

# Book Review

## Handbook of Research on Digital Libraries: Design, Development and Impact

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Information Science Reference, Hershey,

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The “Digital Library” (DL) concept has different meanings in different contexts for different people which have their own perspectives on DL. For example, as pointed out in the keywords of *Chapter 8* of the book, to the *library science community*, the roles of DL are [similar to the roles of the traditional library, namely]: “a) providing access to information which has been evaluated, organized, archived, and preserved; b) having information professionals that make judgements and interpret users’ needs; and c) providing services and resources. Many people of traditional libraries still view the DL as a collection of digitized copies of the existing material managed by a set of information tools. To the *computer science community*, DL may refer to a distributed text-based information system, a collection of distributed information services, a distributed space of interlinked information system, or a networked multimedia information system”. The “dispersion” of understandings and perspectives can be easily noticed in the reviewed handbook.

At present, the working definition proposed by DL Federation (DLF - a programme of the Council on Library and Information Resources) apparently covers several perspectives on DL, including those adopted by many authors contributing to the reviewed book. DLF: “DL are organisations that provide the resources including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities” (<http://www.diglib.org/about/dldefinition.htm>).

Digital libraries are the result of the evolutions and reciprocal interactions of various factors such as a) the roles and limits of the traditional libraries, b) the user profiles, needs and aspirations, c) the developments in *information and communication technologies* (ITC), d) the visionary contributions of several intellectual personalities of the XX century, and e) the large-scale governmental initiatives and research programmes.

Libraries have traditionally been a location for organized collections of books and other physical media which contain information which are to be *directly accessed* by the defined communities of users. But the TL have always had limited space and financial resources to collect all materials required by their communities of users. On the other hand, the population of users that need access to information has been characterised, over the last decade, by an increased size and a diversified spectrum of information needs. The users have, more than once, complained they have difficulties to select and access all the materials they need for their intellectual activities. Fortunately enough, the recent great achievements in ITC have proved to be adequate for enabling new ways to store, organize, preserve, and give access to information.

The origins of the DL can be traced back into the past. Among the great personalities of the XX century who are credited with the creation of certain backgrounds of the DL concept, one can identify people from various professions. The most cited DL vision creator is, perhaps, the English S. F. novelist H.G. Wells. In 1937, he published the book of essays entitled “World Brain” in which he envisaged the need and the technical possibility “to create a sort of mental clearing

house for the mind, a depot where knowledge and ideas are received, sorted, summarized digested, clarified and compared, accessible to everybody” and reproduced “exactly and fully”, in a distributed fashion in several locations all over the world. Other important names who are referred as contributors to DL vision building are Paul Otlet, the creator of the Universal Decimal classification (UDC), Vannevar Bush, an engineer and science manager (he was the director of the US Office of Scientific R&D), who conceived in 1945 “Memex”, as a system for creating and retrieving information based on microfilm technology and the analogy with the way the humans make associations. After the advent of digital computer, J.C.R. Licklider, a physiologist – psychologist, also a member of the N. Wiener’s cybernetics circle at MIT, who was the leader of the US DoD Information Processing Techniques Office, envisaged, in 1965, in the book “Libraries of the future”, a fully computer based library. Other intellectual landmarks in DL vision creation are the essay of Clifford Lynch entitled “Where Do We Go from Here? The Next Decade for Digital Libraries” and the paper of Kan and Cerf entitled “The Digital Library Project; volume 1; the World of Knowbots”. The handbook which is analysed in this review paper is likely to enter into the list of books which guide and inspire the people who belong to academia and research circles and the practitioners in ITC and libraries domains as well.

Even though a series of early visions and conceptual works could be noticed starting with E.G. Wells “World Brain” could be noticed, one should agree with the fact that DL research became an explicit research domain only in the 1990s. The most prominent landmarks in DL research are: a) in US, the DARPA / NASA research in DL announced in 1993 and b) in Europe the UK *e Lib* programme, the German *Me Doc* programme, and the DELAS Network of Excellence (which started in 1997 as a working group in the 4<sup>th</sup> Framework Programme of the European Commission).

The reviewed handbook reflects the recent results in the DL research and it is not limited to US or Europe. It contains 55 papers authored by 127 people, from 25 countries from five continents. This means the DL

domain is in a clearly pacing stage, possibly because it is viewed by many people as an effective way to attenuate the “digital divide” by bridging the “information gap” between “haves” and “have-nots” , (as shown in chapter 50).

The 59 chapters of the handbook are grouped into five sections which are focused on various DL research domains such as: a) design and solutions, b) IT and content management aspects, c) usages and impact, d) applications, and e) education and future trends.

*Section I*, entitled “Design and Development”, is composed of nine chapters which address various issues such as: service system, information security and privacy , digital learning, personal DL, analysing and comparing open source DL software, creating digital exhibitions from digital archives.

*Section II*, entitled “Information Processing and Content Management”, is composed of 17 chapters. The *IT aspects* addressed include text summarization, browsing large image data bases, usage of ontology in information retrieval, audio-based information retrieval, multimodal human computer interface, algorithms for user personalization and so on. The chapters which address *content management* describe aspects such as: standardization of terms, developing digital cultural collections, detecting duplicate journal titles and so on.

*Section III*, entitled “Users, Interactions and Experiences”, is made up of ten chapters. Several aspects such as usability evaluation, using questionnaires to study DL requirements, recent results in specialised DL (for agricultural research, music, patents, image data bases) and so on are described.

*Chapter IV*, entitled “Case Studies and Applications”, is composed of fourteen chapters. The chapters cover aspects such multimedia DL, spatial DL, digital preservation, integration of DL in e-learning, designing strategies for DL building, particular applications and so on.

*Section V*, entitled “Digital Library Education and Future Trends”, contains eight chapters. Among the subjects addressed in *DL education* related chapters one can notice: core topics in DL education, European programmes for DL education, evaluation of

progresses in DL education. Among the *future trends*, issues such as roles of education as centres of knowledge from a historical perspective, new roles of DL, an overview of national libraries in Asia-Pacific region are presented.

There are chapters which address subjects of general interest and chapters which describe results reflecting research results relevant to specific regions. One can notice that some subjects are treated in more detail than others. Also some chapters could be better placed in other section than the one they are included in

(for example, chapters 45 and 58 could find more adequate places in this reviewer's view in section 2, and section 4, respectively).

The content, reference list and key terms of all chapters give a valuable grand picture of the research in DL area. Many people involved in *DL* research, development, running, or utilisation can find in this book a better insight into the subject of their professional interest or can get stimulating ideas for their future activities. This reviewer warmly recommends this book to all scholars, researchers and students interested in DL domain.

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