

Conference Proceedings

Edited by:
Luciana Duranti and
Elizabeth Shaffer

The Memory of the World in the Digital Age: Digitization and Preservation

An international conference
on permanent access to
digital documentary heritage

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Memory of the World
20th Anniversary

26 to 28 SEPTEMBER 2012
Vancouver, British Columbia, Canada
Sheraton Vancouver Wall Centre



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Mémoire du monde
20^e anniversaire

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UNESCO Memory of the World Programme, Knowledge Societies Division

This book of Proceedings includes most of the papers and posters presented at the International Conference “The Memory of the World in the Digital Age: Digitization and Preservation” held on 26–28 September 2012 in Vancouver, British Columbia, Canada, by the UNESCO Memory of the World Programme, Knowledge Societies Division, and The University of British Columbia in collaboration with the University of Toronto.

The proceedings have been compiled and formatted with minor editing; papers and posters appear as submitted. The authors are responsible for the choice and the presentation of the facts contained in this publication and for the opinions they express, which are not necessarily those of UNESCO and do not commit the Organization.

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Preface

This publication presents the proceedings of the international conference 'Memory of the World in the Digital Age: Digitization and Preservation' which was held in Vancouver, Canada, from 26 to 28 September 2012.

More than 500 experts and other interested persons from all regions of the world participated in this knowledge-sharing and policy-driving event to discuss and exchange opinions on how to protect the world's documentary heritage. Although this heritage is the record of knowledge, its physical carriers are extremely vulnerable and can easily disappear without a trace. Whether recorded on a clay tablet or an electronic tablet, our methods of sharing content and knowledge need to be protected.

It is impossible to exaggerate the importance of documentary heritage in our lives. It governs our actions whether these relate to creating the basis of mutual respect between different civilizations and communities or building knowledge societies. Documentary heritage provides the foundation of peace, our identity and knowledge.

UNESCO's interest in this subject matter is as fundamental as its constitution with its mandate to contribute to building peace through the spread of knowledge from improved access to printed and published materials. These core materials, our documentary heritage, have been preserved in archives, libraries and museums for generations.

But while measures needed to maintain access to print materials are globally understood, the newer challenges related to preserving digital information are not keeping pace with technological development. The need for dedicated hardware and software, associated with their rapid obsolescence, hamper our ability to keep invaluable content accessible. Unless timely migration to newer technologies, operating systems and software platforms is assured, we face the risk developing digital Alzheimer's.

UNESCO's expectation from this Conference was to obtain a better definition of our expected role, and our contribution to setting a global digital agenda. The UNESCO/UBC Vancouver Declaration sets out specific recommendations which we will be implementing and incorporating into our digital strategy. Likewise, we expect that our Member States, professional organizations and private sector bodies will also implement the recommendations addressed to them.

Only through collaborative strategic alliances can we overcome the major challenges threatening the preservation of digital information. We believe that the presentations featured in this publication provide the basis for a global commitment to preserving the memory of our world in this digital age.

Jānis Kārklīņš
Assistant Director-General
for Communication and Information

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**The Memory of the World in the Digital Age:
Digitization and Preservation**

26 to 28 September 2012
Vancouver, British Columbia, Canada

Digital technology offers unprecedented means to transmit and store information. Documents and data in digital form are important for science, education, culture and economic and social development, but assuring their continuity over time is a far from resolved problem. While countries differ greatly as to the possibilities they have to implement policies to address sustainability access to digital resources, the fundamental challenges are universal. Closer collaboration in managing these resources will be beneficial for all.

At present, digital information is being lost because its value is underestimated, because of the absence of legal and institutional frameworks or because custodians lack knowledge, skills and funding. In order to explore these issues in depth and obtain solutions, UNESCO's Director-General convened an international conference: *The Memory of the World in the Digital Age: Digitization and Preservation* from 26 to 28 September 2012 in Vancouver, British Columbia, Canada.

More than 500 participants from 110 countries discussed the key factors affecting the two major aspects of records, documents and data in the digital environment:

- issues pertaining to the digitization of analogue material, and
- issues pertaining to continuity, access, and preservation of authentic, reliable, and accurate digital materials.

As a result of these discussions, the participants agreed that:

1. as enshrined in Article 19 of the Universal Declaration on Human Rights, each individual has the right to seek, receive and impart information through any media and regardless of frontiers (article 19). Citizens exercise this right when they access information in digital form. Trustworthiness and integrity of documentary heritage and documentary systems are therefore a prerequisite for the continued exercise of this right;
2. for analogue documents, digitization can protect valuable documents from deterioration by reducing handling. In the case of audiovisual documents, digitization is the only means of ensuring their survival;
3. many objects are born digital, but without due consideration of the means of ensuring their continuing accessibility, and authentic, reliable, and accurate preservation through time and technological change. These issues of access and preservation apply also to digitized materials;

* www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/mow/unesco_abc_vancouver_declaration_en.pdf

4. a better understanding of the digital environment is essential for the establishment of digital preservation models that respect fundamental legal principles enshrined in institutional regulatory frameworks, and balance access with privacy, right to knowledge with economic rights, and respect ownership and control of indigenous cultural heritage and traditional knowledge in digital format;
5. digital preservation should be a development priority, and investments in infrastructure are essential to ensure trustworthiness of preserved digital records as well as their long-term accessibility and usability;
6. education and training programmes for information professionals must be developed and provided to prepare or reposition them to implement both digitization and preservation practices relevant to the needs of governments and their citizens;
7. there is a pressing need to establish a roadmap proposing solutions, agreements and policies, that ensure long term access and trustworthy preservation. This roadmap should address issues like open government, open data, open access and electronic government. It should dovetail with national and international priorities and be in full agreement with human rights.

Recommendations

Taking current and emerging challenges into consideration, the participants:

Urge the UNESCO secretariat to:

- a. play an active advocacy role to make digital preservation frameworks and practices a reality, by promoting digital objects management and preservation in all appropriate forms, including working with other UN agencies, funds and programmes;
- b. support the work of the international archival, library and museum community to secure an international legal framework of copyright exceptions and limitations to ensure preservation of and access to cultural heritage in digital format, and acquisition of and access to that heritage in a culturally appropriate manner;
- c. collaborate with international professional associations and other international bodies to develop academic curricula for digitization and digital preservation, and implement training programmes and global educational approaches that enhance the capabilities of archives, library, and museum personnel to manage and preserve digital information;
- d. establish a multi-stakeholder forum for the discussion of standardization in digitization and digital preservation practices, including the establishment of digital format registries;

- e. in cooperation with international professional associations and research projects teams, design and publish guidelines, policies and procedures as well as best-practice models in digitization and digital preservation;
- f. support the belief that good management of trustworthy digital information is fundamental to sustainable development by developing and implementing a global digital roadmap under the auspices of the Memory of the World Programme to encourage all relevant stakeholders, in particular governments and the industry, to invest in trustworthy digital infrastructure and digital preservation;
- g. create an emergency programme aiming at preservation of documentary materials endangered by natural disasters or armed conflicts, as well as a programme for the recovery of analogue and digital heritage that is under threat of becoming, or is already, inaccessible because of obsolete hardware and software;
- h. encourage engagement of cultural heritage professionals knowledgeable about digital forensics concepts, methods and tools in order to ensure capture and reliable preservation of authentic, contextualized and meaningful information, and appropriate mediation of access to the information;
- i. update the implementation guidelines of the 2003 UNESCO Charter on preservation of digital heritage and give consideration to the inclusion of preservation of and access to digitized cultural heritage in the proposed recommendation on documentary heritage being examined by the 190th session of UNESCO's Executive Board;
- j. work with national and international research and heritage bodies to develop criteria for assessing whether repositories are, or can be improved to be, trustworthy in terms of their ability to preserve digital holdings;
- k. promote cooperation with international standards bodies in order to increase consistency among different reference sources on digital preservation, and support the development of standards compliant with the principles endorsed by UNESCO.

Urge UNESCO's Member States to:

- a. develop and enforce laws that ensure rights of all citizens to relevant knowledge;
- b. develop public policies enabling and supporting preservation of digital heritage in a rapidly changing technological environment;
- c. promote cooperation between their legislative bodies and archives, libraries and museums and other relevant organizations, in order to develop legal frameworks that support preservation of, and access to, digital cultural heritage;
- d. develop strategies for open government and open data that address the need to create and maintain trust and reliance in digital government records;

- e. provide legal guarantees that information to which citizens are legally entitled be available in an open format;
- f. encourage private sector organizations to invest in trustworthy digital infrastructure and digital preservation;
- g. develop a Recommendation for the promotion of legal deposit laws for digital formats;
- h. establish appropriate oversight body(ies), e.g., Information Ombudsman, to monitor and protect the necessary degree of independence required by archives, libraries, museums and other heritage organizations to preserve and provide access to digital information in such a way that sustains public trust in what information is selected for preservation and how it is preserved;
- i. identify and propose registration of digital documentary heritage on a Memory of the World Register;
- j. ensure that analogue contents will be made available in digital form, to avoid their future neglect in a world of predominant digital information retrieval;
- k. raise public awareness of relevance of digital preservation for the endurance of our cultural heritage;
- l. promote the use of standards and widely recognized guidelines and best practices on digitization and digital preservation among the relevant national organizations and communities.

Urge professional organizations in the cultural heritage sector to:

- a. cooperate with other professional associations, international and regional organizations and commercial enterprises to ensure that significant born-digital materials are preserved by promoting and advocating for digital legal deposit laws;
- b. assist in the development of a cohesive, conceptual and practical vision for a digital strategy capable of addressing the management and preservation of recorded information in all its forms in the digital environment;
- c. encourage their members to take into consideration the reliability, authenticity, copyright ownership and future use of digital information, and to develop policies for all aspects of management and preservation of digital materials;
- d. cooperate with the private sector for the development of products that facilitate the long-term retention and preservation of information recorded in a digital format;

- e. encourage members to identify and evaluate the specific threats to which their digital information is vulnerable, and implement appropriate processes and policies to mitigate these threats.

Urge private sector organizations to:

- a. cooperate with archives, library, museum and other relevant organizations to ensure long-term accessibility to digital information;
- b. adhere to recognized metadata standards designed in cooperation with information professionals for description and/or management of digital resources, in order to enable interoperability of sources that can be presumed authentic and guaranteed reliable and accurate;
- c. take digital preservation issues into consideration when participating in national and international standards initiatives and in their work on multi-jurisdictional and other partnership initiatives where information generated in a digital format is to be retained through the long term.

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