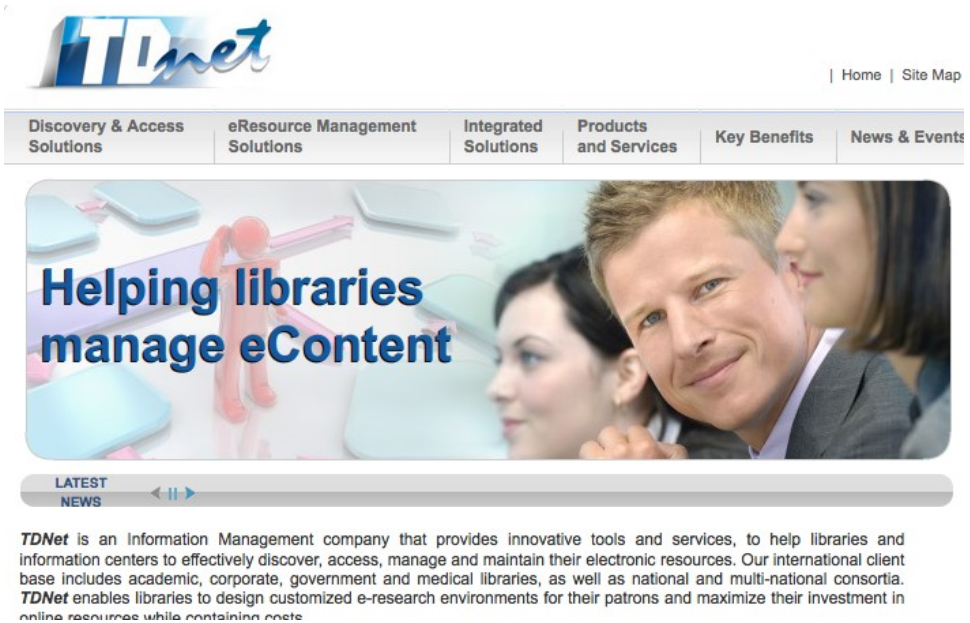
Open source alternatives exist:

"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!

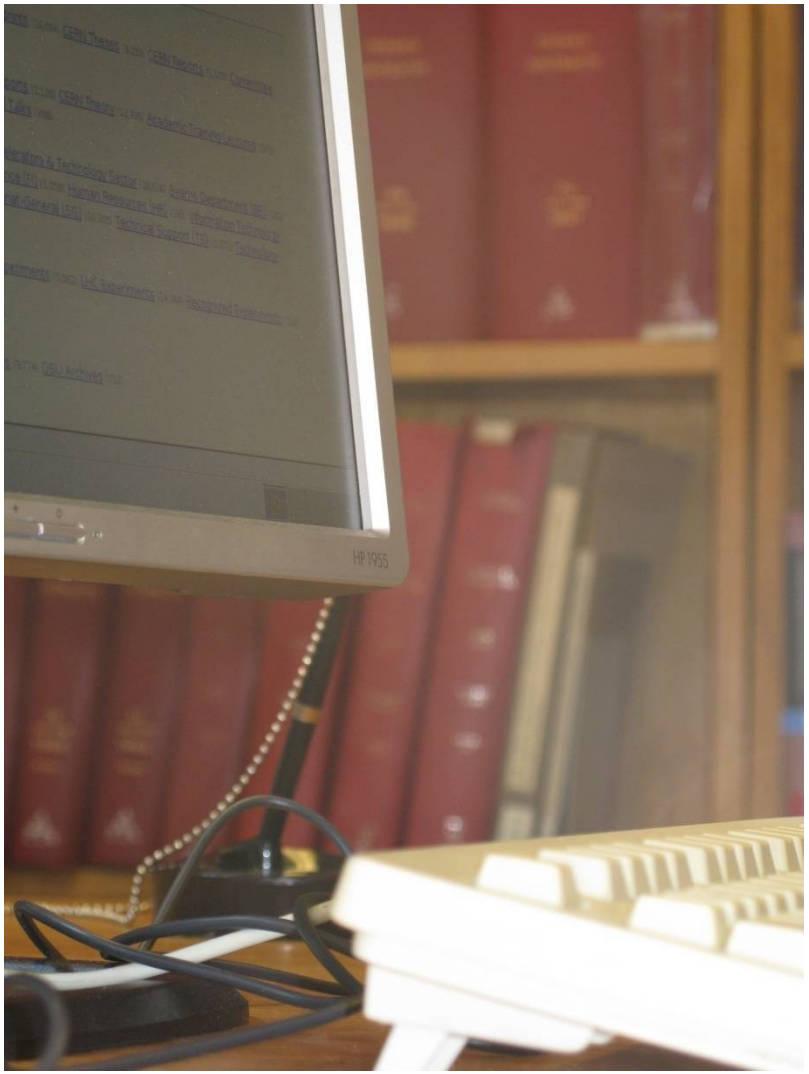
Open source alternatives exist:

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



Digital libraries vs traditional libraries

DIGITAL Libraries are (still?) a **COMPLEMENT** to **TRADITIONAL** Libraries



I. Digital Libraries

Requirements

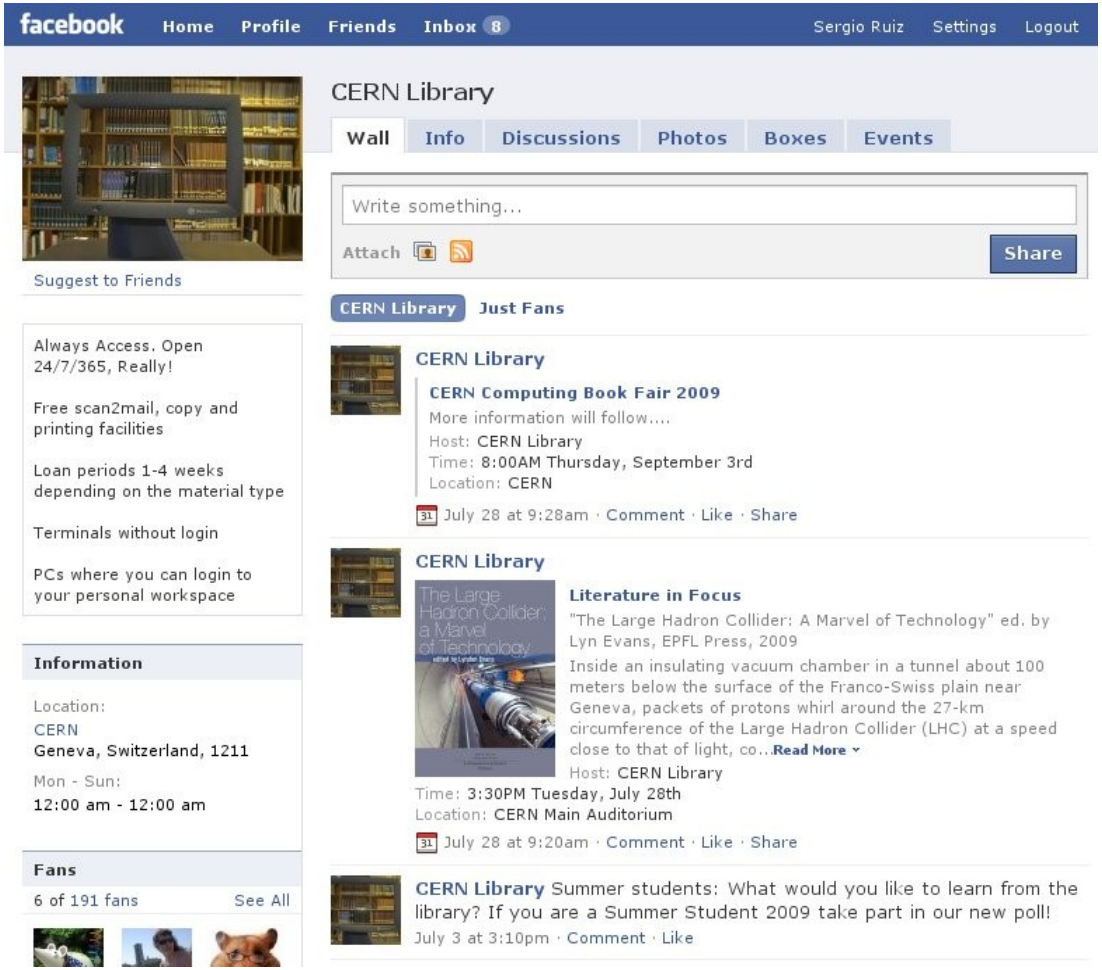
Requirements

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

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:



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**

Requirements

Setting up a digital library is **CHALLENGING**

In order to make it **SIMPLE** for the users

Requirements

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 busines
  - Is there a future in selling content?
  - Converting to selling services related to content
- Where does publishing stop and libraries begin?

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