



Digital Libraries: use and examples

Tefko Saracevic, Ph.D.

*School of Communication, Information and Library
Studies*

Rutgers University

New Brunswick, New Jersey, U.S.A.

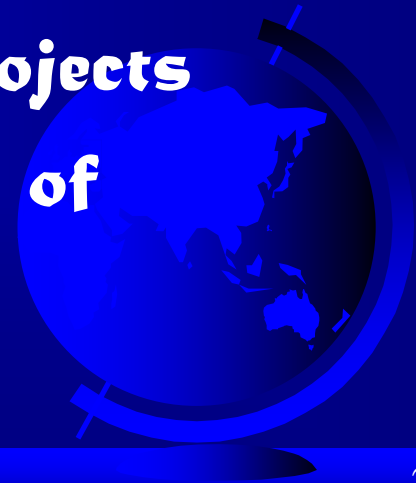
tefko@scils.rutgers.edu

<http://www.scils.rutgers.edu/people/>

[faculty/tefko.html](http://www.scils.rutgers.edu/people/faculty/tefko.html)

On the scene

- **Several different communities involved in digital libraries, each with quite different**
 - ➔ **concepts, meanings in dealing**
 - ➔ **concentration, emphasis, approach**
- **Many disciplines, institutions involved**
- **National & global interest**
- **Large research and developmental projects**
- **Very high significance for the future of libraries & library & information professionals**



Basic problems addressed

- **Creating means & ways for dealing with & using human knowledge records in the new digitalized and networked world**
- **What to do with the electronic “book”, journals, publications, images, sounds, assembly of data?**
- **Problems are technical, organizational, managerial, social, legal, economic, cultural ...**
- **Digital revolution may be as far reaching as that created by Gutenberg & the printed book**



What is a DIGITAL LIBRARY?

- *No single, all-encompassing answer*
- *Several perspectives*
 - ➔ *from different communities – different agendas*
- *Little communication among them*
- *Coherent, integrating concept, approach not yet emerged*
- *Complex problems in any approach*
 - ➔ *Many experiments; many experts & “experts”*
- *Highly exciting & volatile area*



Computer science, engineering

☞ Concentrating on *R&D*

☞ Technology centered

→ distributed & organized knowledge
resources in electronic, digital formats

◆ collect, store, organize,

◆ diverse types of information

– texts, images, sounds, multimedia

→ new kind of distributed database services to
manage unstructured multimedia resources

☞ Important for infrastructure



Examples of research areas

- **Interoperability between heterogeneous collections**
- **Data integration - text, video, sound; metadata**
- **Network protocols and standards**
- **Search engines & agents for searching, filtering, navigating, summarizing, integration**
- **Visualization & other interactive technology**
 - ➔ **browsing large volumes of texts & imagery; display**
- **Scaling R&D to large collections, applications**



Libraries and information science

- ☞ **Concentrates on institutions, service, practice**
 - ➔ **logical extension of libraries**
- ☞ **Content, collection centered**
 - ➔ **Creation of digital collections**
 - ◆ **variety of materials**
 - ◆ **repositories of digital materials**
 - ➔ **Access to collections**
- ☞ **Guided by service mission**
 - ◆ **various environments, user communities**
 - ◆ **various degrees of integration or separation**



Digital Library Federation (DLF)

“Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities.”



Examples of projects

→ Large number in the U.S. - various institutions -
e.g.:

→ National Digital Library of the Library of Congress

◆ "provide the widest possible access to knowledge & information for educating a free society."

→ Numerous projects in Europe - e.g.:

→ Library Working Group in Britain; publishers projects with National Libraries; Delos Working Group (Espirit);

→ ERCIM consortium of institutions

→ All have web pages & many links to projects

Professional & related organizations

- Concentrate on collections & new forms of publishing in their area
- Field, application centered - highly diversified
- Variety of organizations
 - ➔ scientific & technical societies
 - ➔ various fields, academic units
 - ➔ projects - institutions, consortia
 - ➔ government agencies
- Services to communities or perceived needs



Examples of projects

☞ *Association for Computing Machinery (ACM)*

→ digital library <http://www.acm.org/>

☞ *American Institute of Physics Online Journals*

→ <http://www.aip.org/ojes.html>

☞ *The Institute of Physics Online Services*

→ <http://www.iop.org/online.html>

☞ *Brown University Physics Internet Resources*

→ <http://www.het.brown.edu/physics/>

☞ *World Wide Web Virtual Library:*

Commerce, business

- ☞ **Concentrate on opportunities**
- ☞ **Marketplace centered**
- ☞ **Information resources and services**
 - world, fields, market niches
 - new opportunities
 - integration, extension of old
- ☞ **Publishers**
 - experimenting - traditional & new emerging
- ☞ **Mix of technology & economics**



Economic issues

- ☞ **Costs not insignificant - WHO PAYS?**
 - **Presently R&D support from agencies - but after?**
- ☞ **Dilemma in library budgets**
 - **licensing of digital publications vs. subscriptions**
- ☞ **Publishers' economics for digital publications**
 - **approaches vary, not settled, even scared**
 - **even: who is a publisher? - lines blurring**
- ☞ **Economics of digital libraries still up in the air**
 - **room for research & experimentation**



Social issues

- ☞ **Legal issues: copyright protection, security**
- ☞ **Individual: privacy protection; rights; obligations**
 - role in information exchanges, work, needs; life ...
- ☞ **Organizations: integration; changing structure**
- ☞ **Traditional libraries: disappearing? changing?**
- ☞ **Impact: on research, business, education?**
- ☞ **Education: professional, continuing, general**
- ☞ **Computing & society: growing disparity between information rich & poor**



General opportunities

- **Building digital collections of national importance from existing texts, documents, images**
 - ➔ **historical, educational, strategic, legislative ...**
- **Creating new digital documents & linking them**
- **Cataloging Internet resources in own domain**
- **Selecting digital resources from wherever & creating & maintaining linkages**
- **Developing/adapting search engines & other management tools for digital collections**



General opportunities ... continued

- **Providing access to digital collections**
- **Integrating digital & other library collections**
 - ➔ **incl. integration of OPACs & library management tools**
- **Establishing services for digital libraries**
 - ➔ **online access & offline support**
 - ➔ **education & training of users, and librarians**
- **Addressing social, legal, policy issues**
- **Cooperative national & international ventures**
- **Outsourcing services; going into business of *DL***



Conclusions

“War is too important a matter to be left to the generals.”

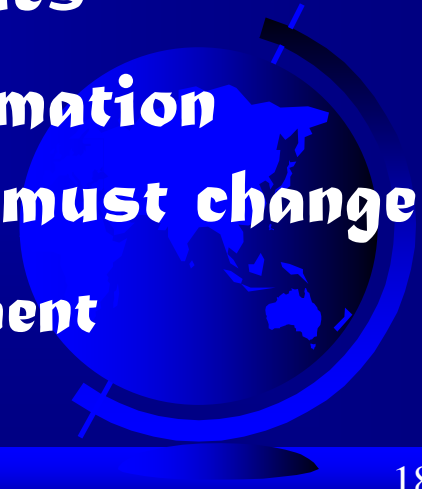
Georges Clemenceau

- ☞ Digital libraries are too important to be left to any one discipline, any one agency**
- ☞ Why? Work on digital libraries is defining the future of handling of human knowledge records**
- ☞ Caught a lot of interest globally & politically**
- ☞ They are also redefining the role of libraries in society & the role of librarians & inf. specialists**



Conclusions ... continued

- **Digital libraries provide challenge & opportunity for cooperative, interdisciplinary ventures**
- **Provides a *GREAT* opportunity for many institutions to participate in many ways**
 - ➔ **Have room for smaller institutions & projects**
- **Digital libraries will not replace libraries**
- **But no matter what: libraries and information agencies cannot escape digital libraries, must change**
 - ➔ **so might as well actively join the movement**



Invitation !!!!! Participate!!!!

*Third International Conference on Conceptions of
Library & Information Science (COLIS 3)*

Theme: Digital libraries

23-26 May 1999, Dubrovnik, Croatia

*Tutorial; presentations; proceedings; workshops;
demonstrations; panels; exhibit; social events*

Participants from Europe, America, Australia

Registration, information: <http://www.colis3.hr>



Hvala

Thank you

Danke

Merci

Gracias

Grazie



Web leads to digital library projects - all with many further links

- ☞ *Federation for Digital Libraries:* <http://www.clir.org/programs/diglib/diglib.html>
- ☞ *Project DELOS, ERCIM:* <http://www.area.pi.cnr.it/ErchimDL>
- ☞ *Library of Congress:*
 - ➔ *American Memory Project:* <http://memory.loc.gov>
 - ➔ *National Digital Library:* <http://lcweb.loc.gov/loc/ndlf>
 - ➔ *Links with other projects:* <http://lcweb.loc.gov/global/explore.html>
- ☞ *California Digital Library:* <http://www.cdlib.org>
- ☞ *Publications: Dlib Magazine:* <http://www.dlib.org>
 - ➔ *J. of Digital Information:* <http://jodi.ecs.soton.ac.uk/>
- ☞ *Dlib courses: Rutgers:* <http://www.scils.rutgers.edu/lis/digitalsplash.html>
 - ➔ *Virginia Tech:* <http://fox.cs.vt.edu>
- ☞ *American Studies Electronic Crossroads:* <http://www.georgetown.edu/crossroads/>
- ☞ *Digital Libraries Initiative Phase 2:* <http://www.dli2.nsf.gov/>
- ☞ *eBLAST: Encyclopædia Britannica's Internet Guide:* <http://www.ebig.com/>
- ☞ *WWW Virtual Library:* <http://www.vlib.org/Some.html>

