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Valorizing Digital Documentary Heritage : Challenges and Experiences.

تثمين التراث الوثائقي الرقمي: التحديات والتجارب

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Article abstract :

The world is witnessing rapid changes in the field of modern technologies, where the digital environment is considered the new home of knowledge and information, as the use of digitization techniques for all fields has forced many sectors to keep up with and adopt technologies, such as the archives sector, when digitization has contributed to improve the handling of documents and archives, as it developed and improved various processes with high quality in new spaces. This study was chosen to shed light on the subject of valorization in the digital environment, the challenges facing those involved in the valorization of documentary heritage in the digital environment, the various experiences applied in the field of valorization, as well as the extent to which the new environment contributes to improving the quality of valorization.

Key words : Valorization ; documentary heritage ; digitization ; challenges.

ملخص المقال:

يشهد العالم تغيرات سريعة في مجال التكنولوجيات الحديثة حيث تعتبر البيئة الرقمية الموطن الجديد للمعرفة والمعلومات، إذ أن استخدام تقنيات الرقمنة لكافة الميادين أجبر العديد من القطاعات مواكبة التكنولوجيات واعتمادها مثل قطاع الأرشيف، حيث ساهمت الرقمنة في تحسين التعامل مع الوثائق والأرصدة حيث طورت وحسنت العمليات بجودة عالية في فضاءات جديدة للعمل. تم اختيار هذه الدراسة لتسليط الضوء على موضوع لتثمين في البيئة الرقمية والتحديات التي تواجه القائمين على عملية تثمين التراث الوثائقي في البيئة الرقمية ومختلف التجارب المطبقة في مجال التثمين وكذا مدى مساهمة البيئة الجديدة في تحسين جودة التثمين.

كلمات مفتاحية: التثمين; التراث الوثائقي ;الرقمنة ;التحديات.

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Introduction

Many archival institutions around the world have sought to adopt digitization projects that have introduced a new type of document to the archival world, namely digital documents. Documentary heritage of all kinds has been digitized and contains digital formats that have the same value and strength as traditional formats due to the legislation applied to documents and the standards used during the digitization process.

While the digital environment has played a leading role in the stimulation surrounding the valorization of documentary heritage, this has not come to occur without many changes and new practices. The digitization process aims, in the first part, at the long-term preservation of the digitized documentary heritage and, in the second part, at making this valuable documentary heritage available to the public wherever and whenever they want through a set of tools that will allow researchers to complete their scientific research and increase the knowledge enrichment of the user.

Archival institutions' exploitation of valorization tools in the digital environment facilitates accessibility and facilitates the archivists' work even with a number of challenges facing archivists. This has raised a kind of competition between archival institutions about the capacity that the institution has to accommodate valorization activity in the digital environment and also created cooperation between institutions on the other hand, which contributed to the development of transactions and the advancement of the archival profession.

1. Methodological Framework

1.1 Statement of the problem:

Archives and documents preserved in different archival institutions are very implortant especially, especially those that have a secondary value that benefits the public in various fields. The valorization is one of the processes that require intellectual and mental effort, especially in the digital field, as it is one of the last processes applied to documents after determining their final fate and the emergence of their value, so this study emerged to address more on the subject of valorization in the digital environment of documentary heritage and the challenges it encounters, from which a set of questions were asked :

- What is the valorization process ? What are the methods of valorization of documentary heritage ?
- What are the challenges that encounter the implementation of the valorization process ?
- How has digitization facilitated the process of valorization documentary heritage ?
- What are the most prominent experiences of valorization documentary heritage in the digital environment ?

1.2 Importance of the study :

-The great importance of the topic of valorizing documentary heritage.
-The new trend of archival institutions to adopt modern technologies in the digital environment.
-This study contributes to enriching and appending new research on the subject of valorization.
- This study enriches previous studies by expanding the scope of studies related to documentary heritage, especially in the lack of references related to the topic of valorization.

1.3 Aims of the study :

- Identify the challenges encountering the valorization of documentary heritage.
- Identify the outputs and impacts of digitizing documentary heritage..
- Giving examples of experiences that have been applied in the field of documentary heritage valorization.

1.4 Provious studies :

The first study :

An article prepared by student: Abdelbassit elguerri under the supervision of Dr. chouaou Abdelbasset, entitled Archival Valorization in the Digital Portals of National Archives: An Appraisal Study (2021). In the first part of the article, the researcher mentioned the definition of digital portals and their services provided, while the second part referred to the archive and its traditional and modern valorization methods, leading to the evaluation study. The study concluded:

-The digital portals of developed countries seek to provide all means of searching the catalog in order to ensure that the beneficiary has access to documents and information that meet his information needs.

-All digital portals have worked to organize virtual exhibitions due to the importance of this service and its role in valuing archival assets and documents.

-It can be said that there is a big difference in services between the archive portals of developed countries and the rest of the portals, especially those of Arab archives.

Similarities:

The topic of valuation in the digital environment is the link between the previous and current studies. Both studies dealt with valuation tools in the digital environment and other elements related to the latter. (Elguerri, Abdelbassit, 2021)

The second study :

Essay prepared by the student : Aouach Abdeljabbar under the supervision of Dr. Kadi Abdelkader, entitled Digitizing and valorization of archival heritage (2024).

The researcher addressed the topic of digitization and linked it to the topic of valorization of archival heritage. First he mentioned the concepts and terms of the study, then referred to the reasons and objectives of digitizing archival assets, passing on to the objectives of valorizing archival heritage and mentioning the means of valorizing archival heritage in the traditional and electronic environments.

the study reached a set of results as follows:

Modern techniques resulting from technological developments have made it possible to introduce archival centers and archival heritage to the public.

Contributed to the promotion, marketing, and development of the archival profession and lifted the negative perception of archives. (Aouach, Abdeljabbar, 2023)

Similarities between the two studies :

The current study is similar to the previous one in two parts, the first is the topic of digitization, as both studies included the basics of digitization and then the topic of valuation, also the two studies focused on the various means in their mentioning of the various means that contribute to valuing the documentary heritage in the digital environment.

- Our study differs from previous studies in the addition that it offers, which is the presentation of some experiences that many countries have gone through in an attempt to valorize and make their documentary heritage available in the digital environment, in addition to the obstacles and difficulties encountering the valorization process in the digital environment.

2. Theoretical framework

2.1 Definition of digitization :

Digitizing documentary heritage entails transferring paper documents into digital data. It is part of the dematerializing archives process. Digitizing documents simplifies access to them and impede their deterioration or accidental loss. (Arcalys, 2023)

2.2 Definition of valorization :

According to the dictionary of "the Centre National de Ressources Textuelles et Lexicales", valorisation is "the act of giving greater importance, more value to someone or something". Valorization is therefore an act, carried out by a person or persons, of giving something or someone a higher value.

In the context of this reasoning, the definition of valorization focuses on the archive sector. According to the French Heritage Code (CDP), archives are : "all documents, including data, whatever their date, place of storage, form or medium, produced or received by any natural or legal person and by any public or private service or organization in the course of their activity" (marie-Hermine, VIGNERON, 2018)

2.3 Definition of documentary heritage :

According to the Memory of the World program, which is responsible for the heritage in archives, and libraries, and museums all over the world, the definition of the documentary heritage entails the following elements :

- Mobile : This element indicates that documentary heritage is not bound to a specific place, but can be transferred or shared across diverse physical or digital spaces.
- Consists of symbols/labels, images and/or sounds.
- could be preserved (as media are inanimate objects).
- could be transported and reproduced.
- is the product of a deliberate process of documentation. (UNESCO, 2024)

All historical archives preserved as part of the written as part of the written, historical and cultural heritage of a public or private entity. (DIRECTION DES ARCHIVES FRANCE, 2002)

The documentary heritage is an integral part of the material heritage of any country. It is responsible for preserving the collective memory of the nation and is an essential tributary of national history. (BOUKHOUIDEM, Fares, 2022, p. 03)

Valorization of documentary heritage: is a very important process that aims to determine the true value of documentary collections, photographs, manuscripts and other written, visual and audio materials that constitute the memory of nations and peoples. This value is more than just a collection of old papers; it extends to its historical, cultural, social and economic value.

2.4 Digitization objectives:

The objectives of digitization are enormous and vary depending on the context in which it is used, but generally, however, digitalization pursues the following objectives :

- Improved resource management : Digitization aids in improving the management of resources, such as energy and raw materials, thereby reducing costs.
- Increase productivity : Digitization can assist in increasing productivity, leading to lower costs overall.
- Digitization entails storing information or documents, organizing processes, and dematerializing data in a digital format.
- Efficiency : The goal of digitization is to save money and time and increase team productivity,
- Risk Reduction : The goal is to minimize risks through digital tools, so attention should be paid to minimizing errors and their potential impact.
- Decision Support : The goal is to make better decisions using digitization, this means making the right choices by:
- Workload management : Better forecasting of future needs based on the data in the system (future projects, annual cycle of tasks in personal service, divisions, activities, ...)

- Budget forecasting : financial inputs and outputs based on project planning, expenditures to date versus budget... ,
- Customer Orientation : The purpose is to improve communication and collaboration with partners, members and customers through the use of digitization. (Hugo, GERVAIS, 2024)

2.5 Challenges facing the preservation and valorization of documentary heritage in the digital environment:

The urge to save the digital heritage for posterity presupposes that it has an attached value. In Article 1 of the Charteron the Preservation of Digital Heritage, UNESCO asserts that many of the digital resources have "lasting value and significance" and, thus, necessitate active preservation strategies. However, it remains ambiguous how to identify its "value" and "significance". (Von schorlemer, Sabine, 2020, p. 42)

Therefore, The main challenges are as follows :

✓ **Challenge of controlling internal information flow accessibility:**

Enabling document access for internal viewing within organizations is one of the key challenges they encounter today. Information becomes truly valuable when shared and exchanged among different departments and individuals. Therefore, organizations strive to facilitate access to information and smooth sharing among employees. They aim to leverage the knowledge and information of the entire organization so that it is accessible to all employees and no longer limited to a select group of distinguished individuals. Collaboration, access, and document sharing should also exist between the client and the service provider. This allows the client to have an overview of the procedures being executed on their own computer system and the service provider to be aware of any incidents or changes that may occur on the client's network. (GUERRY, Carole, 2015, p. 24)

✓ **Challenge of protecting and preserving documents :**

Digital documents represent a vast wealth of information, but their true value lies on the beneficiary's ability to understand and comprehend them. Therefore, the beneficiary has the right to know the context and circumstances in which the digital document originated, how it was recorded, its function, and its purpose. At the very least, they should know the administrative processes that led to the existence of these documents, the subject of the document, and its relationships with other documents. Electronic documents must be stored in an organized and easily accessible manner to allow us to benefit from them. Therefore, they should be preserved according to their logical structure in the context in which the digital document was created so that we can understand its nature and interpret it in the future through descriptive data. Risks arise when descriptive data is insufficient, inaccurate, or incomplete in the following ways :

-Failure to specify the location of information,
-Inability to provide and read information,
-Lack of meaning or value in information,
-Inability to verify the accuracy of information. (BOULDJEDRI, Yacine, 2023, p. 300)

Also, the importance of metadata include:

- **Organization and search:** It helps organize documents logically and makes it easier to search and retrieve them.
- **Preservation:** It contributes to the long-term preservation of documents, providing important information on how to handle and preserve them.
- **Understanding:** Helps researchers understand the context of the document, its importance, and how to interpret its content.
- **Sharing:** It facilitates the process of sharing documents with others and exchanging information, such as archival institutions sharing their documents with each other to increase their usefulness.

Metadata consists of:

- **Basic information:** Title of the document, date created, author, type of document (letter, report, photo, etc.).
- **Content information:** A brief summary of the document's content, keywords, topics covered.
- **Context information:** Who produced the document, its purpose, historical events associated with the document.
- **Technical information:** file size, file format, language used.

✓ **Challenges related to accessibility :**

The process of accessing and making electronic documents available faces a range of accessibility challenges related to the work environment and the tools available for research. The OAIS standard has identified various difficulties, including :

-Problems of comprehension by the users who use the archived data

-Problems of restoring digital data which requires a good knowledge of its technical characteristics and its original working environment.

-Issues of responsibility for documentary heritage in terms of controlling who has access.

✓ **A cultural and professional challenge :**

There is no doubt that before the emergence of all this technology, the archivist used to work in a purely traditional environment with simple methods and tools that are not characterized by complexity, while encountering a new world limited to the use of ICTs was the biggest challenge for him, as no one accepts the sudden change of his environment, which is the case for the archivist who has become afraid of changing the professional environment. On the other hand, we also note that the archivist has not yet grasped the idea of electronic documentary heritage due to several factors, most notably the credibility of this type of documentary heritage, how to secure it, and the extent of its ability to prove facts .(HACHANI, Mebarek, 2023, p. 186)

2.6 The contribution of digitization to solving the problem of preserving and valorizing documentary heritage in the digital environment:

Digitizing documentary heritage and employing modern access technologies are important opportunities for heritage institutions (documentary institutions). These opportunities help to expand the target audience and facilitate access to collections that may be dispersed or require special protection. By improving digital access, the economic and social dimensions of documentary heritage are enhanced.

As the process of digitizing and making collections available progresses, it becomes necessary to innovate new business models within these institutions. These digital transformations, based on user needs, affect many aspects of the institutions' management, including their organizational structures and revenue models.

Institutions are facing challenges from recent developments in information technology and Internet-based services, making traditional processes insufficient to meet the demands of evolving services. This may require acquiring new skills and redistributing available resources within institutions. Therefore, these institutions must make decisions about how to develop these expertise, whether internally or through collaboration with other organizations. At the same time, calls are increasing for cultural institutions to build a network of strategic partners to implement activities that fit their core competencies. The integration of these activities with internal resources and the costs of external services can impact the cost structure of the institution. In the digital domain, structural partnerships are essential to create value-added services. (EVENS, Tom, 2011, p. 05)

Accordinglly, the contribution of digitization to solving the problem of preserving and valorizing documentary heritage in the digital environment is :

- Sharing resources and collections : For archives, this is the most significant goal to be achieved by adopting digitization solutions, as evidenced by the many initiatives undertaken by archival institutions in terms of grouping and merging with each other, in order to share and access collections, especially rare or fragile ones such as manuscripts.
- Access to the contents of documentary heritage: Although the physical contact of the beneficiary with documentary collections in their traditional form may be interrupted with the digitization process, the latter can provide better opportunities for browsing and reading, as it is possible to see minute details that cannot be seen with the abstract eye.
- Valorizing digital collections : Digitization can represent an opportunity to make the most of valuable and rare collections, which can sometimes be widely unpublished. This can be achieved by making these collections available either in the form of CDs or other optical media, or by making them available via the internet or local network if the target audience represents a broad sector and the method of availability depends on the general policy followed by the archival institution in this regard.
- Making collections available via networks : The availability and sharing of information resources remotely is one of the main features of digital collections, and achieving these goals is a valorization of the documentary heritage and the archival institution's mission. (AKNOUCHE, Nabil, 2010, pp. 151-152)

2.7 Are we digitizing for valorization?

Digitization moves heritage from the past through the archive to the present through modern technology, from the means of preservation and storage to the future through the Internet. (SID IDRIS, Youcef, 2021, p. 286)

The process of valorizing the documentary heritage is one of the most important tasks and operations carried out by the archivist in order to introduce and market the documentary stock available at the institution on the one hand, and to facilitate the process of searching for and accessing documents by the beneficiary to meet his information needs on the other hand. (Elguerri, Abdelbassit, 2021, p. 249)
Nowadays, many archival institutions seek to be present in the digital environment, and there are even competitions between many archival institutions to provide the best online presence, and various countries have sought to provide a budget for prominent archival institutions in the country in order to improve the services provided to beneficiaries, where a budget has been allocated to carry out a project to digitize the documentary heritage at the level of the archival institution, especially those that carry historical, scientific, evidentiary, legal, or cultural value that researchers can use in their research, and one of the highest goals of digitization is to make documents available to the public.
Digitization has had an impact on the valorization of documentary heritage through:

1. **Developing new tools for valorizing documentary heritage :**

Before the existence of digitization or before digitization entered archives and information institutions in general, these institutions sought to value and make available their documentary heritage by carrying out traditional activities that require the physical presence of the documents and the beneficiary, and these activities can be summarized in :

- -Organizing exhibitions;
- -Organizing seminars and conferences;
- -Cultural and scientific activities;
- -Publications and Announcements;
- -Research Tools;
- -Press Articles.

However, with the advent of modern technologies, the latter did not meet the needs and did not give the required results. At the same time, other tools appeared that do the same work but more efficiently

due to their reliance on freedom from their physical structure and the use of digital formats, i.e. preserving the content and abandoning the physical form, in addition, these tools do not require the physical presence of the beneficiary but require a computer connected to the internet and they can be summarized as follows :

- ✓ **Websites :**

The website is considered one of the files of the web network, the latter includes the home page or interface, which guides researchers and users to enter the site through the address of the home page of the site, and from the home page you can go to all pages within the site. (Laanani, zahra, 2018, p. 165)

- ✓ **Databases:**

Through the use of databases, archival institutions seek to introduce the documentary heritage and make it available to researchers by providing bibliographic data of documents in the digital environment according to internationally agreed description standards. This is with regard to restricted availability, while general availability can be accessed through the full text of the document to be accessed. (Elguerri, Abdelbassit, 2021, p. 257)

- ✓ **Information networks :**

Two or more information centers that are interconnected through various means and technologies of communication, and each center has beneficiaries to whom information services are provided at the right time and in the right form, which is the main goal of information networks". (MOUSSI, Nassir, 2012)

- ✓ **Web 2.0 applications and the Semantic Web :**

Web 2.0 relies mainly on interactivity as a service delivery feature, where the user can express their opinions and provide feedback and suggestions about the services provided. This interactivity has greatly contributed to enhancing awareness of archival institutions, their cultural contents, and the services they provide. The aim of using web technologies in archival institutions is to enhance the accessibility of digital heritage in a comprehensive manner, facilitating research and utilization.
The Semantic Web will enable machines to comprehend semantic documents and data. (FLORIDI, Luciano, 2009, p. 04)

- ✓ **Web portals :**

The National Library of Australia defines a web portal as including a home page, effective search tools and a set of links. The aim is to link the services and content provided to researchers in order to facilitate access to the digital documentary heritage and to attract more users so that the portal becomes their main access to the available digital documents (FARAG AHMED, Ahmed, 2009, p. 08).

- ✓ **Digital repositories :**

An institutional digital repository is a vital aspect of contemporary higher education and research institutions and is the digital information database and digital documentary heritage of an institution's product, staff and students. By facilitating access to research outputs, institutional digital repositories contribute to the wider dissemination of knowledge, foster collaboration, and ultimately enhance the academic relevance and social impact of the institution, with few if any barriers to access. (RADOVAN, VRANA, 2011, p. 57)

2.8 **Experiences in valorizing documentary heritage in the digital environment:**

- ❖ **Worldwide experiences:**
  - **1- Memory of the World program :**

The World's Memory is the documented, collective memory of the world's people– their documentary heritage – which in turn manifests a great
proportion of the world's cultural heritage. It involves the evolution of thought, discovery, and achievement of human society. It is the past's legacy to the world community of the present and the future.
Much of the Memory of the World resides in libraries, archives, museums and
keeping places across the globe and much of it is now at potential danger.

Objectives of Memory of the World :

The Memory of the World Programme includes three (03) main objectives :

- To simplify the preservation process using the best technologies to preserve the world's documentary heritage.
- To facilitate global access to documentary heritage.
- To augment worldwide awareness of the existence and substance of documentary heritage. (UNESCO, 2002, p. 08)

2- WASHINGTON STATE ARCHIVES – DIGITAL ARCHIVES :

The Washington State Digital Archives is the nation's first archives dedicated to preserving digital documents of state and local agencies that have permanent legal, financial, and historical value.

The web interface and database store was designed specifically for the digital archive to preserve the unique and very important digital documents located throughout the state, and to provide simple access and direct availability to researchers.

Opened in 2004, the institution held only a few record series but as of April 3, 2017, it held more than 187 million records, of which 65 million records are searchable on the archives website. In 2024, the archives held about 250 million documents and 85 millions searchable records. Many of these records were created digitally and the institution also converted historical paper records to digital ones to provide researchers with direct access worldwide without the hassle of commuting. Some notable archival collections that can be found on the website are :

- Washington State birth records prior to 1907.
- Washington State marriage records.
- Washington State Agency meeting minutes.
- Historic photographs of Washington State.
- Washington State Agency audio recordings.
- Land records.
- Criminal records.
- Voting records.
- Immigration records.

FIGURE 01: An image of the washington state archives- digital archives's interface



Source: (digital archives, 2024)

3- THE WORLD DIGITAL LIBRARY :

The World Digital Library is a collaborative project between UNESCO and the U.S. Library of Congress, with the aim of promoting international understanding and education through the internet. The project was proposed by James Billington, the director of the Library of Congress, in 2005, and was formally adopted by UNESCO in 2006. The library has since gained international partners, including major libraries from Asia, Europe, Africa, and the Americas. The library is presented in seven languages, including Arabic, Spanish, English, Portuguese, Russian, Chinese, and French. Each item in the library is described with consistent metadata, allowing for connections between different items to be revealed and improving the searchability of the library. The library also provides accompanying profiles for each item, explaining its significance and aiming to spark curiosity. Furthermore, the data in the library is translated into all seven languages, making it accessible to a wide range of users.

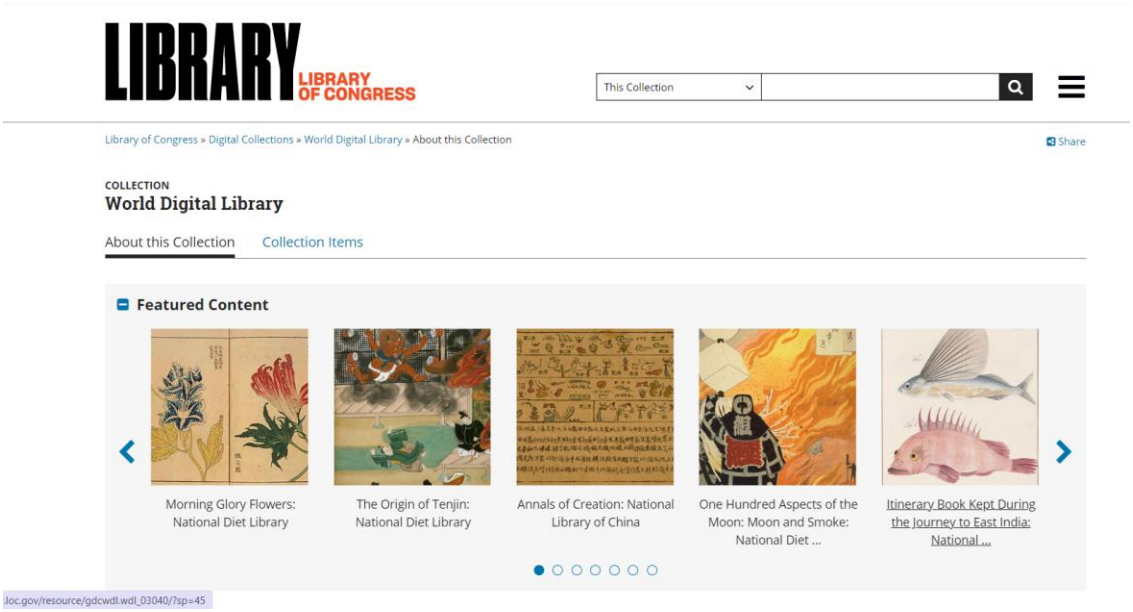
This library has a digital collection that includes:

Table 1 : representing some of the library's digital collections

DIGITAL COLLECTION	NUMBER
Manuscript division	120
Prints, photographs division	73
Music division	68
American Folklife Center	48
Law Library of Congress	29
Researcher and Reference Services Division	27
Geography and Map Division	25
Motion Picture, Broadcasting and Recorded Sound Division	25
Recorded Sound Research Center	8

Source : (THE WORLD DIGITAL LIBRARY, 2024)

FIGURE 02 : An image of the digital library's interface



Source : (THE WORLD DIGITAL LIBRARY, 2024)

- **Arab experiences:**

1- NATIONAL LIBRARY AND ARCHIVES :

The UAE aims to keep pace with global professional and technological developments by documenting collective and institutional memory by raising competencies, preserving rights, and benefiting from previous and international experiences and knowledge.

The UAE has also developed a strategic plan related to the UAE's documentary heritage by providing an electronic system that complies with the requirements of the national archive and library and employing advanced technologies to preserve and make digital documents available.

The website contains images, maps, digitized documents and even audio and video recordings, with information about each document.

FIGURE 03 : An image of the national library and archives's interface



Source : (NATIONAL LIBRARY AND ARCHIVES, 2024)

2- Arab participation in the Cultural HeritageII Unimed project - which seeks to implement extensive cultural heritage databases, a dedicated portal and customized training actions on the valorization of cultural heritage, with the objectives of :

- ✓ Improving cooperation in the field of conservation, recovery and management of cultural heritage.
- ✓ Creating a community in which the experiences developed by some Mediterranean countries can be shared with all other partners.

3- Algeria, Palestine, Cyprus, Egypt, Jordan, Lebanon, Malta, Morocco, Syria, Tunisia and Turkey participate in the EU-funded Euromed Heritage program, which aims to :

- ✓ Facilitate people's adoption of their national and regional heritage by providing an easy access to science and knowledge within the cultural heritage sector.

Conclusion :

In conclusion, we recognize the significance of valorizing documentary heritage as a cultural and historical heritage that carries tremendous values for societies. In addition, the valorization process is an essential pillar to ensure the preservation of memory and history in the long term, as it permits researchers, historians, and society as a whole to access and obtain information that contributes to understanding the past and present, and building a better future.

Despite the importance of this valorization process, it encounters many challenges, which have made the application of the process somewhat challenging and requires the joint efforts of archival institutions and experts in the field of archives to ensure the preservation of this precious heritage and provide the necessary means to preserve, valorize, and make it available in an appropriate manner.

Joint work between archival institutions and similar institutions will contribute to ensuring the long-term preservation of documentary heritage of all types and formats for use and benefit. Valorizing documentary heritage in the digital environment is a responsibility of archivists and digital media experts, as it represents an invaluable cultural wealth that allows us to understand the past and present, and build a better future.

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