This paper on World Wide Web-based continuing education begins with an overview of the concept of the virtual university and the creation of a community of scholars in the virtual university. The University of California Digital Library is then described, including: the strategic need for libraries to change; attributes of the traditional, virtual, and digital library; and a paradigm shift resulting in new definitions of libraries and librarianship. The remainder of the paper focuses on the San Jose State University (California) Virtual School of Library and Information Science, including its mission statement, vision, innovative elements, collaboration and partnerships, development phases, project staff elements, and the learners. (MES)
Web-based Instruction for Continuing Education
Students: a report on the San Jose State University Virtual Library School Program and its potential for web-based instruction for Continuing Education

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Libraries are in A Time of Parenthesis.
They are not what they were,
Nor what they will be.

(Margaret Knox Goggin paraphrasing John Naisbitt)

Skate to where the puck's going to be,
not where it has been.
Anticipate. Anticipate" -- Walter Gretzky

(Wayne Gretzky's, the all-time great hockey player, father)

In its early days the Internet was characterized as "A Cloud of Users," but the development of the search engines and the meta search engines is providing powerful indexing and access tools to any user. Carla Hesse, in a chapter in the Future of the Book, points out the similarity of new technology's impact on communication between the end of 18th century paradigm shift and the end of the 20th century. She sees the experimentation with micro technologies as a means of putting the power of publication into the hands of every individual citizen. Condorcet saw the new technologies for communication at the end of the 17th Century as the
opportunity to bring all of France into a dialogue with itself. Unfortunately, the French revolution intervened and it took centuries to be realized. That time did lead to recognition of intellectual property. Is the promise becoming reality as we enter the 21st century? The Internet is a new medium, a cultural phenomenon, a tool for uniting the world, and a great equalizer for access to libraries. It provides access to the Library of Congress, and the Smithsonian Institute, as well as to the Public Library in Homer, Alaska (the great institutions to the small). But is it a vehicle for the virtual university?

The Virtual University

There are signs that the Internet may be over-hyped for education. Is the Virtual University Vaporware? The Western Governors Virtual University in the United States had a huge buildup in the press but is now rumored to have very little actual enrollment after two years of planning and hype. The California Virtual University quietly closed its doors about a year after a grand announcement by the Governor. Perhaps education over the Internet requires a broader perspective than just looking at what the technology can do. Perhaps the University is an artificial construct that doesn't translate into the virtual world. Cliff Lynch of the Coalition for Networked Information states that

One of the purposes of a university is to create a community of scholars, and to prepare students to join that community.

So, the question is how do we create a community of scholars in a virtual university? The first step perhaps is to distinguish between a college or school and a university. We feel that Virtual education must start with a smaller, more cohesive unit such as a school within a University. Library and Information Science is a perfect discipline for development of tools and methodologies for asynchronous, distance independent, continuing education. The School of Library and Information Science at San Jose State University, the only ALA accredited program in the 23 campus California State University system, is an excellent starting point for transforming education.

There is a second factor in the creation of a distance courseware. Individual faculty from whom the treasured content is actually created, must feel two forces beckoning their investment of time and energy: academic rewards and entrepreneurial benefit. Currently, organizations, networks, and consortia are greedily developing infrastructure assuming they will make fortunes off the creative energies of faculty willing to "teach once - many playbacks" thus cutting costs. The existence of a rich body of high quality educational coursework, constantly updated, and tailored to individual learning styles is a challenge to San Jose State University just as it is to every other distance-education provider.

The Virtual Library

At the same time that the California Virtual University closed its doors, the California Digital Library (a new library in the University of California System that is only about two years old) is thriving. If we consider the totality of the library resources that are available on the Internet as a Virtual Library we see that it is global, dynamic, expanding by the second, and, is being cataloged by the commercial world (Yahoo, Lycos, etc.) as well as the public institutions. The Virtual Library reached the size of the New York Public Library in less than 5 years. At least 85% of the public libraries in U.S. provide public access to the Internet. Public libraries are the largest public access mechanisms after the home, office, and school.

Strategic Overview

Strategic Need for Libraries To Change
Attributes of the Traditional Library, The Virtual Library, and the Digital Library

**Traditional Library**
- Collections physically bound by walls
- Collections are artifacts
- Print oriented
- Users must go to library
- Collections selected and managed
- Intellectual property protected by physical artifact
- Implied contract with publisher

**Virtual Library**
- Collections are global
- Collections are digitized
- Channels are more important than local content
- Users are global and online
- Collections are not managed
- Intellectual property rights not managed
- No contract with publisher

**Digital Library**
- Artifacts are cataloged and inventoried online
- Local media is digitized
- Channels are included and managed
- Collections are managed
- Intellectual property rights managed
- System is maintained and updated remotely by vendor

The digital library will continue to be community connected, both in users and in collections and channels. Its three major resource components will be the print-based collections, the local digital content, and the channels for access to the Internet and other networked resources. The Online Public Access Catalog will be client/server based and will seamless integrate the three components into a single user friendly access aid.

**Paradigm Shift**
We are at a transition point and it is time for new definitions. The previous definition of the library no longer serves our communities well in the digital age. The earlier definition as a community collection of books is too limiting. We must have a definition that works for both the traditional library and the virtual library. The library should be redefined as a space to practice librarianship. So, what is Librarianship? Librarianship is the people who practice the craft of selecting, collecting, organizing, preserving, and disseminating the vessels of knowledge. They also apply the values and ethics of the profession, and advocate for access to information, knowledge, reading, and learning.

How do we transform Libraries and Librarianship into 21st Century institutions? We create a Virtual School of Library and Information Science.

Mission Statement of the Virtual Library School:

- To use technology to extend the School of Library and Information Science beyond current distance and time constraints (Out of the box)
- To ensure the quality of learning for librarians
- To document the results for research purposes
- To disseminate the knowledge gained in the program to the field

A Vision for the Virtual Library School:

An internationally recognized program that creates and sustains LIS professionals whom will transform libraries into 21st Century institutions through innovation and collaboration

Innovative Elements:

The VSLIS project will accelerate the development of a comprehensive system for the identification of need, curriculum updating, courseware creation, interactive asynchronous communication over infinite distances, and management and assessment. A number of
here-to-fore discrete components will be integrated into a systemic program. These programs are:

- A Library Learning Channel
- Asynchronous
- Geographical Independence
- E-Texts assigned by Faculty
- E-Library for expanded resources
- E-Classroom for interactive communication
- Quality Assurance Benchmarks
- Knowledge Transformation Center to create courseware

**Collaboration**

The project involves public or non-profit agencies to assist in the creation and distribution of the courseware. The California State Library will incorporate the "Library Learning Channel" into their program to develop Internet access in every public library in California. The Bibliographical Center for Research will use the VSLIS as one of the sources of its Continuing Education program. The use of existing library networks will support communication at the regional level and mentoring for the students. The California State Library will also use the Knowledge Transformation Center to create Internet based tutorials for library staff and their publics. Stanford University will be hosting an Institute on Libraries in the 21st Century and will provide the presentations at that institution as course modules to the VSLIS. It is anticipated that other partners will be enlisted in the future to expand the courseware that is available. The American Library Association and the California Library Association are natural partners.

OCLC is also interested in using the tutorials developed for the project for distribution throughout its global network.

**Public Distributors**
- Bibliographic Center for Research, RMR
- California State Library
- California State University

**Public Content Producers**
- California State Library
- Stanford University
- San Jose State University

The system for the delivery of the courseware, online resources, and management elements for the program will require the development of new processes. The VSLIS has enlisted a number of partners that are viewing the project as an opportunity to develop or refine their tools for education.

**Private Partners for Technology Development**
- Living Stone Technology, Inc. will supply the Digital Media Management System and the Electronic Classroom
- netLibrary, Inc. will supply the Electronic Library of textbooks and supplementary print resources
- Silicon Graphics, Inc. will assist in the creation of the Video Streaming system for asynchronous distribution of the video resources
- Divicom will advise on the use of compression technology to ensure the widest possible distribution system
- 3COM has agreed to assist in the implementation of state-of-the-art networking capacity
Innovation and Collaboration Model

*Diagram is not available. Please contact authors.*

The knowledge transformation Center serves as the integrative element to take content from the faculty, conferences and workshops, textbook publishers, electronic journals and merge them into digital courseware.

KnowledgeBase is the Digital Media Management and Distribution system that allows the courseware and intellectual property rights to be managed.

Quality Assurance

*Diagram is not available. Please contact authors.*

Phases

Development - Phase A (fall of 1999)
- Planning
- Collaboration Building
- Technology & Network Development
- Assessment & Standards Tools Development

Development - Phase B (Spring of 2000)
- Delivery of Courseware (first semester)
- Formative Assessment and Adjustment
- Delivery of Courseware (second semester)
- Formative Assessment and Adjustment
- Delivery of Courseware (third semester)
- Final Assessment

Institutionalization - Phase C (Fall of 2002)
- Self funded
- Replicated throughout the California State University system
- Adapted to other education applications

Project Staff Elements

The project will have staff for 6 functions.

- Coordinator & Principle Investigator
- Communication & Marketing
- Faculty
- Production & Technical Support
- Assessment
- Transformation Training Unit

The Learners

The project is designed to provide a focal point for Continuing Education for librarians in the state of California. It will leverage content from the courses for the degree program for the School of Library and Information Science to provide CE for practitioners and will bring in the expertise from workshops, conferences, and institutes as part of the courseware for the SLIS. It is intended that the program will prepare the new professional for their initial position and then will continue to provide opportunities to learn.
If the federal funding is received for the fall of 1999, the courses will start on the Internet in the spring semester of 2000. Some of the parts, such as the Digital Media Management System are being developed now. A Beta test of the LSTI DMMS is already in operation at the SJSU School of Library and Information Science and Sonoma State University.

Endnote:

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