A Global View of Sharing Digitized Information

An Interview with Ching-chih Chen

Eric C. Shoaf

Ching-chih Chen, professor of Library and Information Science at Simmons College in Boston, is on the forefront of efforts to globalize the dissemination of electronic information. Her ambitious vision includes merging Web-based information from many institutional sources and sharing it all over the world. The daring plan has been widely endorsed and shows great promise.

Chen has devoted her major efforts in recent years to digital library research and development. Her Global Memory Net (www.memorynet.org), a multiyear international digital library project that is supported by the National Science Foundation (NSF/Integrated Data Link Pod), was publicly launched in July 2006. It was envisioned as an effective gateway to the world of cultural, historical, and heritage image collections. Its collaborators include the United Nation Education, Scientific and Cultural Organization's (UNESCO) Memory of the World, the Asian Division of Library of Congress, and many other major institutions around the world. Currently, Chen is leading another major, thirty-six-month NSF/IDLP project related to digital imaging, and is co-principal investigator of the major United States and China Million Book Digital Library Project supported by NSF and the Chinese Ministry of Education. She was a member of the U.S. President's Information Technology Advisory Committee (PITAC) from 1998–2002. She served on the advisory board of the DELOS (www.delos.info) European Network of Excellence in Digital Libraries. A consultant to the China Digital Library Program of the National Library of China, she serves on the steering and program committees of many international digital library conferences, including the Asian International Conference on Digital Libraries, Association for Computing Machinery and Institute of Electrical and Electronic Engineers Joint Conference on Digital Libraries, European Conference on Digital Libraries, International Conference on Digital Libraries, International Conference on Universal Libraries, and Russian Conference on Digital Libraries.

Chen is author and editor of thirty-five books and more than two hundred articles in the areas of information technology and management, among the more recent of which are those specifically related to global digital libraries. She has received many major awards and honors from the American Society of Information Science and Technology, the American Library Association, the Library Information Technology Association (LITA), the Association of Library and Information Science Educators, and so on. From LITA alone, aside from the Gaylord Award for Technology Achievement and the Hi-Tech Literature Award, she received the LITA/OCLC Kilgour Award in 2006. An American Association for the Advancement of Science Fellow, Chen received her BA from National Taiwan University, her MLS from the University of Michigan, and her Ph.D. from Case Western Reserve University in Ohio.

Q: How long have you been a library educator, and what were some of your earlier experiences in librarianship?

CC: I joined the Graduate School of Library and Information Science at Simmons College as assistant professor in 1971. Therefore, it has been more than thirty-five years that I have been an educator. Prior to that time, I worked as a science librarian in positions at MIT, University of Waterloo (Canada), and University of Michigan.

Q: What were some of your research areas at Simmons prior to globalism in librarianship? How did your previous work influence your present interest in the impact of globalism on librarianship?

CC: My work on globalism in librarianship stems from long-time international consulting and speaking on this topic, beginning in the 1960s. New technology applications to libraries have always been a part of my intensive research and development activities. It started from my first major technology application project funded by the Humanities in Libraries Program of the National Endowment for Humanities in mid-1980s. This resulted in an award-winning interactive videodisc and multimedia CD project on the first emperor of China. Contents of these later became the core starting image collection of the Global Memory Net. I have been a library consultant to more than two

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dozen countries and for such international organizations as UNESCO, the World Health Organization, and the Soros Foundation. I have also organized a series of twelve international conferences on new information technology from 1984 to 2001 in countries on several continents.

Q: What is the role of national governments in developing the global digital library? Are there local politics at work?

CC: We really have not defined "global digital library." But it takes a lot of individual motivation and initiative to work toward that, a grassroots effort by many people. National governments' roles vary greatly from one to the other, but by and large, they are generally providing funding, directions, and standards for some of these types of activities, and leave the conceptual framework development, and the research and development work, to others. Many countries in the world do not have any funding for these types of activities.

Q: What sort of funding models have been used to test the feasibility of the global digital library? From where would these funds originate, and how much money is needed to complete the project?

CC: I believe that my own Global Memory Net is a good example, and is making headway in promoting these types of activities with very modest funding from NSF. On the other hand, there are organizations with a huge amount of funding, but that are still unable to make a lot of progress, so I can't tell you how much money is needed as there is no fixed formula.

Q: Your recent experiences with developing global approaches to cooperative libraries reflect the larger trend of globalism in many fields. What sort of progress has been made for libraries, and what do individual libraries gain by the global approach?

CC: I have advocated the concept of a global digital library as early as 1993, when I was giving a keynote speech in Taiwan celebrating the sixtieth anniversary of the National Central Library at the International Conference on National Libraries: Toward the Twenty-first Century. At that time, a simple conceptual model was presented. The major technological barrier at that time was the speed and bandwidth of the global communications network.

The advances of technologies in the last decade have made it possible to provide universal access in many different ways not possible before. With the exciting convergence of content, technology, and global collaboration in this digital era, there are unprecedented potentials for developing digital libraries of all kinds. We are no longer talking about libraries only; we are actually talking about the integration of information providers of all types—libraries, museums, archives, institutions, private sources, even individuals—supplying access with multitype information sources, including texts, images, videos, sound, and so on. Thus, the gains to libraries and their users are enormous.

This is what Global Memory Net is all about. It uses the Web as a platform to provide integrated information services to users in a way not possible before. It is an internally developed, interactive multimedia content retrieval system (iMCS) that incorporates many innovative functions to meet the challenges of a world digital library.

Q: How does one level the playing field when taking a global approach to librarianship? After all, not all countries are able to support technology at the same level. What is being done by those who are more developed to help those less developed?

CC: Yes, this is a wonderful point, and this is also one I was privileged to take part in addressing when I served as a member of PITAC. The Panel on the Digital Divide addressed this point in great length.

Let's take a more down-to-earth approach. We need to involve others in many different ways. For developed countries, only a small percentage of libraries have fully utilized the capabilities of technology. Libraries of this category need to learn to do this better. For example, in the area of digital libraries, instead of creating each one's own individual digital collections, we need to link and integrate with other institutions that have digital collections. Global Memory Net has identified more than 2,400 digital collections from more than eighty countries, and through being able to link these together, the resources are a thousand times more powerful and rich.

For the less-developed countries, we need to remember that their content is just as rich, so we need to help to make it digitally available, and we need to help to build up a sustainable community that can do this work. Then, we need to provide an infrastructure to help to link them together. This is what I am doing now in partnership with the UNESCO World Heritage Center. This World Heritage Digital Center is not only going to link multimedia resources of the 830 current as well as future world heritage sites of 138 countries together, but also will attempt to build the community's capability in both creating and disseminating digital information resources to the world.

Q: How does content preservation apply in the global digital library environment?

CC: Digital content for the global digital library environment not only provides universal access, but is also very significant in preserving content. Just think about this uncertain period when treasures, for example, have been destroyed left and right due to war or natural disasters. Having something digital is lot better than not

having at all. Other questions about preserving the digital content itself will be resolved over time.

Q: You note that libraries need to work together "instead of creating individual digital collections." How can this common goal be achieved amid a lack of structure and different specifications used for image capture, archiving, and electronic presentation?

CC: Actually, we have more common standards and infrastructure now than we did a couple of years ago, and the situation is improving fast. The real barriers are more human- than technology-related. Collaboration is a two-way street. Again, Global Memory Net, in its own modest way, has set up the kind of global infrastructure to work with its content and technology partners. Specifications are just a part of that. It has made good progress working with an increasing number of libraries, museums, and archives in the world.

Q: How would copyright issues be resolved in a global digital library?

CC: If the content is provided by the partners who own the content, then copyright issues are resolved, provided proper techniques are there to respect owner organizations. See the dynamic digital watermark used in Global Memory Net for a better sense of how digital objects are marked. Also, old textual content that is already out of the copyright age should not be a problem.

Q: What can librarians do to help move this massive undertaking toward fruition?

CC: Try to be up to date and aware of all the related technologies, issues, and problems first, so that they can work together in the right way. We tend to think that these kinds of activities have to be undertaken by huge organizations. But that is not necessarily the case. Global Memory Net starts from the bottom and can be applied even in the smallest of library organizations.

Q: Where do you see Global Memory Net in the future ten years from now? What would you like it to look like?

CC: Technology has advanced so very fast, therefore it is impossible to predict the future beyond the immediate one or two years. At the moment, Global Memory Net has shown how the current network enables us to link many invaluable world digital resources together for universal access. Technology is not a problem, but the barriers will continue to be in the infrastructure and logistics. If such activities as Global Memory Net can go in much broader partnership and with more powerful groups of leading players in the information field, we will be able to be closer to the vision of universal access as promoted by PITAC's Digital Library Panel, of which I was a member from 1998–2002. This vision promotes the idea that anyone, anywhere, anytime, can have access to any information and human knowledge through the use of global information network. That is what Global Memory Net is working toward.