

Wireless and Mobile Access to Digital Libraries

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1. Position Statement

Over the past few years, we have witnessed, and have been part of, the spectacular growth in the global wireless communications market. The Strategis Group in Washington, DC, USA, reports that 1999 marked the peak of this growth at 54%, resulting in 530 million subscribers worldwide in 2000. The report also projects that the number of subscribers will reach 1.37 billion by 2007. Data access over wireless networks is becoming mainstream. According to IDC of Framingham, MA, USA, wireless Internet subscription will surpass its conventional wired counterpart by 2002.

We can expect that more and more people will use wireless mobile devices as the primary mode of information access. Consequently, wireless and mobile access to digital libraries may no longer be a special service but soon become a standard mode of interaction for a digital library system. Technical issues that need to be addressed include content conversion and presentation, caching and synchronization, transactional consistencies, and application semantics. These have been actively pursued in the database and digital library communities from the early 1990s. However, the field of wireless information access is one of those areas where research is still young and evolving while commercial applications must be developed at alarming speed. Without a concerted effort from both sides, it would be difficult for the two sides to benefit from each other.

The need for close interaction between the commercial sector and the research community in this field is a great opportunity for a mutually beneficial Korea-US research collaboration. Korea is one of the world's most "wirelessly connected" society. Nowhere has the growth in wireless communications market been more evident than in Korea, where now one in every two persons own and operate a cellular or PCS phone. There are more than 4 million wireless Internet subscribers, which amounts to about 8% of the total population. There are great demands for quality wireless information services and for the software technologies that enable them. New research results can quickly be put to beta tests and pilot applications, while new applications can provide requirements and directions for subsequent research. The roles of researchers, companies, and government agencies in the two countries are complementary and can be clearly defined.

2. Biographical Information

Sang-goo Lee is an Associate Professor at the School of Computer Science and Engineering, Seoul National University, Seoul, Korea. His research in digital library include the development of HANUL, a mediator that integrates multiple information sources, and CatalogStop, a repository for sharing electronic product catalogs. His research interest also includes mobile computing and medical informatics. Prior to joining Seoul National University in 1992, he has been a Research Engineer at EDS Research and Development, Troy, MI. He was a Visiting Research Scholar at the Imaging Science and Information Systems Center, Georgetown University Medical Center, Washington, DC, between 1999 and 2000.