



Deliverable 1.2

Analysis and collection of DCH best practices and strategies



General information	
Submission date	20 th December 2022
Author, editor and contributors	<p>Authors:</p> <p>UNIVPM- Umberto Ferretti, Romina Nespeca, Ramona Quattrini, Chiara Mariotti</p> <p>CYI- Antonia Agapiou, Dante Abate</p> <p>LUSO- Carlos Smaniotto Costa, Diogo Mateus</p> <p>UCO – José Luis Domínguez, Massimo Gasparini, Antonio Monterroso</p> <p>NIS- Andjela Djordjevic, Olivera Nikolic, Bata Vasic</p> <p>Editors</p> <p>UNIMED- Cristina Stefanelli, Arianna Barletta, Stefania Aceto</p>
Version	3
Deliverable	D 1.2 - Analysis and collection of DCH best practices and strategies

About DCbox

DCbox “Digital Curator Training & Tool Box” works to create a new generation of European professionals working in the cultural heritage sector, equipped with a recognised, cross-cutting and high-level digital skillset. The project is funded by the Erasmus+ programme of the European Union during the period November 2021 - May 2024.

DCbox is implemented by:

- Università Politecnica delle Marche (Italy) - coordinator
- Sinergia Consulenze Srl (Italy)
- University of Cordoba (Spain)
- The Cyprus Institute (Cyprus)
- Universidade Lusófona/COFAC – Training and Cultural Animation Cooperative (Portugal)
- UNIMED – Mediterranean Universities Union (Italy)
- University of NIS (Serbia)

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Executive Summary

This document represents the Del 1.2, which is the chapter 3 of the R1 main report “Digital Curator Mapping & Design Report”. This last also embeds the deliverable “D1.1 - Report of the higher-education programs specificities in each country” (chapter 4 and 5) and the deliverable “D1.4 - Preliminary index of the DC roadmap” (chapter 7).

The present document focuses on analysis of Digital Cultural Heritage best practices and strategies carried out at European level and beyond. The most used digital cultural heritage tools for museums and cultural organizations will be described, with a primary focus on potential transferability to other contexts. The analysis also will take in consideration regulatory framework or address policies of European bodies (Europeana, DG Connect etc.) and national authorities. This activity is developed by CYI, UNIMED, UCO, UNIVPM.

Table of Contents

Executive Summary	4
1. Analysis and collection of DCH best practices and strategies	6
2. Annex - GOOD PRACTICES GRID	5

1. Analysis and collection of DCH best practices and strategies

A mapping exercise of digital practices in museums and heritage sites across Europe was done in order to gather and analyse information on best practices relating to digital cultural heritage tools and digital strategies. Each partner gathered research and information on their own countries plus additional neighbouring countries. The splitting of the country groups is listed below:

Cyprus + Greece (CY + GR)

Eastern Europe (RS, BG, RO, MK, BA, ME, HR, CZ, RU)

Italy + Croatia (IT + HR)

Spain + France (ES + FR)

Portugal + Germany (PT + DE)

Great Britain (GB)

Denmark (DK)

Qatar (QA)

Other (Web resources)

Museums, archaeological sites and many other cultural heritage sites were researched to ascertain what kind of digital tools or technology have been put in place to provide user-friendly, attractive, innovative and interactive tools for visitors. The results have been summarised in the Table 1, and show a breakdown of the most used digital tools.

Technology	No. Examples
Web	47
Virtual Tour	46
Non-Immersive	19
AR Vision Based	16
3D Printing/models/animations/mapping	13
Cataloguing	12
User Guidance	11
Fully-Immersive VR (CAVE)	11
Fully-Immersive VR (Head Mounted Display)	9
AR Sensor-Based	7
Mixed Reality (see-through glasses)	4
User tracking behaviour	4
Photogrammetry	2
Semi-Immersive VR	1
4D Models	1

Table 1. Shows the results from the mapping exercise

As we can see from Table 1 and Figure 1, the most reoccurring digital tool used was the 'Web'. This included advances such as website creations and making museums more accessible online for

people to visit from their homes or anywhere remotely. In some cases, such as in Italy, entire online museums were created with the aim of reaching larger audiences. Mobile applications also fell in the category of ‘Web’ with many countries creating applications either for archaeological sites or monuments. In Cyprus for example, a QR code was installed in front of some important statues in Larnaka town. Visitors simply scanned the QR codes through their mobile phone camera and an audio was played describing the story of the statues and their importance. This is a great way to create interactive and immersive experiences for visitors in major cities across Europe.

A very close second to ‘Web’ tools, was the ‘Virtual Tour’ tool. Almost every country reported at least one example of virtual tour in museums or archaeological sites. Many were created in response to the pandemic to give people the opportunity to still ‘visit’ the museums and look through the exhibits. The ‘Virtual Tour’ tool also allowed smaller museums and archaeological sites to be highlighted and draw in larger crowds. Creating new technologies to compliment museums and their exhibits were also used to attract younger visitors and create educational programmes for children. This is evident from examples given by Spain, Portugal and many Eastern European countries such as Serbia, Bulgaria and Romania.

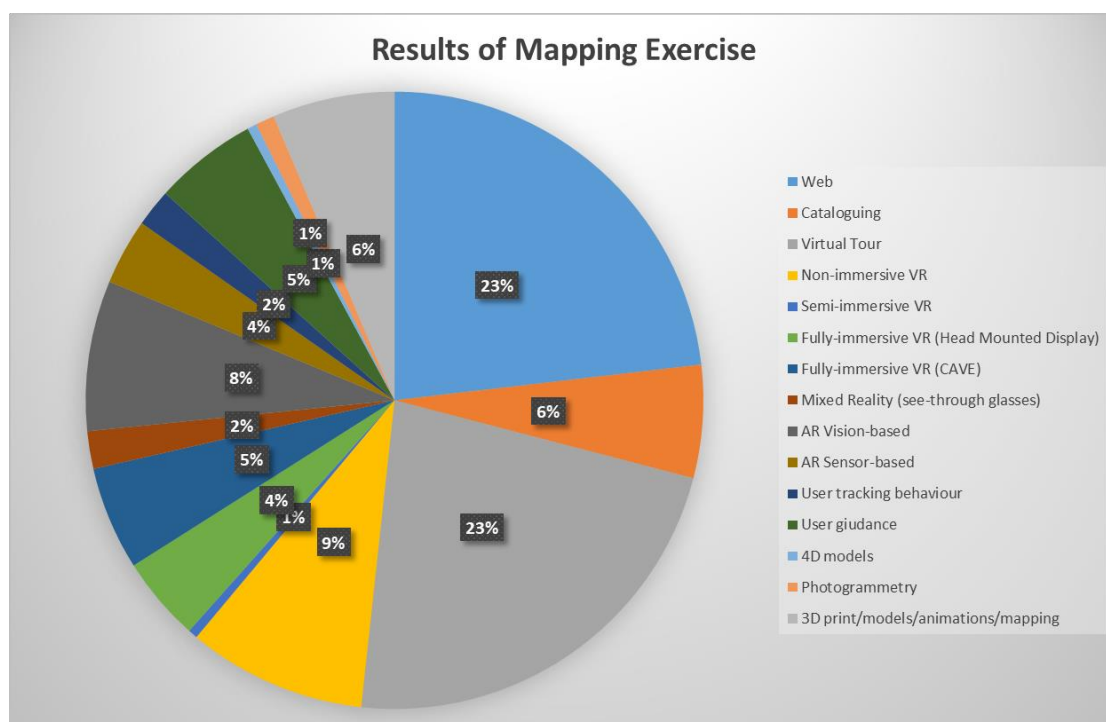


Figure 1. Shows the results of the mapping exercise through a statistical analysis.

Table 2 depicts the same results by countries. It goes however into a more detailed breakdown of each individual group and their results. This is a clearer way to see exactly which countries are using which digital tools and technology. In this table we can see that Portugal and Germany use ‘web’ tools more than any other country in our sample. Other innovative technologies such as Non-Immersive VR and AR Vision-Based are strongly represented in some countries, such as Italy.

Virtual tours and websites, on the other hand are more straight forward, and do not require sophisticated equipment in their creation, which could be a reason to be so commonly used across the countries.

Both technologies still need trained professionals but taking into consideration some of the other typologies we have [i.e., fully-immersive VR (CAVE)], which are much more complex and expensive, it is understandable why these two tools are most frequently used. 4D models which are considered to be on the expensive side, although a valuable tool, is mentioned only once among our large sample. Museums may lack the financial resources for such expensive and specialised equipment at this point in time. These more complex technologies may also require specialised personnel to be able to deal with maintaining the technology, something that may not be so sustainable or cost effective for some areas. In general, we can observe that as the cost of the technology rises, the frequency in which it is used falls.

A note that was made during this exercise, which can be helpful moving forward, is that technology also needs to be sustainable and be able to change with new emerging advancements. In Cyprus for example, virtual tours were created for a number of UNESCO World Heritage Sites which used Flash Player. However, since 2020 Flash Player is no longer supported therefore making these virtual tours unavailable to the public.

Technology	Country Groups								
	CY+GR	Est.EU	IT+CR	ES+FR	PT+DE	GB	DK	QA	Other
Web	6	2	12	10	13	2	0	0	2
Cataloguing	4	0	4	1	1	1	0	0	1
Virtual Tour	10	4	7	13	11	0	0	0	1
Non-Immersive VR	6	1	8	1	0	1	0	1	0
Semi-Immersive VR	0	0	1	0	0	0	0	0	0
Fully-Immersive VR (Head Mount.Display)	0	1	5	3	0	0	0	0	0
Fully-Immersive VR (CAVE)	1	1	6	2	0	0	0	1	0
Mixed Reality (see-through glasses)	0	0	1	3	0	0	0	0	0
AR-Vision Based	1	2	9	3	0	0	1	0	0
AR-Sensor Based	1	1	0	5	0	0	0	0	0
User Tracking Behaviour	1	1	1	0	0	0	1	0	0
User guidance	6	1	2	0	2	0	0	0	0
4D Models	0	0	0	0	1	0	0	0	0
Photogrammetry	0	1	1	0	0	0	0	0	0
3D Print/Models/animations/mapping	0	3	2	5	1	2	0	0	0

Table 2. Shows the technology used by country groups



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