

Digital Libraries: Knowledge Spaces Enabling Collective Intelligence

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A new dimension of communication should enable us to share our knowledge and acknowledge it to others, which is the fundamental condition for collective intelligence.

We will have at our disposal simple and practical means for knowing what we are doing as a group.

We will be able to manipulate, much more easily than we are able to write, the instruments of collective utterance

Pierre Lévy, Collective Intelligence, 1997

Digital Libraries

- Virtual spaces designed to enable scholarly activities
- Scholarly activities are, by definition, collaborative activities

Digital libraries are not libraries

- Information units: book and magazine are just special cases and just a metaphor
- Genres: multimedia e hipertextual
- Classification schemes: many, heterogeneous, personalized ... unnecessary (?)

Digital libraries are not libraries

- Search mechanisms: content-based, precise o fuzzy, ideally instantaneous
- Maximum number of concurrent users: infinite
- Assistance for users: human and automated

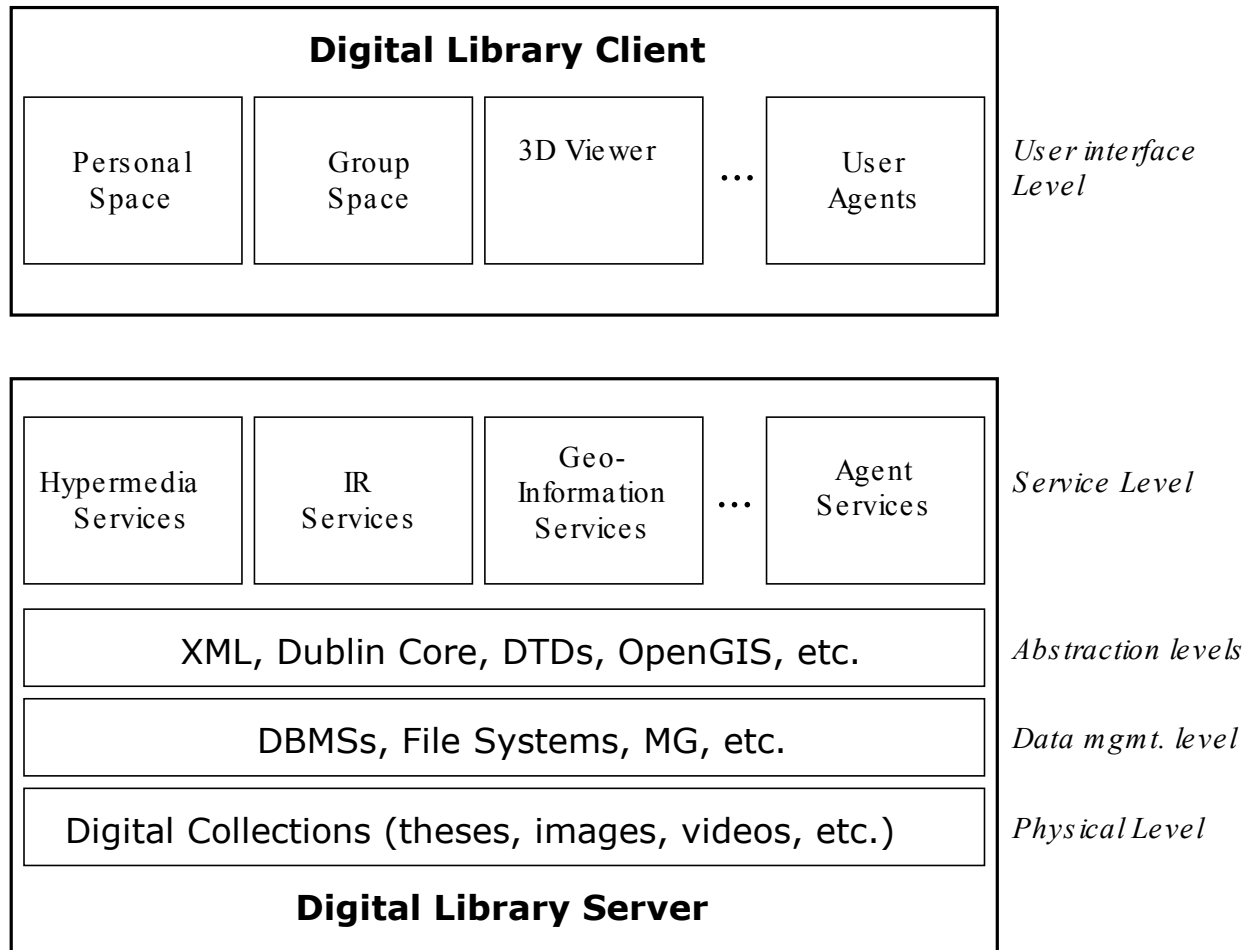
Digital libraries: Impact

- New work practices
- New requirements to support users
- New cultural requirements to access, use and generate knowledge

Digital libraries: Components

- **Collections** – contents
 - Materials produced digitally
 - Digitized materials (from paper, microfilm, audio, video)
- **Services** – access mechanisms
- **User Interfaces and environments**

Digital Libraries: Architecture

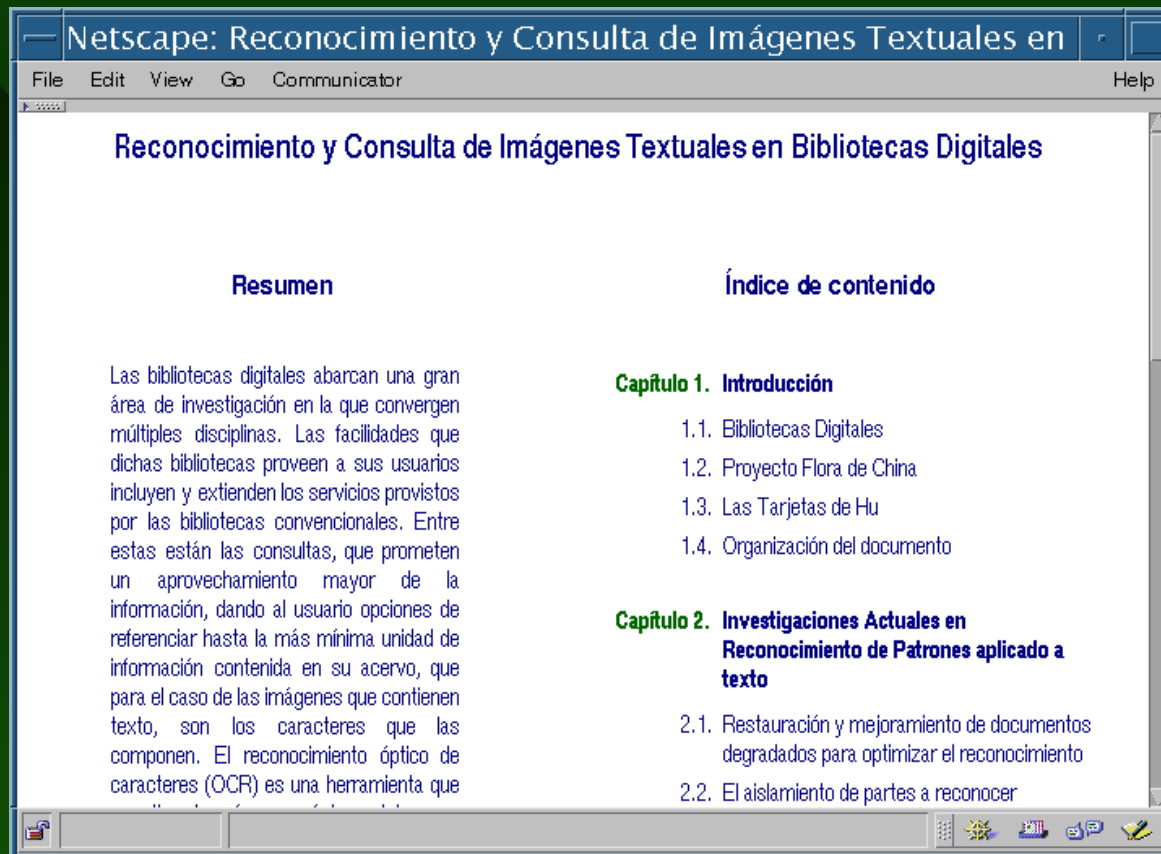


U-DL-A: University Digital Libraries for All

- R&D Initiative
- Main objective: To produce advances in the two major DL areas:
 - Construction of repositories
 - Development of user interfaces and environments
- Funding: UDLA, Conacyt, World Bank, ...

U-DL-A: Collections

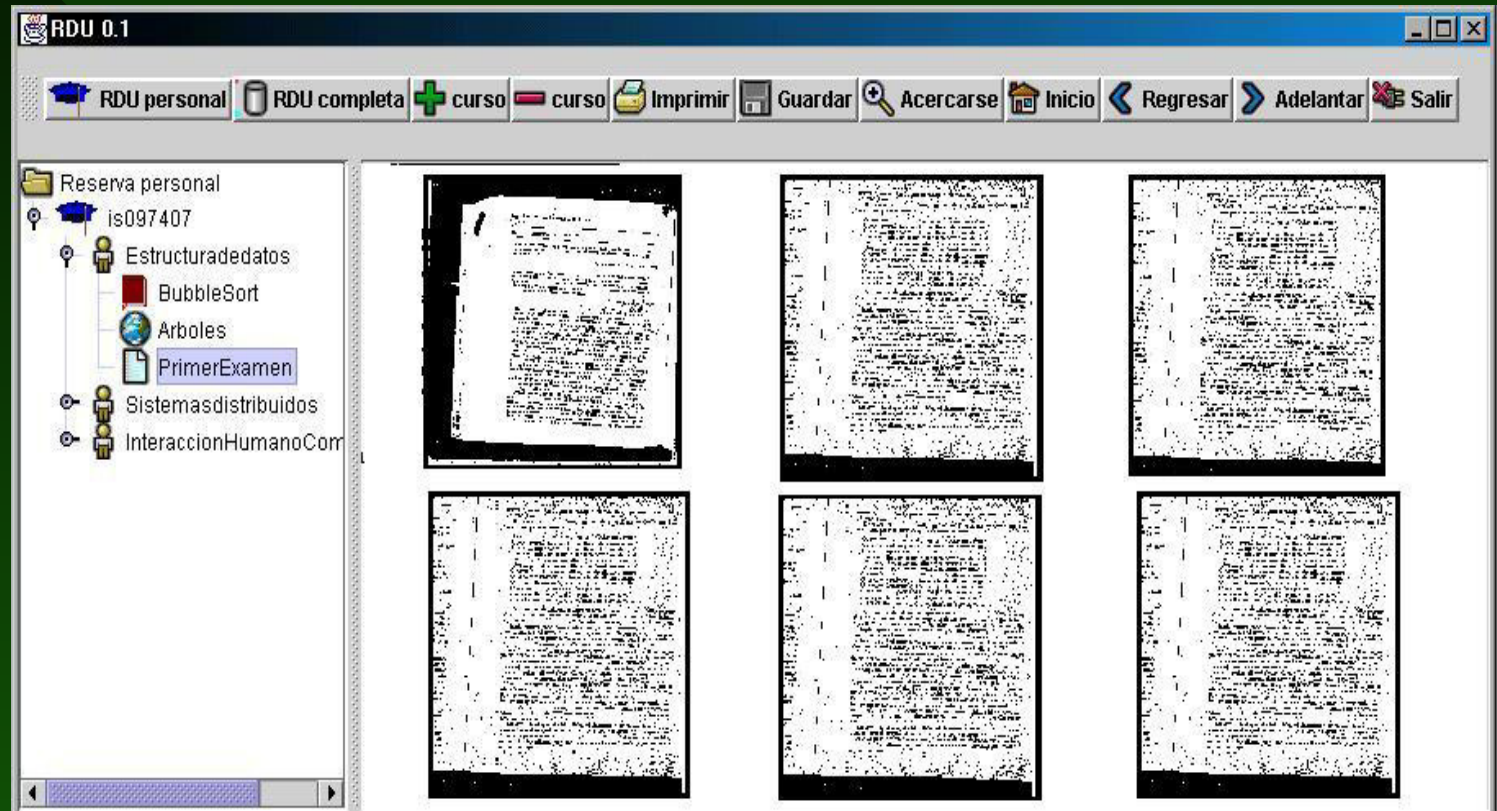
- Digital Theses -- goal: 800 content-searchable theses per year



U-DL-A: Collections

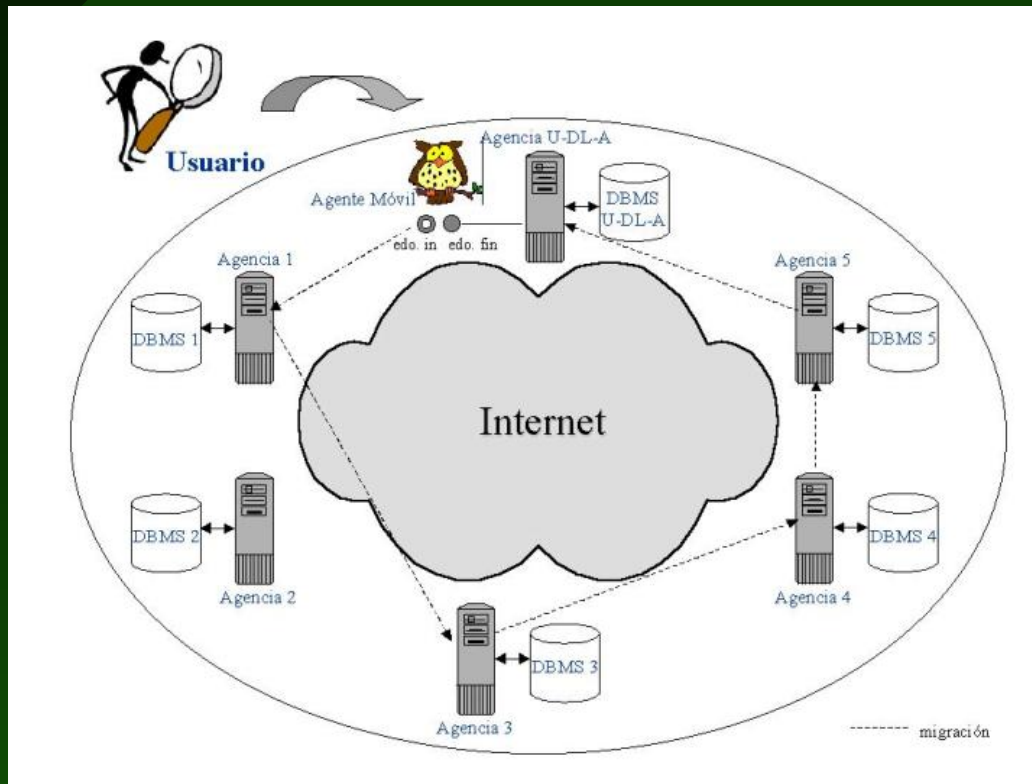
Digital Reserve (RDU):

- From paper to 100+ GB each semester
- Personalized access



U-DL-A: Collections

- Federation based on Open Archives (www.openarchives.org), including NDLTD



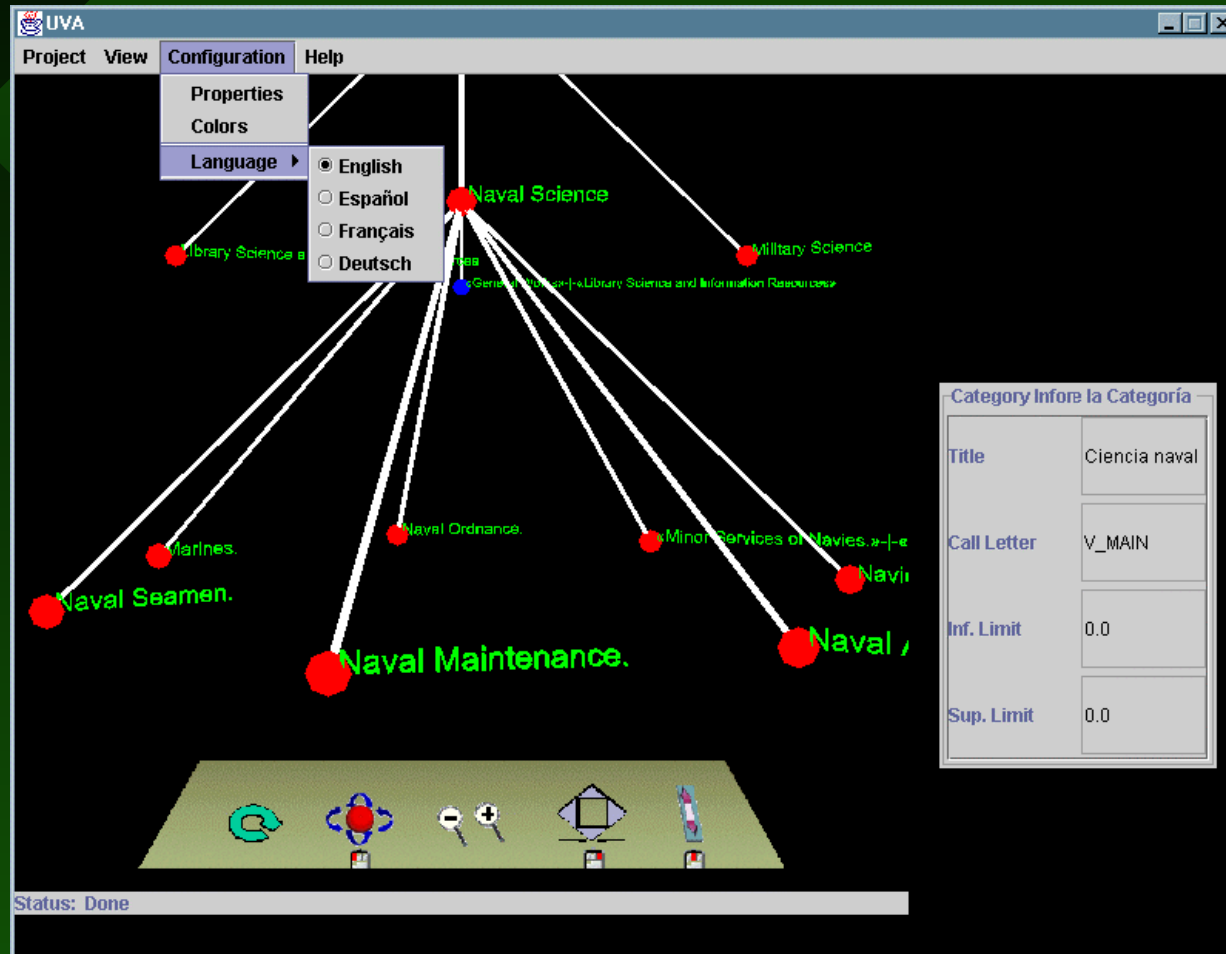
- Initial nodes
 - UDLA
 - VT
 - ITESM-Mty

U-DL-A: Services

- Information Retrieval
 - Facilities for text, image, video, spatial data
- Agent management
 - Abstractions for developers, administrators and end users
 - Recommender and mobile agents included

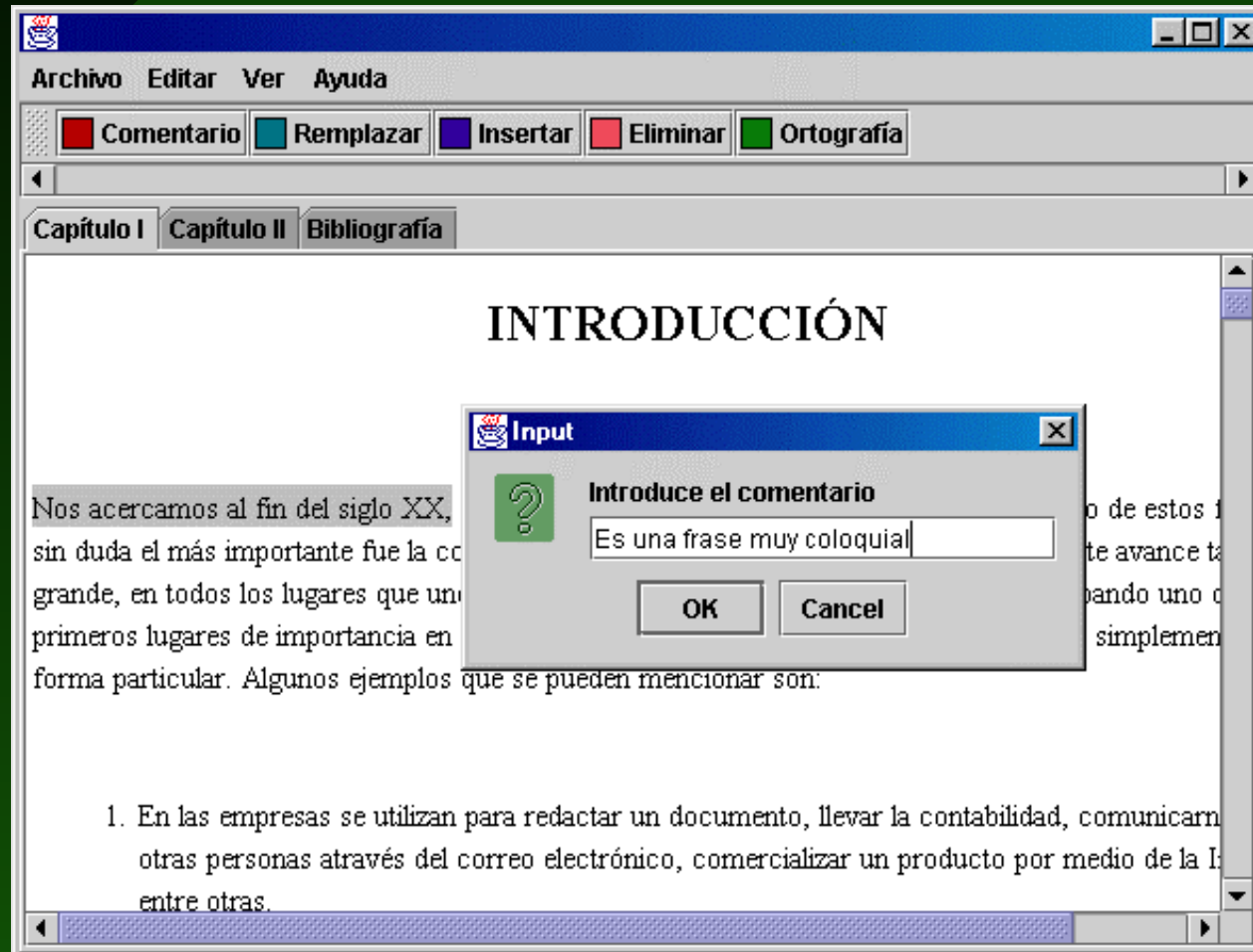
U-DL-A: User interfaces

- UVA: Visualization of large information spaces



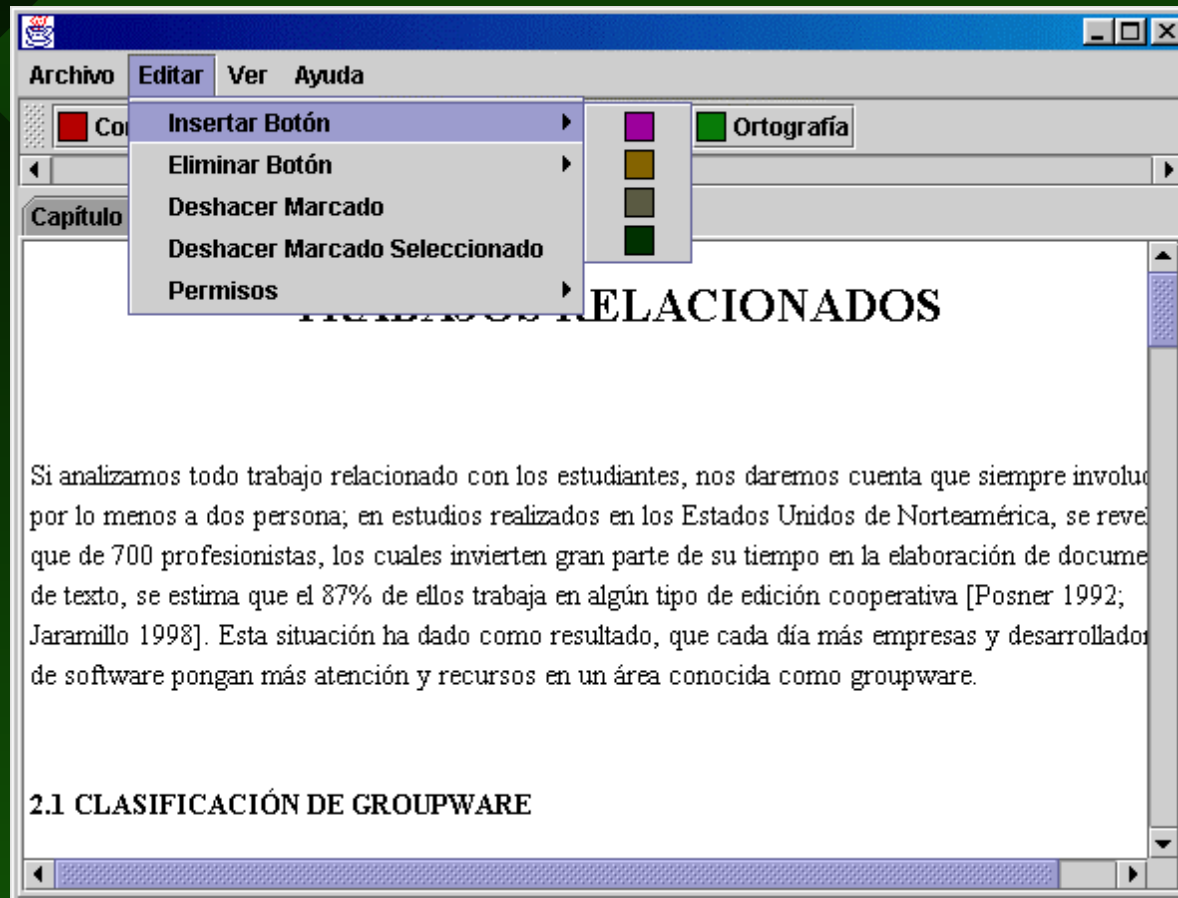
U-DL-A: User interfaces

- Revision and annotation of digital documents



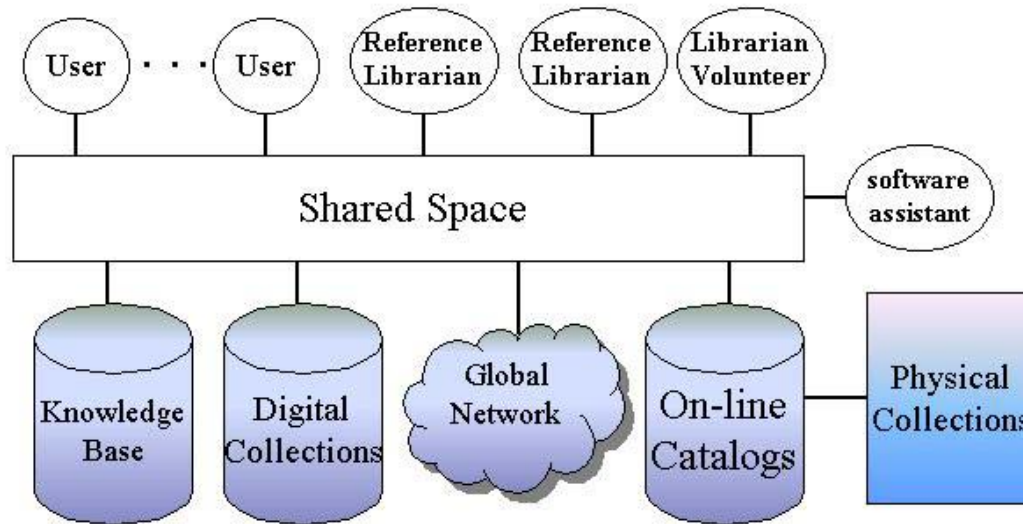
U-DL-A: User interfaces

- Revision and annotation of digital documents



U-DL-A: collaboration environments

- VRef: Virtual Reference



U-DL-A: collaboration environments

Netscape: Consultas Virtuales -> User: 096951

File Edit View Go Communicator

Location: <http://ict-lab.udlap.mx:8080/servlet/mx.u>

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ONLINE USERS

- Librarian
- Librarian
- Volunteer
- Normal User

- 096951
- 9898
- lulu
- parellan

Unsolved Questions by Topic - Date - Author

Question	Author	Topic	Date	Answer	Vi
<i>Could somebody tell me where can I find something about the biggest buildings in the world?</i>	ropez	ar	20 / 4 / 1	Add Answer	
<i>I need information about Heat Transfer...</i>	097545	fm	20 / 4 / 1	Add Answer	
<i>I need some info about the new Pentium IV</i>	Villano	ie	20 / 4 / 1	Add Answer	
<i>Where can I find something about Mozart?</i>	Marcos	mu	20 / 4 / 1	Add Answer	
<i>Does someone have information about the meeting between Fox</i>	ropez	ri	20 / 4 / 1	Add Answer	

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Question

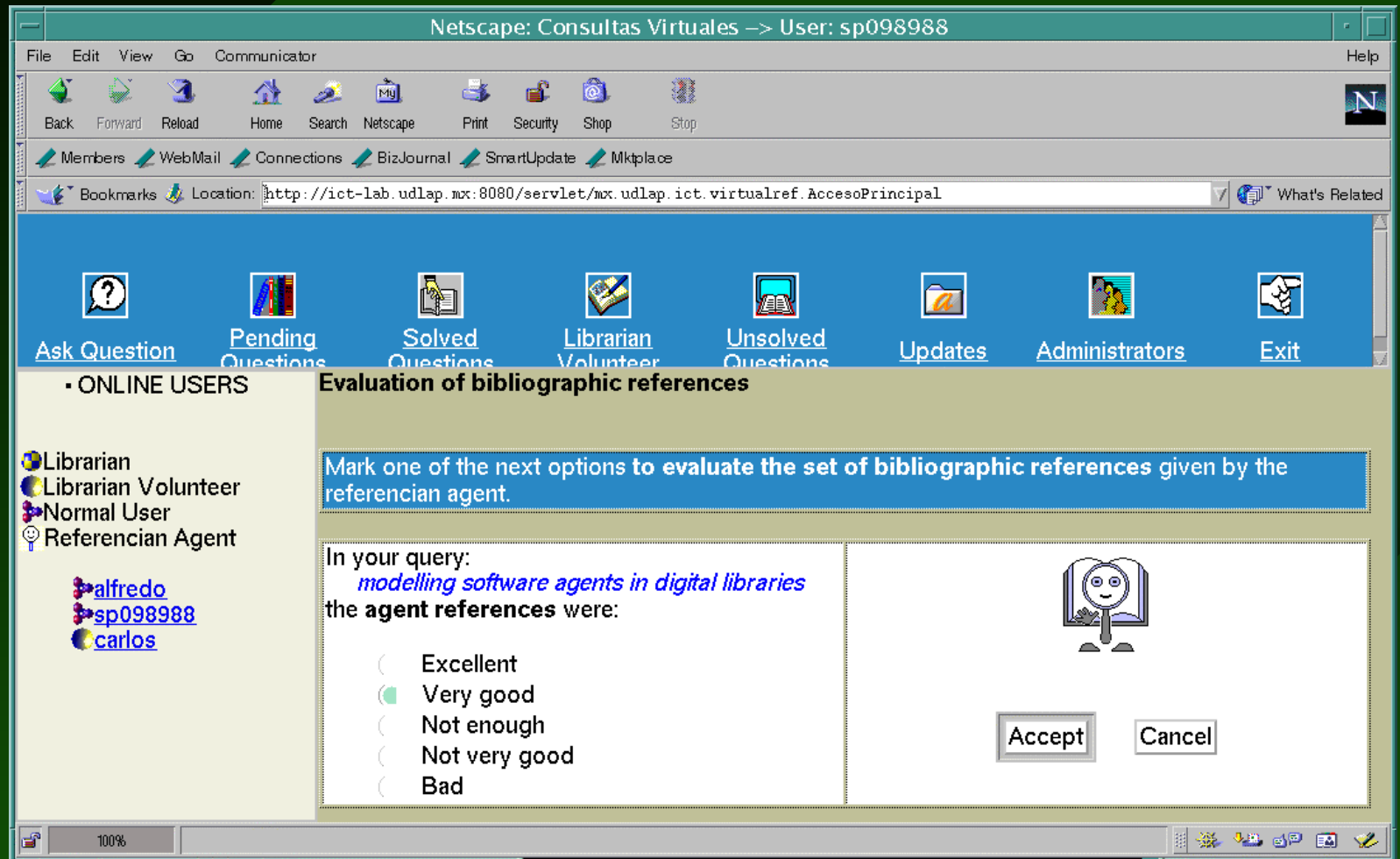
Could somebody tell me where can I find something about the biggest buildings in the world?

Answer

Title	Giants
Classification	gf/h3.5/432
Publisher	Graduate
Pages	all
Authors	Garibay, Peter
Comments	pretty good.

Is that correct?

U-DL-A: collaboration environments



U-DL-A: Ongoing work

- Prototype testing: usability, robustness
- Construction of repositories
- Extensions to support new data types (spatial, multimedia)
- Training personnel
- Definition of collaborative projects
- Publishing results (see <http://ict.udlap.mx>)

Digital Libraries and Knowledge Management

- Amigos 2002 Conference: Cooperation for Knowledge Management
- February 21-23, 2002
- University of the Americas-Puebla
- <http://biblio.udlap.mx/congreso>

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