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Turning Pages

Reflections in Info-times
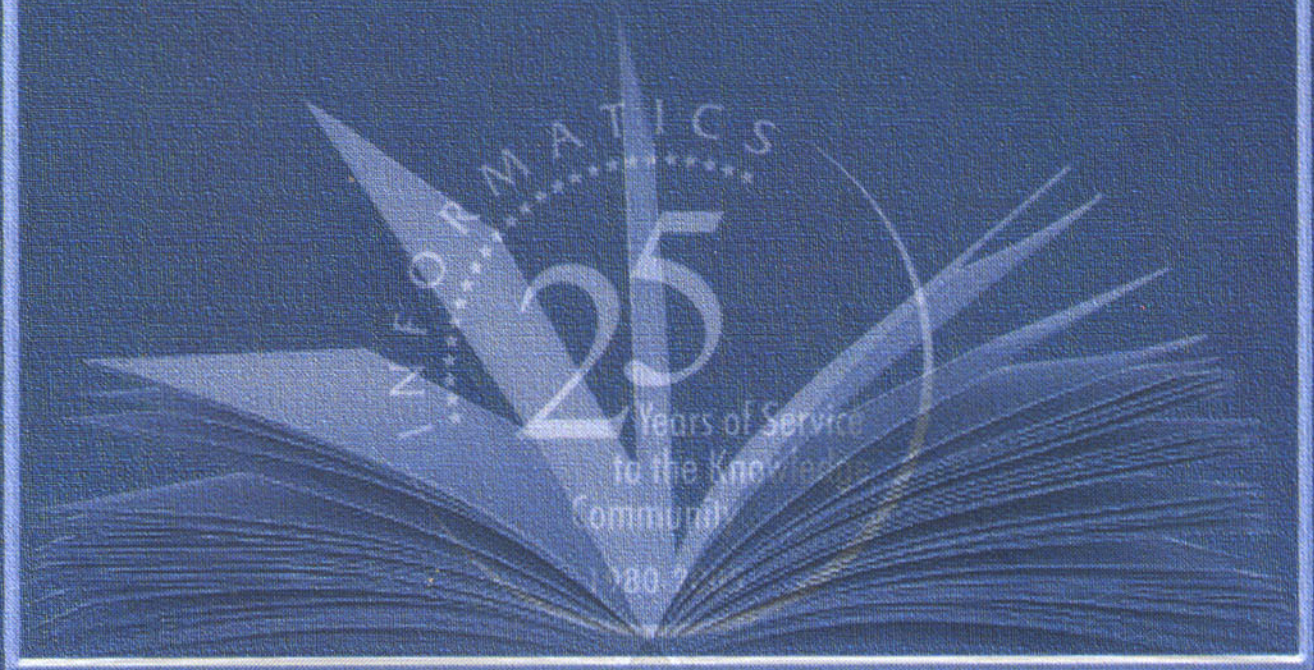
INF⦿RMATICS
A Passage to Knowledge

Digital Libraries and Universal Access in the 21st Century

Realities and potential

When I was giving an invited speech recently at the 3rd China-US Library Conference in Shanghai in March 2005, I could not help reflecting on the keynote speech that I gave at the 1st China-US Conference in Beijing in August 1996, entitled *"Global digital library and universal information access"*. In 1996, I stressed the need to plan for global information infrastructure to prepare for the coming of the global digital libraries. Now, less than a decade later, with the widespread use of the Internet and world wide web, we are seeing that much of what I advocated in 1996 on the use of multimedia and global network – now mainstream practices – are today taken for granted!

In fact, we have come a very long

way now – from the use of interactive multimedia technology in the workstation environment to the global networked environment. We have moved from the use of hardcopy and analog resources to digital content, which users can search, retrieve and use instantly to meet their needs over the global network with no national boundaries. We have also moved from the offering of multimedia content of one specific subject topic to the multilingual digital content of all media formats on all mixed subject topics to the world instantly. We are truly living in a new period of unprecedented opportunities and challenges! So, in this digital era, we have witnessed the exciting convergence of content, technology, and global collaboration in the development of digital libraries with great potential for universal

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information access.

Thus, today's information seekers – regardless of whether they are the general public, school children, or professionals from research and higher education communities – are looking for information in very different ways: for coping, entertainment, enrichment, education, and research. From the information resources point of view, the old model of "owning" a large collection has given way to

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"sharing," and the new emphasis has shifted from possessing large "physical libraries" which value their large number of volumes, to "virtual libraries" digitally distributed all over the world. One can access these resources anywhere, any time, and from any place with digital devices.

Since the mid-1980s, I have experienced many of the transformations that I just described personally – through my own R&D activities and involvement: from the creation of interactive video disks and multimedia CD in the 1980's and 1990's, to organizing major international conferences on new information technology (*NIT* conferences) around the world for promoting global cooperation and interchange of ideas… From leading a current major digital library project, Global Memory Net, supported by the International Digital Library Program of the US National Science Foundation, to being the co-PI of the US-China Million Book Digital Library Project, a sister project of the

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India's US-India Million Book Digital Library Project, for universal access (http://www.ulib.org/html/index.html). I was privileged to have the opportunities to share my belief in the potential of global digital libraries like Global Memory Net with my Indian colleagues in February 2004 at the *ICDL 2004* in New Delhi, the 10th Annual lecture on Informatics in Bangalore, and the regional meeting in Mysore. I was also greatly honoured to meet the President of India, Dr A P J Abdul Kalam, and discover that he too advocated that "information of value shall be shared freely across the world" during my private audience with him.

It is fair to state that while technologies are more than ready to enable us to provide universal access, we are still facing many uphill battles. For example, the digital divide is a serious barrier to provide universal access to a large portion of the world citizens who

have no knowledge of, and no means to access, digital devices. This problem will take time and pose challenges to all information professionals.

What we can more easily address, however, are issues related to "content". Content is the key to any global digital library, and it requires the content owners and providers to be willing to make them digital and share. While

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projects like Million Projects and the more modest Global Memory Net, have made some progress, much more is needed. The real potential for education, including e-learning, research, enrichment, etc. can be fully realized only with rich and useful content.

We are living in exciting time with great opportunities. Let us work together collectively to share our invaluable human knowledge resources globally. ◾