Preserving the Memory of the World Archives:
Policies and Initiatives

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I. Memory of the World, World's Documentary Heritage

The official name of UNESCO's[2] world documentary project program is the Memory of the World (MoW). Its goal is to safeguard various memories of the humankind and enable the world to share them. Throughout history, human civilizations have progressed based on accumulated wisdom, learned through countless trial-and-errors. In other words, cultures have moved forward thanks to records and documents. Our collective memory is at the heart of what preserves our cultural identity and connects the past to the present and determine the future.

There are three key objectives of this program - first, to promote the preservation of global documentary heritage using the most appropriate techniques; second, to facilitate universal access to documentary heritage; and third, to generate greater awareness around the world about the existence and importance of documentary heritage.

Currently, 427 items of documentary heritage are included in the Memory of the World Register, from 128 countries around the world and also eight organizations. Korea has been participating in this program since 1997. Today, Korea has 16 items of documentary heritage on the Memory of the World Register, which is the largest number in Asia. Also, Korea has three items included in the Memory of the World's Committee for Asia/Pacific (MOWCAP) Regional Register, since **Pyeon-aek: Hanging Wooden Plaques in Korea** was approved in MOWCAP General Meeting in Hue, Vietnam in May 2016. In 2018, **Maninso: Ten Thousand People's Petitions**, and **Name Boards and Verse Plaques on Royal Architecture of the Joseon Dynasty** have been approved.

For more effective preservation of documentary heritage, UNESCO is continuing its MoW Program while also leading other initiatives. The Charter for Preservation of the Digital Heritage was adopted, followed by the establishment of preservation guidelines. UNESCO hosted and adopted declarations and statements in various international conferences to raise awareness of the disappearing digital documentary heritage. This paper will examine how UNESCO and the international community have been making

efforts to preserve digital heritage in the digital era, and the specific details of some of the most critical initiatives.

II. Efforts of the International Community for Preservation of Digital Heritage

The world we live in is flooded by digital information everyday. According to library and information science researchers, more than 15 million pages of digital data is produced everyday in Korea, and its lifespan is only 70 days. Since any material can be retrieved again if necessary, it is simply not necessary to incur extra cost to maintain the contents.[3] Article 3 of the *UNESCO Charter on the Preservation of the Digital Heritage* states the world's digital heritage is at risk of being lost to posterity. This is because of contributing factors such as the rapid obsolescence of hardware and software which brings it to life, uncertainties about resources, responsibility and methods for maintenance and preservation, and lack of supportive legislation. International effort to preserve digital heritage began in the US, and UNESCO is also playing a significant role today.

<Table 1 History of International Efforts to Preserve Digital Heritage>

1996	The Internet Archive founded in the US
1998	Times & Bits Conference held in the US
2000	US Congress enacted the National Digital Information Infrastructure and Preservation Program (NDIIPP)
2001	2001 UNESCO Resolution on the Preservation of the Digital Heritage Information for All Program (IFAP) established
2002	NDIIPP Report published by the US Library of Congress
2003	*Charter on the Preservation of Digital Heritage* adopted in UNESCO General Conference's 32nd Session *Guidelines for the Preservation of Digital Heritage* Published by the National Library of Australia
2004	The Korean National Commission for UNESCO hosts the first Advisory Meeting Conference on Preservation of Digital Heritage
2009	The London Charter for the computer-based visualization of cultural heritage adopted
2012	UNESCO/UBC Vancouver Declaration (digitization and preservation of documentary heritage in the digital age) adopted
2015	Recommendation Concerning Documentary Heritage and Digital Format and Accessibility Issued

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3) Min, K. (2004). Status of Digital Heritage Preservation in Korea and Strategy to Build a Network of Cooperation, Presented at the Forum for Preservation of Digital Heritage, Korea.

A. UNESCO's Definition of Digital Heritage

The phrases such as "digital heritage" and "digital legacy" began to be widely used in the 1990s with the widespread adoption of PCs and the internet. The terminology evolved from "internet information" to "digital information," and today the phrase "digital heritage" is commonly used. This concept was adopted from the existing concept of "cultural heritage," indicating the "digital information to pass onto posterity."[4]

Then what is the definition of digital heritage according to UNESCO? Digital heritage encompasses both "born-digital" heritage and analog heritage that has been converted to digital form. An establishment of criteria and standard is recommended to determine if a legacy that is valuable domestically, regionally, or internationally needs to be preserved. Digital information includes text, databases, still and moving images, audio, graphics, software, and web pages among a wide and growing range of formats. They are frequently ephemeral and require purposeful production, maintenance, and management to be retained. These resources mostly have lasting value and significance, and therefore constitute a heritage that should be protected and preserved for current and future generations. UNESCO emphasizes that such heritage may exist in any language, in any part of the world, and in any area of human knowledge or expression.[5]

B. Adoption of UNESCO Charter on the Preservation of the Digital Heritage

Recognizing digital heritage as an increasingly growing and important part of documentary heritage, UNESCO is implementing various initiatives to safeguard digital heritage from the risk of loss. The Resolution on Preserving Our Heritage was adopted in October 2001, followed by the adoption of UNESCO Charter on the Preservation of the Digital Heritage at UNESCO Executive Board Meeting in October 2003, which urged the Member States to preserve digital heritage as follows.[6]

1. to designate one or more agencies to take coordinating responsibility for the preservation of the digital heritage, and to make available necessary resources
2. urge hardware and software developers, creators, publishers, producers and distributors of digital materials as well as other private sector partners to cooperate with national libraries, archives, museums and other public heritage organizations in preserving the digital heritage

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4) Oh, S. (2018). A Study on Digital Preservation Policy of Cultural Heritage Information. (Master's thesis).
5) Oh, S. (2018). A Study on Digital Preservation Policy of Cultural Heritage Information. (Master's thesis).
6) Summary of Article 10 ("Roles and Responsibilities"), UNESCO's *Charter on the Preservation of Digital Heritage*

3. develop training and research and share experience and knowledge among the institutions and professional associations concerned
4. encourage universities and other research organizations, both public and private, to ensure the preservation of research data

C. Guideline for Digital Heritage Preservation

Following the spirit of the UNESCO Charter to protect digital heritage, the National Library of Australia prepared and submitted the *Guideline for the Preservation of Digital Heritage* in March 2003 to UNESCO. This sizeable 177-page volume first presents the background and objectives in the introductory Chapter 1, followed by explanation of the guideline, terminology, and finally, 41 basic principles of preservation to wrap up Section 1. It is emphasized that not all digital heritage needs to be preserved, but only ones determined to have lasting value. The document includes the fundamental principle that the legacy deemed worthy of preservation needs to remain permanently accessible.

Section 2 covers the management perspectives and presents definition of digital heritage, preservation programs and responsibilities, and decision-making in actual program implementation. It is stressed that digital preservation programs need to take into account priority and the entire situation, which without rational decisions made at appropriate times would lead to a loss of heritage. Also, the importance of cooperation among program managers for better preservation of digital heritage is highlighted.

Section 4 covers the technical and practical perspectives, for example, how to select information for preservation based on value evaluation and why it is imperative. The steps are in fact very similar to how analog heritage is evaluated. As to the responsibility of selection decisions, the Guidelines emphasize that a clear and specific explanation must be provided as to which heritage was selected and which was not, based on accessible and publically usable policy documents. Of course, it is challenging to present standardized criteria for selection of digital heritage for preservation, since its value will be different to different groups of people. Therefore, the process will be a very difficult one without a consensus among policymakers related to digital preservation. In addition to how materials are selected and evaluated, this section also includes principles for maintaining access to digital materials while managing administrative authority and protecting data.

D. UNESCO/UBC Vancouver Declaration

UNESCO/UBC Vancouver Declaration was adopted in September 2012 at the UNESCO international conference, ***The Memory of the World in the Digital Age: Digitization and Preservation*** held in Vancouver, British Columbia, Canada. A conference on this topic was hosted by UNESCO due to the universal nature of digital heritage. While each country has different policies on the preservation of and access to digital heritage, challenges of managing digital information are faced by all countries. After discussing 1) issues about the digitization of analog material and 2) matters of continuity, access, and preservation of authentic, reliable, and accurate digital materials, the participants agreed that:[7]

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 analog 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;

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 programs 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;

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7) UNESCO/UBC Vancouver Declaration, 2012

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.

Hence, UNESCO and its Member States must ensure preservation and accessibility of digitized records and promote international collaboration among institutions related to records for the preservation of digital heritage in the future. Also, there is a need to develop relevant academic education and training programs, including ones to strengthen digital information management capability. The declaration also urges each Member State to ensure preservation of digital heritage in each country by promoting cooperation among domestic institutions, and actively implement supporting policies. Finally, it is proposed that through collaboration with the private sector, Member States must ensure long-term access to digital information and encourage use of recognized metadata standards designed in partnership with information professionals.

IV. Limitations and Future Agenda

Compared to other heritage categories, documentary heritage (including digital heritage) is extremely susceptible to damage. In the case of digital heritage, there is relatively little awareness of the need for preservation compared to enormous amount of production. UNESCO is leading various initiatives to raise public awareness of the importance of digital heritage and establish an international safeguard in place by adopting relevant Charter, creating Guidelines, and adopting a Declaration.

However, these international norms created and promoted by UNESCO are non-binding in nature, with no formal binding power of international law. They are merely agreed-upon recommendation items and may end up as empty talk without active cooperation of the Member States. Also given characteristics of digital heritage, each country faces different technical expertise in different environments. Hence, UNESCO's rules have been unfortunately presented in a rather encompassing, unspecific terms.

For the preservation of digital heritage, continued efforts and cooperation among the government, producer, publisher, relevant industries, and institutions are required in each Member State. To reduce the digital gap between the countries, international cooperation and collaboration are needed for producing, distributing, preserving, and ensuring permanent access to digital heritage in each country. This includes

development of education and training programs, balanced allocation of resources, and sharing of research results and best practices to ensure equal access to digital preservation techniques.

UNESCO defines heritage as "our legacy from the past, what we live with today, and what we pass on to future generations." We must not forget that the preservation of digital heritage is our generation's critical mission, to preserve sufficient intellectual assets we have today and pass onto future generations.

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