



# 7<sup>TH</sup> ANNUAL INTERNATIONAL

ARAB WOMEN IN  
COMPUTING  
AND TECHNOLOGY  
CONFERENCE

# ArabWIC 2021



ArabWIC



ArabWIC

# Long-Term Digital Preservation: Rethinking the Dependency on Information Technology

Presented by Pr. Bouchra EL IDRISSE  
Information Science School, Rabat, Morocco

**7<sup>TH</sup> ANNUAL INTERNATIONAL**  
ARAB WOMEN IN COMPUTING AND TECHNOLOGY CONFERENCE



## Outline

1. What is Long-Term Digital Preservation (LTDP)?
2. Why should we be care about it?
3. What problem with current LTDP strategies?
4. What alternative solutions we encourage?



ArabWIC



ArabWIC

# What is Long-Term Digital Preservation (LTDP)?



## LTDP Definition



ArabWIC

- Digital preservation is the conservation of digital materials.
- This conservation should grantee over a long period of time that the digital information remains accessible, safely stored, and understandable to future users.
- More constraints can be applied depending on the preservation context: requirements of the laws; requirements of regulations; patrimonial or scientific needs.



ArabWIC

# Why should we be care about LTDP?

**7<sup>TH</sup> ANNUAL INTERNATIONAL**  
ARAB WOMEN IN COMPUTING AND TECHNOLOGY CONFERENCE



## LTDP: Why?

- Preserving your personnel documents for a long period of time.
- Preserving the legal documents of organizations and persons.
- Preserving scientific information, such as papers, conference proceedings, and media materials.
- Preserving the cultural heritage of nations.
- Etc.



ArabWIC

# The Problem Statement

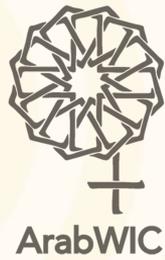
- The life cycle of digital artifacts, necessary to access and make useful the digital information, is generally short for long-term preservation.
- The relentless revolution in information technology creates new paradigms that may be partially compatible or incompatible with their predecessors.





ArabWIC

# What problem with current LTDP strategies?



# Classical LTDP strategies

- **Encapsulation (software):** assembling all the details necessary for rendering the digital objects.
- **Migration (hardware/software):** upgrading from one platform to another one.
- **Emulation:** programming the newer computer platforms to mimic the obsolete platforms.
- **Standardization (software):** defining reference models that can be revised with an open/closed specification.
- **Obsolescence-prevention/planning (hardware/software):** specific strategies followed by the organism.



1. **Preservation is more complex and relies on other artifacts rather than the digital object alone.**
2. **Dependency on technological platforms is not resolved.**

*EL IDRISI, Bouchra. Long-term digital preservation: A preliminary study on software and format obsolescence. In : Proceedings of the ArabWIC 6th Annual International Conference Research Track. 2019.*



ArabWIC

# What alternative solutions we encourage?

**7<sup>TH</sup> ANNUAL INTERNATIONAL**  
ARAB WOMEN IN COMPUTING AND TECHNOLOGY CONFERENCE



# Rethinking the Dependency on IT



ArabWIC

- Dependency on information technology (hardware or software) is a barrier to long-term digital preservation.

➡ **How can we alleviate or eliminate this dependency?**

- **The main Idea:** separating the digital object content from the technical content.

➡ **Any related research fields?**

- **Model-Driven Engineering (MDE/ Model Driven Architecture(MDA))**



# What are the challenges?

- The application of MDA/MDE in the software industry is limited.
- MDE/MDA is generally used for model transformation or database implementation.
- How to apply it to audiovisual documents?
- How to transform existing documents?
- Can we rethink the document integrity as equal to the integrity of the content independently of the technical information?



ArabWIC



7<sup>TH</sup> ANNUAL INTERNATIONAL  
ARAB WOMEN IN COMPUTING AND TECHNOLOGY CONFERENCE



ArabWIC

# Questions?