DIGI.MUSE

Education in small museums: digital solutions for a renewed accessibility

BEST PRACTICES

DIGITAL TOOLS USED BY MUSEUMS

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Education in small museums: digital solutions for a renewed accessibility

DIGI.MUSE PROJECT

Digi.muse is a European project co-funded by **Erasmus Plus** programme, where 3 institutions are involved.
The consortium is composed by Fondazione Genti d'Abruzzo (Italy), Internet Web Solutions (Spain) and Institut de Haute Formation aux politiques communautaires (Belgium).

TARGET

Digi.muse addresses **small museums**, which play an important role in non-formal and informal education; their role is a priority in realising concrete integration actions thanks to their close link with the territory and the community, their ability to be welcoming and to offer original experiences to visitors.

OBJECTIVES

The project focuses on small museums with three objectives:
1. to enhance the innovation of the educational and inclusive function of small museums through **digital solutions**;
2. to increase the opportunities for access to the Erasmus Plus programme through specific **Capacity Building**;
3. to promote international collaboration between small museums by laying the foundations for the creation of a **European network**.

DIGI.MUSE
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TESSUTO MUSEUM

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🇮🇹 Prato, Toscana region

Space needed: Medium

Activity: Prato is at the centre of an important textile district, the largest in Europe. The Museo del Tessuto preserves its historical and cultural heritage, promoting art, culture and ancient and contemporary textile production.

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Description of the educational/professional project

Name of initiative: SOCIAL Fabrics (SOCIAL Learning, Museum Displays, Languages, Interactions)

Target group: Community of foreign adults' resident in Prato (Chinese, Albanian, Maghreb and Pakistani)

Purposes:
- Promoting the development of language skills and intercultural awareness
- Realising an inclusive and interactive model of museum use

European reference initiative: POR FSE 2014-2020 Fondo Sociale Europeo

Transferable innovative principles and methods

1. Bringing the foreign user closer to museum activities through language training courses

The Tessuto Museum, in collaboration with the University of Siena, has created a digital training course in Italian aimed at foreign adult users: "Italian at the Museum" (see "Useful Links"). The path, which is freely accessible and usable in total self-study from computer and mobile phone, allows for the improvement of linguistic competence through the museum's terminology and the promotion of its history, activities, and collections.

2. Making content usable to foreign communities by actively including them in this process

QR Code technology was used to create a digital pathway, which allows visitors to independently visit the museum with the possibility of listening to audio guides in simplified Italian, Albanian, Arabic, Chinese and Urdu. The voices in the Museum's audio guides are the young people from the different communities who were included in the voice-over activities.

Digital solutions:

- Gamification services via Genial.ly
- Virtual tour on digital platform ThingLink
- Qr Code Technology

(See "Useful links", digital solutions)

Weaknesses:

- Eventual increase in the digital divide in low digitally literate population groups
- Cost of purchasing and maintaining digital technologies
- Poor positioning at an international level due to a lack of English language online content

Strenghts:

- Presence of digital tools to support the visit (multimedia devices, touchscreens, macro-video projections)
- Presence of tools for enjoyment through gamification systems
- Presence of virtual tours
- Increase in online visitors following the Covid-19 Pandemic
- Possibility of providing a wider range of services on the web (digital catalogue, online archives, etc.)
- Implementation of solutions (even minimal, such as QR codes) for accessing content from mobile devices

Useful links/further references

Italian at the museum
https://elil.it/tessutisociali/litaliano-al-museo/
Interactive content and digital solutions used by Social Fabrics
https://elil.it/tessutisociali/museo-digitale/
Other activities promoted by SOCIAL Fabrics
https://elil.it/tessutisociali/

Methodology:

- With Genial.ly you can easily create content (including interactive content) in a simple and intuitive way. On the website you can also find a short guide on how to use it.
- To create a QR code, simply enter one of the many free sites that generate them and enter the link you want to associate with the QR.

Possible low-cost solution:

- There are several sites where you can generate a QR code for free. One example is QR Code Generator.

Resources needed and start-up costs:

- ThingLink subscription: from 25 euros per month
- Genial.ly app: free

Glossary:

Simplified language: producing explanatory content in simplified language means making it compatible with A1-A2 CEFR level language competence. Common formulas, short sentences and simple, clear syntax must therefore be used.

Multilingualism: to better allocate resources in translation activities, it is advisable to start with a socio-cultural survey, as in the case of the Textile Museum. Through questionnaires, interviews, meetings etc. it is possible to get to know the communities in the area and their needs.

SMALL DIARY MUSEUM

🇮🇹 Pieve Santo Stefano, Toscana region

Space needed: Small

Activities: The Small Diary Museum was created to tell the story of the National Diary Archive in Pieve Santo Stefano and the precious testimonies it preserves.

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Description of the educational/professional project

Name of initiative: n.a.

Target group: Public audience

Purposes: • Broaden and diversify audiences
• Improving modes of use
• Make the community an active part of the archive enhancement process

European reference initiative: n.a.

Transferable innovative principles and methods

1. Engaging the user and enhancing the visitor experience

The museum route welcomes the visitor in an engaging and innovative way to discover private memories that, through storytelling, become collective and universal. The museum layout, designed by Studio dotdotdot, is equipped with electronic devices and digital technologies that make the route multi-sensory and interactive.

2. Making the National Diary Archive in Pieve Santo easily accessible also to not-in-charge people

For years, the archive was made accessible without tools to support the visit, making it difficult to understand. The new layout has bridged this gap thanks to the presence of numerous electronic devices that allow a simpler, more immediate, and emotional enjoyment of the archive documents.

3. Making the community an active part of the enhancement process

Thanks to the use of digital technologies, the content of the permanent collection can be easily implemented and modified over time. For this reason, the museum has launched a campaign to collect written sources (diaries/memoirs/letters) for anyone who wants to contribute (see 'Useful Links').

Digital solutions:

- Projectors and lights
- Sensors
- Microcontrollers
- Computers for audio and video playback

Weaknesses:

- Absence of an online rendition of the digitised archive
- High cost of purchasing and maintaining digital technologies

Strenghts:

- Interactive layout also suitable for the blind and deaf
- Bilingual exhibition route
- Wi-Fi availability throughout the facility
- Possibility of expanding the number of online (and thus onsite) presences through the creation of usable online content

Useful links/further references:

Donate a diary
http://archiviodiari.org/index.php/come-partecipare.html
Layout of the museum
https://vimeo.com/116944548

Methodology:

- The diary museum has made the exhibition more engaging and interactive through the use of highly interactive video projections on various surfaces of the museum.

Possible low-cost solution:

- The price of equipment varies widely and costs can be reduced by slightly reducing its quality or functionalities. Regarding the design of the museum set-up and the development of the video and audio-visual effects, it might be considered not hiring professionals, but using free apps to create the graphic effects in the video. Beware, however, of the interactive part of the video and its connection to the sensors: professional help may be needed.

Resources needed and start-up costs:

- Projectors: 450/3,000 euros each
- Sensors: 5/30 euros each
- Microcontrollers: 5/40 euros each
- Speakers: 500/2,000 euros
- Interactive video production: from 10,000 euros

Glossary:

Storytelling: narrative technique used to shape engaging and emotional communication. Underlying this is the act of storytelling, which involves people and makes them an active part of the meaning-making process.

REGIONAL ARCHAEOLOGICAL MUSEUM "A. SALINAS"

🇮🇹 Palermo, Sicily

Space needed: Medium

Activities: The Museo Archeologico Regionale 'A. Salinas' represents one of the most important testimonies of Sicilian history. It houses exhibit ranging from prehistory to the Middle Ages.

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Website:

www.regione.sicilia.it/beniculturali/salinas/

Description of the educational/professional project

Name of initiative: n.a.

Target group: • Non-public
   • Young users (post-compulsory students)

Purposes: • Communicating heritage through a communication campaign based on the use of social networks
   • Create an active and participative social community
   • Intercepting the youngest user group

European reference initiative: n.a.

Transferable innovative principles and methods:

1. Communicating the museum's heritage through social networks

"Closed for restoration, open for vocation" became the slogan with which the museum started to relaunch itself during its 7-year closure. The museum thus launched a massive social communication campaign with the aim of reaching a larger number of users and creating an active and participative online community.

2. Bringing younger audiences closer to the museum by exploiting a precise cultural web marketing strategy

The social communication campaign made it possible to intercept a younger audience and to bring them closer to the world of cultural heritage. The main objective is their loyalty and the creation of a sense of belonging to their territory.

Digital solutions:

Social media (see "useful links"):
- Facebook
- Instagram
- Twitter
- Pinterest
- YouTube
- Google+

Weaknesses:

- Lack of direct website management. For example, state museums may not have direct control over their own website, which is managed instead by other institutional bodies.
- Lack of personnel specialised in social media management and/or cultural web marketing strategies.
- Costs for hiring or training specific professionals:
- Possible increase of the digital divide in low digitally literate population groups.

Strenghts:

- Ability to intercept a young audience
- Low technology investment cost
- Increase in online visitors following the Covid-19 Pandemic
- Ability to provide a wider range of services on the web (digital catalogue, online archives, etc.)

Useful links/further references:

About the strategy
https://riviste.unimc.it/index.php/cap-cult/article/view/1225
http://www.tafterjournal.it/2015/11/15/open-by-vocation-the-museum-salinas-2-0-and-the-sicilian-anomaly-in-a-social-key/

Facebook page
https://www.facebook.com/Museo.Archeologico.Antonino.Salinas.Palermo/

Instagram
https://www.instagram.com/museoarcheosalinas_palermo/

Twitter
https://twitter.com/museosalinas

Pinterest
https://www.pinterest.it/museosalinas/

YouTube
https://www.youtube.com/c/MuseoArcheologicoAntoninoSalinasPalermoIT/featured

Google+ page
https://artsandculture.google.com/story/qQWhksnQ0_90KA?hl=it

Cultural web marketing
https://www.digital-coach.com/it/blog/case-histories/web-marketing-culturale/

Social Media Management Strategies: Tips
https://www.museumnext.com/article/how-do-museum-professionals-harness-social-media-for-marketing/

Methodology:

- To start a marketing campaign, a prior research phase is necessary to get to know your audience better. At this point, you can plan the campaign and design the content, which must be published on an ongoing basis. Once the campaign has started, it will be sufficient to analyse its progress in order to make any changes to optimise the results.

Possible low-cost solution:

- To avoid contracting a social media manager, the development and management of the content to be published on social media can be handled by yourself. There are several free apps that can help, such as Metricool (for management) and Canva (for the graphic part of the content).

Resources needed and start-up costs:

- Social media manager: 500/1.000 euros per month

Glossary:

Social community: new form of community related to the digital environment. Users, interested in the same topic, actively participate in discussions and comparisons through a telematic network and therefore not bound to their place or country of origin.

Cultural web marketing: set of activities aimed at promoting and enhancing a cultural good or product. Peculiarities: it is characterised by the complexity of content and the absence of specific professionalism in cultural institutions. Advice: to develop a winning strategy and choose the right means of communication and the right language, it is necessary to well define one's cultural product and target audience.

MUDEC MUSEUM OF CULTURES IN MILAN

4

🇮🇹 Milan, Lombardia region

Space needed: Big

Activities: The Museum of Cultures in Milan is a centre dedicated to interdisciplinary research on world cultures, where, starting with ethnographic collections and in collaboration with communities, it aims to build a place for dialogue around contemporary themes through visual, performing, and sound arts, design and costume.

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helpdesk@ticket24ore.it

Website: www.mudec.it

Description of the educational/professional project

Name of initiative: MUDEC PODCAST

Target group: Public audience

Purposes:
- Building an online community
- Integrating the cultural offer
- Ensure greater accessibility to heritage
- Strengthen brand identity

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Engaging and retaining the user

Through the podcast the cultural content is reworked and communicated to the user, soliciting a response that translates into engagement. When listening to a podcast, the public increasingly nurtures an interest in a topic and attaches value to it, which will be passed on to the museum institute promoting it.

2. Thinking about new and more accessible museum education

The podcast represents a new type of cultural and museum use, which allows even users unable to physically access the heritage to enjoy it at a distance by uploading content online. The application of this type of technology makes it possible to break down physical, cultural, and geographical barriers and thus reach a wider audience.

3. Set up a communication strategy

Podcasting cannot and must not be seen as a separate element from institutional communication but must be part of an integrated museum communication strategy that includes other channels, digital and otherwise (website, social media, press, etc.).
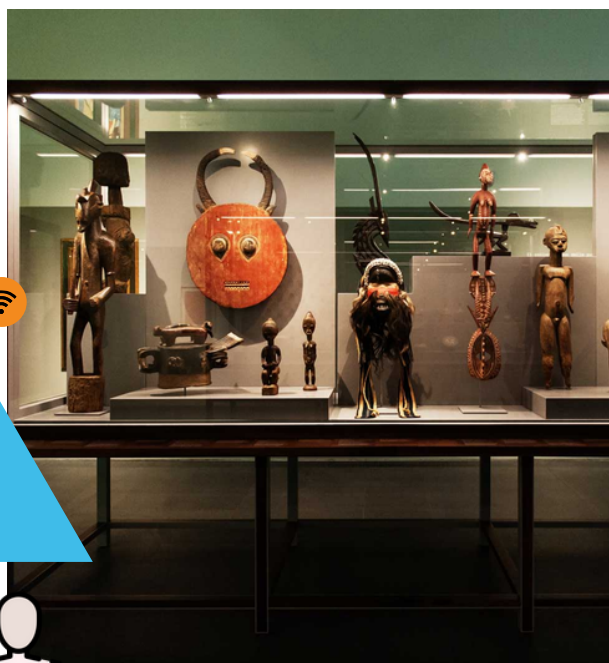
Digital solutions:

- Hardware and software tools for audio track acquisition and management
- Profile on specific platforms such as Spotify and iTunes

Weaknesses:

- Possible cost increase in the long run
- Difficulties in producing a quality product in the absence of specific expertise
- Need to include podcasts in a broader communication strategy

Strenghts:

- Low investment cost
- Affordable and adaptable solution
- User-friendly technology

Useful links/further references:

Web page:
https://www.mudec.it/ita/mudec-podcast/
Link Spotify:
https://open.spotify.com/show/2tzE8AVqCShVUsU97OAsmc
Link Apple Podcast:
https://podcasts.apple.com/it/podcast/mudec-podcast/id1552445787
Link Podcast Google:
https://podcasts.google.com/feed/aHR0cHM6Ly93d3cuc3ByZWFrZXIuY29tL3Nob3cvNDc3MDUwNy9lcGlzb2Rlcy9mZWVk
Podcasting in business strategy:
https://www.axepta.it/podcast-per-aziende-cosa-sono-e-perche-sono-utili/

Methodology:

- Including podcasting in your communication strategy is very easy. On the Internet, you can also find free short courses, such as that of Podcast Insight, on how to create a podcast. Once the episodes have been recorded, they can be published free of charge on platforms such as YouTube, Spotify and iTunes.

Resources needed and start-up costs:

- Recording set (audio interface, microphone, studio headphones, cables): 150/300 euros

Possible low-cost solution:

- The price of the necessary equipment can vary. You can lower the cost by looking for cheap options and promotions, or you can even buy used equipment.

Glossary:

Podcasting: A podcast is an audio file in Mp3 format, an audio content that users can listen to from a PC, smartphone, or tablet. Podcasts have proven to be indispensable allies for small, medium, and large businesses to raise brand awareness and reach new customers. To create one, you need to:

1. Identify your target audience
2. Choose the topic
3. Choose the length of the podcast
4. Define the publication frequency
5. Create the podcast graphics

Brand identity: la brand identity is a marketing concept that requires a company's identity to be solid and clear so that the target audience can recognise it and align it with the brand image.

Engagement: engagement refers to the ability of a product or service to create solid and lasting relationships with its users by establishing a bond between the brand and the consumer.

FORTE BELVEDERE MUSEUM

🇮🇹 Lavarone, Trentino-Alto Adige region

Space needed: Medium

Activities: The Forte Belvedere - Gschwent Museum aims to be a point of reference within the Historical Park of the Highlands of Trentino, pursuing precise didactic and informative goals that can better valorise the history, culture, and different opportunities of the territory in which it operates.

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Description of the educational/professional project

Name of initiative: The Rude Awakening

Target group: Young audience (13-20 years old)

Purposes:
- Attracting a young audience
- Raising awareness of the issues of war and peace through gamification
- Educating about European historical heritage through alternative means, with a focus on the First World War and soldiers' testimonies and memories.

European initiative reference: Creative Europe MEDIA Program of the European Union

Transferable innovative principles and methods:

1. Raising awareness and stimulating the interest of the younger generations

Digital interaction and virtual fruition cannot replace the live experience in museums but can be a lever to attract new audiences such as children and young people. Intercepting this type of user is a primary objective both in terms of heritage communication and user loyalty.

2. Promoting gamification to facilitate access to and promotion of culture

Museums and cultural venues must adapt to the social and cultural changes of the context in which they operate. The digital presence is now indispensable and lends itself well as a useful tool to bring the 'museum outside the museum' through new forms of edutainment. One of the forms of educational entertainment developed by museums is the video game which, with a contemporary and educational language, can make the transfer of cultural content possible.

Digital solutions:

- Video games and virtual reality (VR)

Weaknesses:

- High initial investment cost
- Possible increase in the digital divide in terms of access to technological support

Strenghts:

- Maximum public involvement
- Increased accessibility to heritage
- Creation of an emotional link between museum and user
- Good positioning at an international level

GO TO THE TRENCHES, THE DOCTORS NEED HELP. TELL THEM WE'LL SEND MORE SUPPLIES SOON.

Alexandra Narichkine

Useful links/further references:

The project:

https://www.fortebelvedere.org/the-rude-awakening/

Outcomes of the project:

https://drive.google.com/file/d/1KAfl7_ijppckCrCdQa89JRiJxl9VWrE/view

https://vimeo.com/571161445

Methodology:

- After choosing what type of video game to make and the desired general scenario, you have to write the game script. You can then move on to the programming (or in general the development) of the first prototype. Between the first prototype and the final video game, there may be various phases of testing and modifications.

Resources needed and start-up costs:

- Video game programming: 45,000/50,000 euros

Possible low-cost solution:

- It is possible to develop video games on your own with specific apps. Among them, Unity offers totally free packages and a manual to help you use the app to the fullest.

Glossary:

Virtual reality: The term virtual reality (abbreviated to VR from the English virtual reality) identifies various ways of simulating real situations using computers and specially developed interfaces.

Edutainment: Edutainment or educational entertainment is a form of entertainment aimed at both educating and entertaining.

Gamification: Gamification refers to the use of elements borrowed from games and game design techniques in non-game contexts. Taking advantage of the interactivity granted by modern media, gamification can be able to convey messages of various types, depending on the needs, and induce active behaviour on the part of the user, enabling specific objectives to be achieved.

SAINT FRANCIS MUSEUM

🇮🇹 Montefalco, Umbria region

Space needed: Medium

Activities: The St. Francis Museum Complex, consisting of the Church of St. Francis with an adjoining civic picture gallery, archaeological section, friars' cellars, and exhibition spaces for temporary exhibitions, protects and enhances its heritage through educational activities and cultural events.

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Description of the educational/professional project

Name of initiative: iBeacon System

Target group: Public audience

Purposes:
- Enhancing and communicating the cultural heritage in its custody
- Making more information available to users during the visit

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Using iBeacon technology to increase engagement

Thanks to iBeacon technology, once the 'Umbria Cultura' app is downloaded, it is possible to access in-depth information and exclusive multimedia content. The six transmitters in the facility allow visitors to use their portable devices as an interactive audio guide, as information appears automatically on the device whenever the user is near the digital devices. The visitor can at any time decide the level of depth of the visit.

2. Enhancing the exhibits using apps

iBeacon technology makes it possible to provide the user with specific, high-quality multimedia content that can be implemented over time.

Digital solutions:

- Umbria Culture' App (available for iOS and Android)
- iBeacon transmitters

Weaknesses:

- Possible increase in the digital divide in terms of access to technological support
- Need for Bluetooth enabled

Strenghts:

- No wi-fi connection (Bluetooth low energy technology)
- Possibility of providing insights and exclusive content
- Economical solution
- Easy to implement and use solution
- Possibility of collecting information on the behaviour of visiting users

COMPLESSO MUSEALE DI SAN FRANCESCO

MONTEFALCO

ENTER

BENOZZO GOZZOLI

Useful links/further references:

Link per Apple:
https://apps.apple.com/it/app/umbria-cultura/id443161001

Link per Android:
https://play.google.com/store/apps/details?id=it.sebina.mylib.um1&hl=it&gl=US

Methodology:

- Once the app has been developed, beacons can be configured by entering their unique code into the app.

Possible low-cost solution:

- You can develop apps yourself using free apps like GoodBarber. It is not necessary to know how to programme.

Glossary:

iBeacon technology: iBeacon is an indoor positioning system, described by Apple as 'a new class of low-power, low-cost transmitters that can notify nearby devices with iOS 7 and iOS 8 of their presence'. iBeacon, which uses Bluetooth Low Energy technology, allows a smartphone or other device to perform actions when in the vicinity of an iBeacon.

Bluetooth Low Energy: wireless technology that, compared to classic Bluetooth, can provide significantly reduced energy consumption and cost, while maintaining a similar communication range.

Resources needed and start-up costs:

- iBeacon transmitters: 10/50 euros each
- App programming: 22,000/25,000 euros
- App programming with audio guidance: from 50,000 euros

WAR MUSEUM

🇮🇹 Rovereto, Trentino-Alto Adige region

Space needed: Medium

Activities: The Castello di Rovereto houses the collections of the Italian War History Museum ("Museo Storico Italiano della Guerra" in Italian), which is divided into three parts: the first is dedicated to the history of armies and wars between the 19th century and the First World War, the second focuses on the architecture of the castle and the weapons collections of the modern age, and the section 'Artillery of the Great War 1914-18'.

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info@museodellaguerra.it

Website: www.museodellaguerra.it

Description of the educational/professional project

Name of initiative: Digital archive

Target group: Public audience

Purposes:
- Facilitating access to heritage
- Protect archival heritage (documents and photographic collections)
- Enhancing the archival heritage

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Enhancing Museum heritage through virtual exhibitions

Every year the War Museum proposes several photographic exhibitions with the aim of enhancing the heritage of its archive, which consists of more than one hundred thousand images. These are small exhibition projects that develop a particular theme or present a single archive collection.

2. Using digital technology to protect and manage the preserved heritage more effectively and efficiently

The Museum carries out numerous projects to reorganise, inventory and dematerialise its archival collections, making them accessible and searchable online. The inventories are available in pdf format on the Museum's website (see link: Inventory of fonds)

3. Heritage accessibility as a priority

The digitisation of the archive responds to conservation and enhancement needs. Bringing the content of an archive online means making it accessible and interactive in terms of research and use not only to professionals but also to visitors, scholars, and laymen.

Digital solutions:

- Consultation software
- Professional scanner
- Digital management system

Weaknesses:

- High initial investment costs
- Involvement of specific skills

Strenghts:

- Increased accessibility of heritage
- Reduction of management and information search time
- Improvement of the organisation's image in terms of efficiency, modernity, and availability

Useful links/further references:

Archive from the War Museum:
https://archivimuseodellaguerra.archiui.com/
Fund's inventory:
https://museodellaguerra.it/scopri/patrimonio/documenti/

Methodology:

- The function of the platform is to offer an information service. It therefore allows the archiving of and access to files with information material in different formats and a search tool by categories or keywords.
- The development of a platform with these characteristics involves a component of technical design at the graphic level, database design and analysis, one of programming the public website (mainly html + DHTML + Javascript + PHP) and one of programming private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs:

- Software programming: 6,000/10,000 euros

Possible low-cost solution:

- One could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.

Glossary:

Dematerialisation: an applied IT activity consisting in the creation of any document exclusively – or primarily – in an appropriate digital format, usable by IT means, aimed at the destruction of the previous paper materiality of the same documents.

MUNICIPAL MUSEUM IN MODENA

🇮🇹 Modena, Emilia-Romagna region

Space needed: Medium

Activities: The Civic Museum expresses and represents the identity of Modena and its community in its exhibition halls.
It is the repository of the city's historical memory and renews it over time in relation to the changing community and in constant relation with it.

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museocivico@comune.modena.it

Website: www.museocivicomodena.it

Description of the educational/professional project

Name of initiative: Wiki GLAM project

Target group: Public audience

Purposes:
- Ensuring access to free knowledge
- Launch a participatory digitisation process
- Strengthen the web presence of museum heritage

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Enhancing the online heritage in a free and accessible manner

Through the GLAM Wiki project the Civic Museum of Modena makes high-resolution photographs of the works in its possession available under a free CCBY-SA 4.0 licence. The user is therefore free to consult and share the digital collection, as long as the author is always attributed.

2. Making the digitisation of heritage participatory

In order to make the digitised heritage accessible to the public, the GLAM project envisages an active and participatory approach of the community, involving both museum operators, who are given a training course to make them autonomous in implementing the database of digital content, and users, who can contribute by participating in specific events for collecting and sharing cultural material (see link: Wiki Loves Monuments)

Digital solutions:

- Wikimedia platform (open source)

Weaknesses:

- Possible increase in the digital divide

Strenghts:

- Active and participative involvement of the community
- Possibility of expanding the number of users through the provision of online cultural content
- Open-source platform
- High-quality digital reconstruction

Link utili/Ulteriori riferimenti:

GLAM project at Municipal Museum in Modena:
https://it.wikipedia.org/wiki/Progetto:GLAM/Museo_Civico_di_Modena

GLAM project:
https://it.wikipedia.org/wiki/Progetto:GLAM#:~:text=Benvenuti%20nel%20Progetto%20GLAM%20(Gallerie,anche%20con%20acronimo%20italiano%20MAB

Wiki Loves Monuments:
https://www.wikimedia.it/wiki-loves-monuments/

Methodology:

- The development of a platform with these characteristics involves a technical design component at the graphics and database architecture level, a programming component for the public website (mainly html+ DHTML+ Javascript+PHP), and a programming component for private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs:

- Platform programming: 25,000/30,000 euros
- Training course (digital database): from 50 euros per hour

Possible low-cost solution:

- One could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.
- As for training courses, one can find free courses or guides on how to manage a digital database on the Internet.

Glossary:

Open source: Open-source software is computer software released under a licence in which the copyright holder grants users the rights to use, study, modify and distribute the software and its source code to anyone for any purpose.

MED MUSEUM OF THE SEA AND ANCIENT NAVIGATION

9

🇮🇹 Santa Marinella, Lazio region

Space needed: Medium

Activity: The museum preserves and enhances the archaeological evidence from the port of Pyrgi. Seven rooms house more than one hundred exhibits distributed along an exhibition and didactic route that introduces the visitor to the theme of underwater archaeology and ancient navigation.

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info@castellodisantasevera.it

Website: www.museosantasevera.it

Description of the educational/professional project

Name of initiative: LiveArt

Target group: Public audience

Purpose:
- Enhancing Lazio's cultural sites
- Offering a tool for innovative fruition
- To make the visiting experience interactive and immersive
- Promoting cultural and scientific dissemination

European initiative reference: Call for proposals L'impresa fa Cultura – Fondo Europeo di Sviluppo Regionale Regione Lazio POR FESR 2014–2020 action 3.3.1 b.

Transferable innovative principles and methods:

1. Making the user participate through sensory experience

Thanks to virtual reality, the visitor becomes the protagonist of the museum visit where, through the interactive component, he or she can explore the collection and relive scenarios from the past. The platform, enriched with 3D reconstructions, allows the user to relive the history linked to the objects displayed in the museum's showcases, reproduced digitally.

2. Funding innovative entrepreneurship for culture

The 'LiveArt' project was realised by Ecubit, a company specialised in the design and realisation of technologically advanced systems in the field of virtual reality, augmented reality, multimodality, and cross-media. One of the objectives of this project is in fact to support companies that research and experiment innovative systems for the enjoyment of culture, meeting the needs of an increasingly prosumer public.

Digital solutions:

- Platform for the creation of interactive three-dimensional environments
- Portable Virtual Set

Weaknesses:

- High initial investment cost
- Expensive maintenance

Strenghts:

- Innovative and highly interactive mode of use
- Possibility of providing in-depth insights and exclusive content at multiple levels
- Improvement of the organisation's image in terms of efficiency, modernity, and availability

Useful links / further references:

The project:
https://liveart.ecubit.it/
The manual:
http://35.230.78.49/manuals/1/Versione%202.10/VIRTUAL%20SET%20LIGHT%202.1%20-%20Manuale%20Utente.pdf

Methodology:

The Live Art system allows the production of multimedia content, which the visitor can access by connecting to the museum's network and scanning QR codes. These will provide additional information on selected objects in the museum, which will be represented three-dimensionally.

The live art system provides for the realisation of several functions, for example:

Gesture recognition:

1. Download the Kinect for Windows SDK 2.0 (https://www.microsoft.com/en-us/download/details.aspx?id=44561)
2. Run the installer
3. Connect the Kinect-v2 sensor; the necessary drivers will be installed automatically
4. Run the SDK Browser 2.0; select "Kinect Configuration Verifier" to check that the sensor is working properly.

For other available functions, see the manual in the useful links.

Resources needed and start-up costs:

The following resources will be needed to develop the Live Art System:
- A team consisting of a storyteller, a director and developers
- A camera: from 100 euros
- Green screen: 115/150 euros
- PC: from 200 euros
- Wireless microphone: from 100 euros
- QR code
- Total cost: from 20,000 euros

Possible low-cost solution:

It is possible to use cheaper tools, such as:
- a webcam (instead of a camera): 10/30 euros
- green photo wallpaper: 20 euros
- ice cream microphone: 20 euros
- There are several sites where you can generate a QR code for free. One example is QR Code Generator.
- It is possible to download pre-made virtual sets, an example is iStock www.istockphoto.com. Subscriptions vary depending on the download material: 20/200 euros

Glossary:

Prosumer: A prosumer is a consumer who is himself a producer, or who by consuming contributes to production. The term is a composite of the word's producer and consumer.

BAVA BAGATTI VALSECCHI MUSEUM

🇮🇹 Milan, Lombardia region

Space needed: Small

Activities: The Bagatti Valsecchi Museum is a house-museum that is the result of an extraordinary collector's affair at the end of the 19th century, whose protagonists were the barons Fausto and Giuseppe Bagatti Valsecchi, who began collecting 15th- and 16th-century paintings and applied art artefacts.

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Website: www.museobagattivalsecchi.org
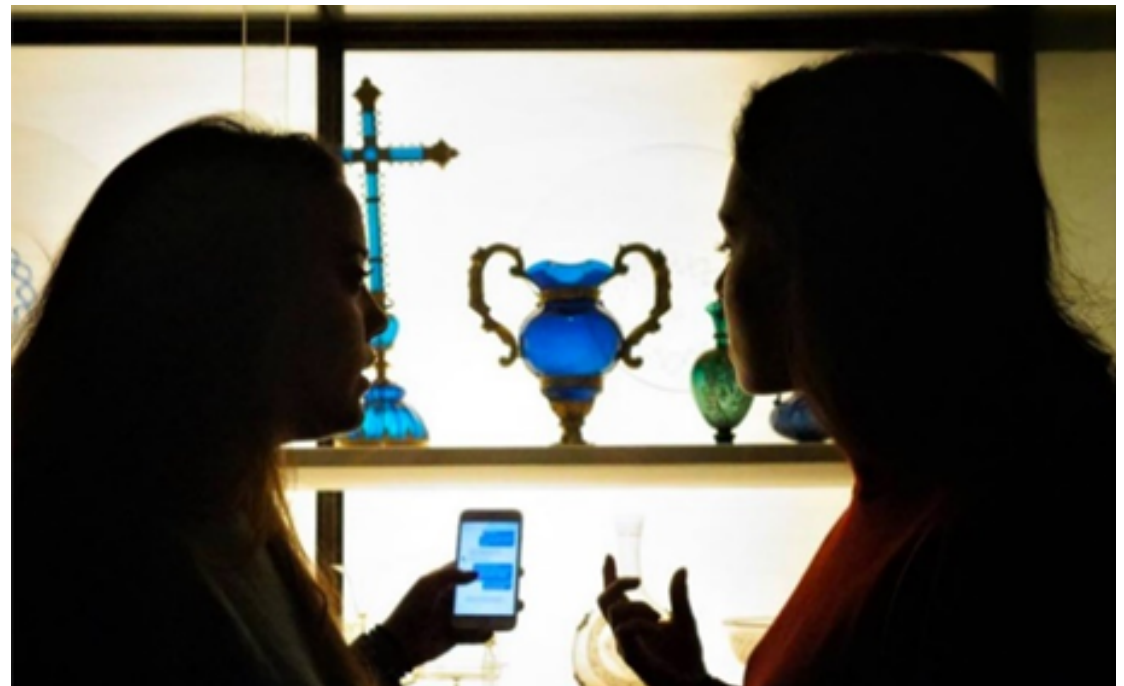
Description of the educational/professional project

Name of initiative: Chatbot at Museo

Target group: Young audience

Purposes:
- Offer an interactive visitor experience
- Increase audience engagement, especially about younger users
- Enhance the collection and the Lombardy region

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Making the user active and participative

The chatbot museum visit consists of an exchange of questions and answers between the visitor and a virtual character (a chatbot) using Messenger, the messaging app that can be downloaded free of charge from AppStore and Google Play Store. Thanks to artificial intelligence, it is therefore possible to explore the museum collection and local neighbourhoods through a fun and highly interactive visit, especially designed for the younger generations.

2. Using simple and direct language to communicate cultural content

The project aims to offer a guided tour service that is new and interactive. Through an already well-known and widely used platform, the museum wants to encourage visitors to explore the museum collection and the territorial context in which it is set. The technique of storytelling is fundamental above all because it enables the involvement of a broad spectrum of users and makes the museum an optimal space for experimenting with new edutainment processes.

Digital solutions:

- Messaging app

Weaknesses:

- Need for internet connection to be able to use the service
- Possible increase in the digital divide in low digitally literate population groups

Strenghts:

- Free messaging app for both user and museum
- Low use of staff resources
- Messaging platform already known and used by most users, especially younger ones
- High degree of interactivity

Case Museo di Milano
Mi piace questa Pagina · 16 dicembre 2016 · ⓔ

#ChatbotGame in arrivo nel 2017 nelle Case Museo di Milano, per un'esperienza di visita completamente nuova, tra i primi esempi a livello mondiale di gioco interattivo via chat per i musei.

Un personaggio virtuale su Facebook Messenger e Telegram guiderà i visitatori alla scoperta delle Case Museo milanesi (Museo Bagatti Valsecchi, Casa Museo Boschi Di Stefano, FAI - Villa Necchi Campiglio e Museo Poldi Pezzoli) e dei quartieri circostanti tra indovinelli e curiosità.

L'avventura digitale, sviluppata da InvisibleStudio, farà parte del progetto #DiCasaInCasa, realizzato col generoso sostegno di Fondazione Cariplo, che proprio oggi compie 25 anni.

Useful links/further references:

Chatbot in museums in Lombardia region:

https://openinnovation.regione.lombardia.it/it/b/637/al-museo-con-i-chatbot

Methodology:

- A chatbot can be programmed mainly in two ways: guided or with AI. In the first case, the customer can choose responses from standard ones during the conversation; in the second, the customer responds by writing freely and the bot's AI analyses the message and responds accordingly.

Resources needed and start-up costs:

- Chatbot programming: 3,000 euros

Possible low-cost solution:

- On the Internet, you can find several platforms that allow you to develop a chatbot without knowing how to programme. ManyChat, Smartloop, Landbot and Pandorabots, for instance, also offer free packages.

Glossary:

Edutainment: Edutainment or educational entertainment is a form of entertainment aimed at both educating and entertaining.

Audience engagement: Process of creating user involvement and emotional attachment to a cultural institution arising from specific experiences and interactions.

DIGITAL ART HOUSE

🇱🇻 Riga

Space needed: Small

Activities: Digital Art House is the space where art comes alive, where people may teleport to other dimensions.
It holds immersive 360° art exhibitions and cultural events.

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Website: www.digitalarthouse.eu

Description of the educational/professional initiative

Name of initiative: n.a.

Target group:
- Niche of digital enthusiasts
- Digital-curious public

Purpose:
- A new way of experiencing art for visitors
- Environment of face-to-face and 'face-to-art' interaction

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Multimedia Exhibition: the space for imagination

There are new exhibitions every 3-4 months, and visitors can immerse himself into masterpieces of Van Gogh, Monet, Degas, Kandinsky, Klimt, and many others.

In addition to multimedia exhibitions, the museum makes its halls available as spaces for many kinds of events. Thanks to the digital projections and other digital tools, absolutely any atmosphere can be created. Digital art's dynamism, as well as the dynamism of the museum, makes spaces come alive as in everyone's imagination.

2. Generative art exhibition (non-fungible token art - NFT)

The generative art exhibition is a unique symbiosis of creativity and modern technology. The artist creates an algorithm that produces an infinite number of unique images with a series of random parameters, but at the same time with a single concept.

The result can be static, moving, 3D or even virtual; each image is unique and has no analogues. Guests at the exhibition can interact with the digital tools and the images themselves, becoming co-authors of the work.
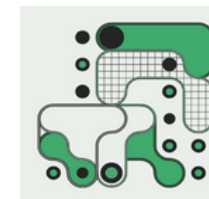
Digital solutions:

- Multimedia exhibitions
- Generative art exhibitions
- Photo exhibitions 360 degrees
- Educational movies 360 degrees
- HD projections
- 360 cinemas
- Surround Sound
- Yoga in digital video surround

Weaknesses:

- High skills required for the implementation and the management of digital tools
- Difficulties in going beyond the niche

Strenghts:

- Digital art as the museum vision
- High digital skills of the staff
- New target groups
- New exhibition every 3-4 months
- New digital products every 1-2 months (list of areas of ongoing development)
- A brand-new event every 1-2 months

Useful links/further references:

Digital Art House links
https://digitalarthouse.eu/en
https://www.rigathisweek.lv/object/events/museums/digital-art-house/1487
Digital Art House Facebook page
https://www.facebook.com/TheDigitalArtHouse/
Digital Art House Instagram page
https://www.instagram.com/digital_art_house/
Digital Art House YouTube channel
https://www.youtube.com/channel/UCWBuT4JLAaNt6XePXLlyZBg
Digital Art House Telegram channel
https://t.me/digitalarthouseriga

Other references
Surround Sound:
https://www.techopedia.com/definition/262/surround-sound
NFT: https://cointelegraph.com/tags/nft
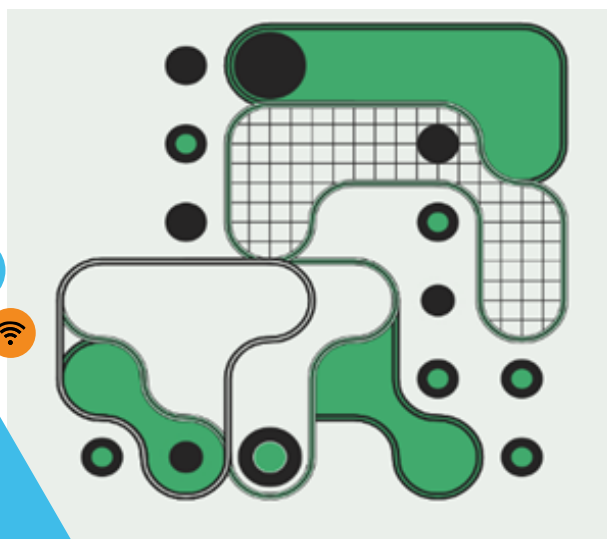
Methodology:

- Multimedia exhibitions are extremely customisable. One can be very creative in trying to build a path or exhibition using digital tools. As regards the set-up, the elements that certainly cannot be lacking are projectors, speakers and screens. Then you can also consider using lights and sensors.

Risorse necessarie e costi di avvio:

- 360° video realisation: from 600 euros (5 min)
- Projector: 450/3.000 euros
- Professional surround sound speakers: 500/2.000 euros
- No-fungible token: from 10/100 euros

Possible low-cost solution:

- To lower the costs of equipment for multimedia exhibitions, you can look for offers and promotions or you can buy used equipment.
- It is also possible to realise 360° videos and virtual tours on free platforms such as Paneek, simply by uploading panoramic photos.

Glossary:

Surround Sound: Surround sound is a technology that is used for enriching the quality of audio reproduction for listeners by using additional audio channels. Unlike screen channels, the sound produced by surround sound technology is from a 360° radius in the two-dimensional plane. Surround sound uses multiple channels, with each channel having a dedicated speaker within the system. Surround sound provides listeners with excellent audio ambiance and richer and fuller sound.

NFT (non-fungible token): No-fungible tokens, or NFTs, are verifiably unique representations of digital and physical goods. Each NFT generally differs in makeup, and therefore likely differs in value as well.
Based on distributed ledger technology, NFT crypto assets serve as a method of authentication for buyers of unique items, proving aspects such as ownership. NFTs have potential for other use cases as well, such as companies tracking their internal resources or platforms verifying subscriptions and use.

ETHNOGRAPHIC MUSEUM OF ISTRIA

🇭🇷 Pazin, Istria County

Space needed: Small

Activities: The Ethnographic Museum of Istria is a cultural institution dedicated to collection, conservation, interpretation and presentation of cultural phenomena related to the Istrian territory.
Museum's ethnographic collections counts around 8000 artefacts. In first place textiles, agricultural tools and objects of everyday life in Istrian villages from the end of the XIX and the beginning of the XX century.

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Description of the educational/professional initiative

Name of initiative: Identity on the Line (I-ON)

Target group:
- Future generations (next gen)
- People in general (civil public)
- Children, young people and under-represented groups
- Migrants

European initiative reference:
EU funding programme: Creative Europe 2014-2020

Purpose:
- Large-scale transnational cooperation between museums and universities
- Exploring the long-term consequences of migration processes and transmitting the common characteristics of migration from the past to future generations
- Reinforcing the sense of belonging to a common European space for new migrants, for those who have settled and for their host communities
- Positive and effective social integration of migrants

Transferable innovative principles and methods:

1. Joint travel exhibition within Europe

The I-ON project summarises the main aspects and similarities of seven exhibitions in a joint exhibition, which will be circulated and shown internationally.

Transnational cooperation is assured by a broad cooperation between museums in Norway, Sweden, Denmark, Poland, Lithuania, Slovenia and Croatia. Each museum works in parallel on one migration process in its country; main findings will be part of the joint travel exhibition and the digital exhibition.

2. Cooperation with schools using digital technologies

Other professionals are involved in the project in order to realise initiatives such as the ready-made teaching packages for secondary schools. The cooperation with schools is manifested through the production and development of these six school packages for teachers, using digital technologies.

These packages aim to engage children and young people in intercultural dialogue and discussions about:
- The importance of identity
- The importance of integration processes

The resource kit is developed through digital tools such as PowerPoint presentations, videos, online questionnaires for evaluation.

Digital solutions:

- The virtual exhibition
- I-ON movie – EDUCATIONAL FILM (a movie about forced migrations)
- I-ON short movies
- I-ON long movies
- Webinars
- Videos
- "SHARE your STORY": digital form to collect testimonials
- Social network and website (media in general)

Weaknesses:

- Reliability and reworking of testimonials as historical sources
- Possible divergences in the way resources are collected by partners
- High skills required for the implementation and the management of digital package
- Additional costs for the implementation and maintenance of joint exhibition and digital package

Strenghts:

- Una più ampia selezione di strumenti, prodotti e workshop
- Accesso gratuito e download gratuito delle risorse
- Nuovi gruppi target
- Networking con i partner e i professionisti del progetto
- Rilevanza internazionale del progetto
- Accesso agevolato ai finanziamenti: alcuni costi specifici sono finanziati dal progetto

Useful links / further references:

Etnografski muzej Istre link
https://www.emi.hr/en/

Etnografski muzej Istre Facebook page
https://www.facebook.com/etnografskimuzejistrepazin/

Identity on the Line links
https://i-on.museum/
https://www.identityontheline.eu/
https://www.identityontheline.eu/
https://ced-slovenia.eu/en/project/identity-on-the-line-mnzs/

Identity on the Line Facebook page
https://www.facebook.com/IdentityOnTheLine/

Identity on the Line Instagram page
https://www.instagram.com/identityontheline/

Identity on the Line YouTube channel
https://www.youtube.com/channel/UCeTalMfVJoms0M4ADEAlf7A/featured

Other reference
Cortometraggio: https://www.oscars.org/sites/oscars/files/91aa_short_films.pdf

Methodology:

- The initiative includes the development of a website with a page dedicated to collecting the stories and testimonies that will make up the exhibition. The exhibition has therefore been uploaded to a special page on the website.

Resources needed and start-up costs:

- Production of a short movie: 500/1.500 euros per minute
- Programming of virtual exhibition with customized word press: from 1.500 euros

Possible low-cost solution:

- Instead of programming a special page to collect people's stories and testimonies, one could create a free google form and share the link within the museum's website or social pages.

Glossary:

Short movie (or film): A short film is defined as an original motion picture that has a running time of 40 minutes or less, including all credits.

THE SWEDISH HISTORY MUSEUM

🇸🇪 Stockholm, Stockholm County

Space needed: Medium

Activities: Trilling stories, interactive stations for all the senses and 2500 original objects about the Viking world from the ice age to the present day. The Swedish Historical Museum preserves the history of Sweden and shows how history influences society.

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Website: www.historiska.se/home/

Name of initiative: Collections management: AXIELL – bringing culture and knowledge to life

Target group:
- Global audience

Purposes:
- Digital vision for collections management
- Globally accessible collections

European initiative reference: n.a.

Transferable innovative principles and methods:

1. Online collections management: AXIELL COLLECTIONS

Managing museum and archive collections from wherever you are with this flexible, intuitive and web-based collections management system.

AXIELL COLLECTIONS' implementation makes it possible to:
- catalogue, manage and organize collections (leading software)
- access to software through a web browser (access everywhere)
- personalize and adapt the platform for users' needs – staff and visitors (flexibility)
- digitize collections (digitization)

2. Digitization project for collections: AXIELL solution for the access to the Viking World

In addition to internal collections management, The Swedish History Museum uses Axiell tools to make objects and collections available in digital format to visitors, communities and other institutions around the world (global accessibility).

All the objects, artefacts and texts in The Viking World can be accessed via mobile phone, tablet or computer, physically in the museum or at home.

This solution makes it possible to link collections with thousands of others around the world. A search from the Swedish Historical Museum can lead to other archives, institutions, countries and even continents (the Axiell community).

Users of the online community, all around the world, can interact and help each other and share tips or questions. The services of the Axiell community represent a showcase that can be used to promote the museum and reach audience development.

Digital solutions:

- Audio-visual materials
- Online collections management tool
- Digital exhibition
- Social network and media in general
- Axiell community

Weaknesses:

- Additional costs for the implementation of digital solutions
- Intermediary of collections management (critical issues of data ownership)

Strenghts:

- New products and a new way of experiencing art
- Axiell software user-friendly
- Networking with the Axiell community
- Increase museum's outreach
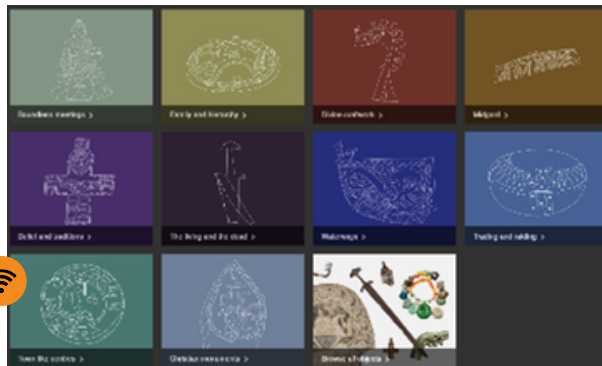
Useful links/further references:

Swedish History Museum links
https://historiska.se/home/
https://shm.se/en/
Swedish History Museum Facebook page
https://www.facebook.com/historiska
Swedish History Museum Instagram page
https://www.instagram.com/historiska/
Swedish History Museum YouTube channel
https://www.youtube.com/user/historiskamuseetse
AXIELL links
https://www.axiell.com/
https://www.axiell.com/de/axiell-news/the-swedish-history-museum-makes-largest-viking-age-collection-globally-accessible-with-axiell/
https://www.axiell.com/customer-stories/image-handling-national-historical-museums-of-sweden-axiell-ingest-axiell-collections/

Methodology:

- The function of the platform is to offer an information service. It therefore allows the archiving of and access to files with information material in different formats and a search tool by categories or keywords.
- The development of a platform with these characteristics involves a technical design component at the graphic and database design and analysis level, a programming component for the public website (mainly html+ DHTML+ JavaScript+PHP) and a programming component for private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs:

- Programming of the web-based collections management system: 6.000/10.000 euros
- Already developed forum to be implemented: from 500 euros

Possible low-cost solution:

- You could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.

MUSEUM OF LĘBORK

Lębork, Pomerania

Space needed: Small

Activities: The Museum of Lębork prepares and makes available collections on the history of the city and the region. The museum houses a wide range of historical and ethnographic artefacts including ancient and contemporary pieces.

The Museum organises historical seminars, as well as lectures and workshops, which mainly focus on disappearing ancient and medieval crafts covering techniques such as weaving, handmade paper, stained glass, pottery, etc. The Museum is also co-organiser of the city festival St. Jakub and many other events.

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Name of initiative: MUS.NET. MUSeum NETwork

Target group:
- Smaller families, visitors age 50+, representatives of vulnerable groups (migrants, new members)
- Museum staff and volunteers

Obiettivi:
- Audience Development
- Capacity Building-Training

European initiative reference:

Initiative – EU Work Plan for Culture 2015–2018
EU funding programme – Creative Europe 2014–2020

Transferable innovative principles and methods:

1. Audience Development through Apps, Videomaking and digital cultural activities

Apps

The partners of the MUS.NET project have conceived MUS.NET. Apps in order to:
- stimulate different kinds of reactions from the users and the visitors based on the senses, emotions and brain
- create statistical tools and collect data to profile the visitors and offer an increasingly tailor-made experience
- offer different customized tours and upgrade them constantly

Videomaking

Project's partners have produced 10-minute videos – available on YouTube – including an introduction to the museum and a presentation of the collections.

Digital cultural activities

The combination of apps and videomaking with the rental of equipment and installations has led to the final development of digitalization exhibits (e.g., open day for testing Draw Alive application and 3D technology for the younger visitors)

2. Capacity Building-Training

The key themes and methods of MUS.NET. training are:
- Understanding how technology can transform the museum experience
- Understanding how to get people to visit and interact with exhibits
- Webinars for museum managers (e.g., informative-training sessions for museum operators, interactive open days)

3. Need-based solutions

The project implementations are also based on surveys:
- Survey of the audience: focused on the visitor's museum experience. The questionnaires have helped profile the audiences
- Survey of best practices: partners distributed questionnaires and conducted interviews with operators of 18 cultural institutions to identify good practices in the field.

Digital solutions:

- Video stations
- APP Museum in the Pocket
- Draw Alive children corner
- Feed-back digital forms
- Augmented reality (AR) technology
- Social network and website (media in general)

Weaknesses:

- Possible increase in the digital divide in the population with low digital literacy
- Shortage of staff specialised in digital skills (e.g., social media management and/or cultural web marketing strategies, app development)
- Additional costs for the implementation of digital solutions

Strenghts:

- A wider selection of products: digital and web services
- New target groups
- Networking with the project's partners
- Facilitated access to finance: some specific costs are financed by the project (e.g., training, implementation of new digital tools)

Link utili/Ulteriori riferimenti:

Museum of Lębork links
https://www.muzeum.lebork.pl/
https://ced-slovenia.eu/en/partner/muzeum-w-leborku-museum-lebork-poland/
Museum of Lębork Facebook page
https://www.facebook.com/pages/category/History-Museum
Museum of Lębork YouTube channel
https://www.youtube.com/channel/UCY6O_tjlwHgBAYFnSCz8aJQ
MUS.NET. project links
https://www.mus-net.eu/partners/
https://ced-slovenia.eu/en/project/mus-net-museum-network-2/
http://www.mus-net.eu/wp-activities_deliverables/
https://www.mus-net.eu/children-having-fun/

Other references
AR:
https://www.techtarget.com/whatis/definition/augmented-reality-AR
Draw Alive: https://www.breezecreative.com/draw-alive
Cultural web marketing: https://www.digital-coach.com/it/blog/case-histories/web-marketing-culturale/
Video by the Partner Museum of Lębork, Poland:
https://youtu.be/lebork

Methodology:

- The app can be developed by programming or via special platforms.
- A video introducing the museum or presenting the works can easily be made by the museum staff. The same is true for questionnaires: google forms is a very simple and intuitive way to enter questions with several answer modes (1 or more choices allowed, open answer, likert scale, drop-down list).

Resources needed and start-up costs:

- Programming of the app: 25.000/50.000 euros
- Augmented reality (AR) technology: 3.000/30.000 euros

Possible low-cost solution:

- You can develop apps yourself using free apps such as GoodBarber. No programming skills are required.
- Questionnaires and feedback forms can be created free of charge thanks to Google Forms.

Glossary:

Augmented reality (AR) technology: AR is the integration of digital information with the user's environment in real time. AR users experience a real environment with generated perceptual information superimposed on it. AR is used to visually modify natural environments or to provide additional information to users.

Draw Alive: Draw Alive is a digital, interactive drawing game where children can see their drawings come to life by scanning them into a virtual world.

Cultural web marketing: set of activities aimed at promoting and enhancing a cultural good or product
Peculiarities: it is characterised by the complexity of content and the absence of specific professionalism in cultural institutions. Advice: in order to develop a winning strategy and choose the right media and language, it is necessary to well define one's cultural product and target audience.

NATIONAL MUSEUM OF CONTEMPORARY HISTORY OF SLOVENIA

15

🇸🇮 Ljubljana, Central Slovenia

Space needed: Big

Activities: The Museum's mission is to acquire, document, preserve, research and promote materials related to contemporary Slovenian history. It holds collections relating to the First and Second World Wars, the period between the two wars, the Socialist period and the establishment of independent Slovenia.
In addition to its exhibitions, the Museum also offers a variety of programmes in the field of culture, education and research for both children and adults.

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Website: www.muzej-nz.si

Description of the educational/professional initiative

Name of initiative: IMPROVISA – Life in Motion

Target group:
- Younger audience
- Communities with difficult access to culture (immigrants, new members, inmates)

Purposes:
- Explore new ways of using, sharing and disseminating cultural, artistic and European heritage contents using mobile technologies
- Approach culture to the younger audience and difficult-to-reach communities
- Promote cross-border and intersectoral mobility and exchange of knowledge between artists, museum professionals, Information and Communication Technologies (ICT) specialists and experts in audience development
- Analyse business models appropriate to the new needs and develop new skills

European initiative reference: EU funding programme: Creative Europe 2014-2020
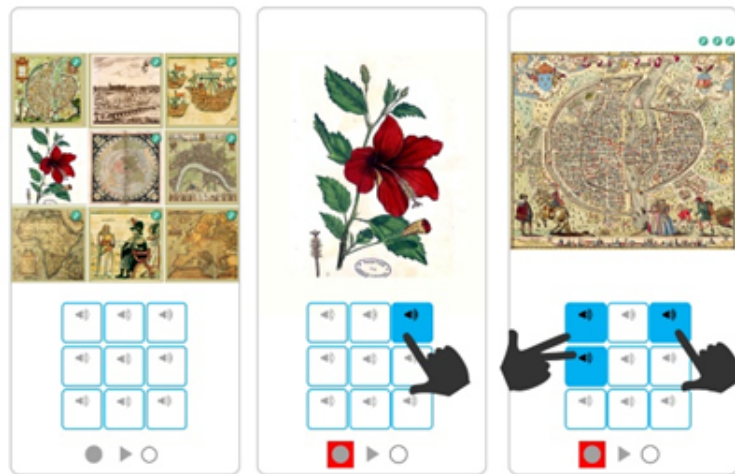
Transferable innovative principles and methods:

IMPROVISA – Life in Motion is a project gathering artists, scientists, technologists, end users, and museums from 5 EU countries (ES, IT, GR, PL, SI). These are some of the project's results, whose principles and methods may be transferable to small museums:

1. App IMPROVISA Mobile Toolkit (prototype)

This creative app offers two different profiles: one for final users and the other for content providers. It allows users to turn into artists experimenting, improvising and composing visuals and sounds by playing with the keyboard. When a user interacts with the different keys, an audio-visual sequence is generated that can be recorded, collected into an album and reproduced later.

An ALBUM is a set of one or more multimedia elements (videos, audios, images, etc.) and it can give rise to many different multimedia compositions, subjective and creative interpretations. ALBUMS serve to content providers to organize and disseminate their content, depending on the needs of each moment, campaign or initiative.

Content providers thus take care of the dissemination of content created by artists, in this case end users, through digital technologies.

Some compositions created with the new IMPROVISA app are available on this page.
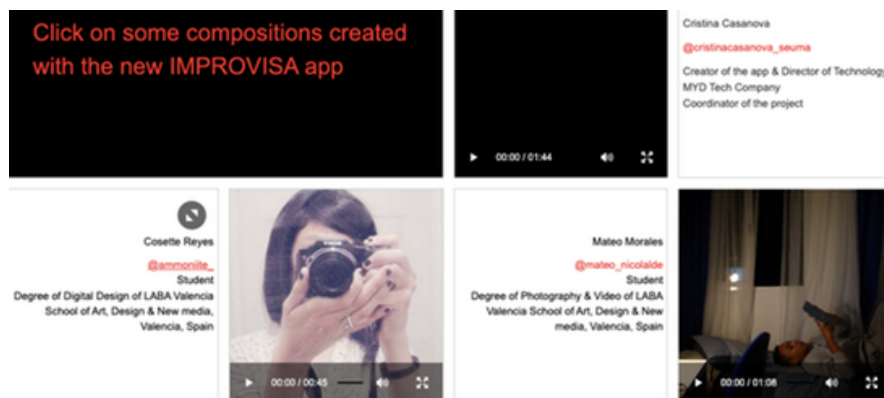
2. IMPROVISA co-creation Lab - engaging local artists in the digital development of museum

The consortium of the IMPROVISA – Life in Motion project launched a Call for Artists inviting artists (4) to submit proposals with new approaches to engaging audiences in cultural and heritage contents through the principles of improvisation and the use of mobile technologies.

The selected artists proposed a set of activities for the reinterpretation of the museum and gallery collections, also creating multimedia contents: images, samplers and short videos. The artists further developed the workshops to be implemented in the collaborating museums.

The above four artists also participate in a mobility programme in 3 EU countries (Slovenia, Greece, Poland).

Digital solutions:

- App IMPROVISA Mobile
- Multimedia contents: images, samplers and short videos
- Audio-visual tools
- Social network and website (media in general)

Weaknesses:

- High skills required for the implementation of mobile technologies
- Additional costs for the implementation of new technologies
- Possible increase in the digital divide in the population with low digital literacy
- App IMPROVISA Mobile: from prototype to product

Strenghts:

- A wider selection of tools, products and workshops
- New target groups
- Networking with the project's partners
- Cross-border and cross-sector mobility
- International relevance and polyvalence of the project
- Facilitated access to finance: some specific costs are financed by the project

Useful links / further references:

Muzej novejše zgodovine Slovenije links
https://www.muzej-nz.si/en/
https://www.visitljubljana.com/en/poi/cekin-mansion-national-museum-of-contemporary-history/
Muzej novejše zgodovine Slovenije Facebook page
https://www.facebook.com/MuzejNZSLO/
Muzej novejše zgodovine Slovenije Instagram page
https://www.instagram.com/muzejnzs/
Muzej novejše zgodovine Slovenije Twitter page
https://twitter.com/MuzejNZS

IMPROVISA – Life in Motion links
http://portabily.mydocumenta.com/preview22336
https://ced-slovenia.eu/en/project/improvisa-life-motion-2/
https://www.eccom.it/project/improvisa-life-in-motion/
IMPROVISA – Life in Motion Facebook page
https://www.facebook.com/Improvisaproject
IMPROVISA – Life in Motion Instagram page
https://www.instagram.com/improvisa_project/
Other reference
ICT:
https://www.techtarget.com/searchcio/definition/ICT

Methodology:

- App development involves the following activities: development of graphics resources adapted to different android/iOS display layouts, construction of a multilingual setting, technical design and code development, animation, audio design, programming, prototyping, review and final development.

Possible low-cost solution:

- You can develop apps yourself using free apps such as GoodBarber. No programming skills are required.

Resources needed and start-up costs:

- Programming of the app: from 2.000 euros

Glossary:

Information and Communication Technologies (ICT): ICT, or information and communication technology (or technologies), is the infrastructure and components that enable modern computing. Although there is no single, universal definition of ICT, the term is generally accepted to refer to all devices, network components, applications and systems that, in combination, enable people and organisations to interact in the digital world.

RIJKSMUSEUM – AMSTERDAM STATE MUSEUM

16

🇳🇱 Amsterdam,
Amsterdam metropolitan area

Space needed: Big

Activities: The Rijksmuseum is the national museum of the Netherlands, located in Amsterdam, which offers a representative overview of Dutch art and history from the Middle Ages onwards, and of major aspects of European and Asian art. In addition, the museum holds several exhibitions a year with works from its own collection and (inter)national loans.

Contact: +31 (0) 20 6747 000
info@rijkmuseum.nl

Website: www.rijksmuseum.nl/en

Name of initiative: n.a.

Target group:

Contemporary national and international audience

Purposes:
- Connecting people with art and history
- Renovation through digital strategy: visitor engagement and online access policy

European initiative reference: n.a.

Principi e metodi innovativi trasferibili:

1. A digital personalised tour

The free Rijksmuseum App allows visitors to deepen and extend their museum experience. In particular, it allows to:
- buy tickets
- take free multimedia tours
- scroll through the online collection
- find the personal way through the museum
- create your own route

Create your own route: just tap on the works the visitor want to see in the museum. The app maps out the ideal route and directs the visitor from one object to the next. It is like a Spotify playlist for art.

The implementation of the navigation tool and the interactive floor allows to realize all the above initiatives.

The Rijksmuseum App is an audio-visual tool. It is also called "the magic window" because it transforms a smartphone into a magnifying glass, set of binoculars, time machine, infrared scanner, sketchpad or magic wand.

2. Interactive restoration

The Rijksmuseum also supervised the restoration of the famous work "The Night Watch" in an interactive and engaging way. The restoration operation consists of imaging techniques – high-resolution photographs and highly advanced computer analysis – thanks to which a very detailed picture of the painting can be drawn.

The scans and photographs that have been made of every square millimetre of the painting are being stored and processed using artificial intelligence and machine-learning technology. This technology gives to the public the opportunity to follow the restoration process live, and to zoom in on every detail of "The Night Watch".

Digital solutions:

- Rijksmuseum APP
- Free multimedia tours
- Online collection (rijksstudio- since 2012)
- Artificial Intelligence (AI)
- Machine-learning technology
- Ultra-high-resolution photo and video cameras

Weaknesses:

- High skills required for the implementation and the management of digital tools
- Costs for the implementation of digital solutions
- Possible increase in the digital divide in the population with low digital literacy

Strenghts:

- A wider selection of products
- Engagement of new audiences
- International relevance of the museum and the city

Useful links/further references:

Rijksmuseum links
https://www.rijksmuseum.nl/en
https://www.rijksmuseum.nl/en/rijksstudio
https://northernlight.nl/project/rijksmuseum-app-2/
https://pro.europeana.eu/post/how-the-renovation-of-a-world-renowned-art-museum-is-inspiring-a-sector-in-digital-transformation
Rijksmuseum Facebook page
https://www.facebook.com/rijksmuseum/
Rijksmuseum Instagram page
https://www.instagram.com/rijksmuseum/
Rijksmuseum Twitter page
https://twitter.com/rijksmuseum

Rijksmuseum TikTok page
https://www.tiktok.com/@rijksmuseum
Rijksmuseum YouTube channel
https://www.youtube.com/channel/UCEXuPfYt1M3e8DT1LDeSfVg

Other references:
AI: https://builtin.com/artificial-intelligence
Machine-learning technology:
https://www.techtarget.com/definition/machine-learning-ML

Methodology:

- Once the museum app has been developed, one can proceed with the creation of the guided tours and their upload into the app. Digitised works in the restoration process can also be uploaded to the app.
- The museum organises the restoration of the works in a way that is accessible to the public, who can then witness the process in an interactive and engaging way.

Resources needed and start-up costs:

- Programming of the app: from 20.000 euros
- Ultra-high-resolution photo and video cameras: from 8.000 euros

Possible low-cost solution:

- You can develop apps yourself using free apps such as GoodBarber. No programming skills are required.
- To realise a low-cost digital collection, you can also consider photographing the paintings with cheaper equipment, even with simple cameras. Although the resolution of the photos would be significantly lower, you can make the collection more appealing by taking advantage of free platforms such as StoryMapJS that allow you to add interactive content to a photo.

Glossary:

Artificial Intelligence (AI): Artificial intelligence is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI can be divided into four categories, based on the type and complexity of the tasks a system is able to perform:

- Reactive Machines: able to perceive and react to the world in front of it as it performs limited tasks
- Limited Memory: able to store past data and predictions to inform predictions of what may come next
- Theory of Mind: able to make decisions based on its perceptions of how others feel and make decisions
- Self-Awareness: able to operate with human-level consciousness and understand its own existence

Machine-learning technology (ML): ML is a type of AI that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. ML algorithms use historical data as input to predict new output values. Recommendation engines are a common use case for machine learning. Other popular uses include fraud detection, spam filtering, malware threat detection, business process automation (BPA) and Predictive maintenance.

STADTMUSEUM DRESDEN – DRESDEN CITY MUSEUM

17

🇩🇪 Dresden, Saxony

Space needed: Medium

Activities: The City Museum of Dresden is the central city and local history museum in the Saxon capital of Dresden, and it is located in the historic country house just a few meters from the Frauenkirche. The permanent exhibition presents over 1,000 exhibits in three halls.

Contact: +49 351 4887301
+49 351 4887303
sekretariat@museen-dresden.de

Website: www.museen-dresden.de

Name of initiative: n.a

Target group: Visitors to Dresden

Purposes:
- Representing 800 years of Dresden's history
- Implementing innovative digital pilots for the future

European initiative reference: n.a

Transferable innovative principles and methods:

1. Digital tools as a museum's mission

Over twenty media stations, numerous film installations and a small cinema demonstrate how the city has changed over the past century.

Digital tools are therefore an essential part of the museum vision: the representation of Dresden's history.

Tours of the exhibition, lectures and insights into the restoration workshops can be found in the YouTube playlist. On Sachsenfernsehen there is a selection of films created in cooperation with the Stadt Museum Dresden.

2. Apply for incubation programme: the case of DOORS - Digital Incubator for Museum

The Stadt Museum Dresden applied for the DOORS call for proposals and it has been among the 40 winners who are now in the first stage of the DOORS incubation programme.

DOORS is a project funded from the EU Horizon 2020 research and innovation programme, which seeks to give small and medium-sized museums across Europe an opportunity to steer the direction of the digital transformation's sector.

DOORS wants to reduce the digitalization gap by creating the space for small institutions to voice their needs and offering them access to knowledge, resources, expertise and an incubation and skill-building program. This project will ensure the attraction of the audience and the finance sustainability.In particular, the goal for the Stadt Museum Dresden is to implement innovative digital pilots for the future.

More calls on the same project will follow.

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Digital solutions:

- Over twenty media stations
- Numerous film installations
- A small cinema

Weaknesses:

- Possible increase in the digital divide in the population with low digital literacy
- High skills required for the implementation and the management of digital tools
- Additional costs for the implementation of digital solutions

Strenghts:

- A wider selection of products
- Networking with the other cultural institutions
- Facilitated access to finance: some specific costs are financed by the project

Useful links/further references

Stadt Museum Dresden links

https://www.stmd.de/

https://museen-dresden.de/index.php?lang=de&node=stadtmuseum

https://www.sachsen-fernsehen.de/?s=Stadtmuseum

DOORS links

https://ars.electronica.art/doors/en/

https://cordis.europa.eu/project/id/101036071

https://museumbooster.com/doors/

Methodology:

- To set up media stations and a small cinema, all the necessary equipment must be installed in a dedicated space. The downloading (or realisation) and installation of the audio-visual content and materials to be screened or implemented in the media stations must also be taken care of. With regard to the small cinema, it is advisable to provide seating for visitors.

Possible low-cost solution:

- To make a media station on a budget, smaller screens must be considered. You can make the visitor experience engaging and interactive even with simple tablets.
- In any case, buying used equipment is a viable option that will reduce costs.

Resources needed and start-up costs:

- Interactive screen for media station: from 1.000 euros (Please consider that the price can vary considerably depending on the size of the screen)
- Small cinema set-up: from 400 euros

MOMUS - MUSEUM OF CONTEMPORARY ART

🇬🇷 Thessaloniki

Space needed: Small

Activities: The MOMus - Museum of Contemporary Art - is charged with promoting contemporary art and the study of art movements in Greece and abroad through the preservation and promotion of its achievements, mostly in the visual arts.

Contact: (+30) 2310 240002
(+30) 2310 281567
info.contemporary@momus.gr

Website: www.momus.gr/en/contemporary

Description of the educational/professional initiative

Name of initiative: Mind's Eye – Opening Arts to the visually impaired 2019/20

Target group: People with vision impairments

Obiettivi:
- A new way of experiencing art
- Social and cultural inclusion, engagement, equality, and accessibility in art experience for people with vision impairments

European initiative reference: N/A

Principi e metodi innovativi trasferibili:

1. Inclusive practices

Professionals from several scientific fields engaged with specialists from the visually impaired populations as part of the project to establish inclusive methods for artwork interpretation and accessibility in the museum environment.

The practices used as haptic-aural aids focused on eliciting tactile and auditory inputs that activated the "mind's eye".

From January to June 2020, the applications were built, leveraging new media and technologies, and offering new ways of engaging and receiving art beyond sight.

Specifically, the implementation of the project has involved the installation of a series of pedagogical and interactive pilot applications:

- Tactile maps
- 3D replicas through 3D printing technology and laser cut
- Inclusive catalogue which entails texts in Braille, QR codes and audio descriptions
- A set of interactive boxes, which carry a tactile aid for each artwork rendered in a smaller scale

2. Project-related services: Off Stream

The project is evolving into a new initiative: Off Stream. It was created with the vision to contribute to the strengthening of social cohesion and the equal participation of individuals and social groups, usually excluded from mainstream culture.

This is achieved through the development of innovative activities based on the leverage of the above-mentioned new technologies.

Digital solutions:

- 3D replicas
- QR codes
- Audio descriptions
- Inclusive interactive catalogue

Weaknesses:

- High skills required for the implementation and the management of the new applications
- Costs for the implementation of innovative solutions
- Difficulties in going beyond the niche

Strenghts:

- A wider selection of products and activities
- New way of experiencing art
- Networking with niche associations
- Engagement of new audiences
- Social relevance of the initiative and museum
- Replicability and upskilling of the initiative

Useful links/further references:

MOMus link
https://www.momus.gr/en/momus/contemporary
https://www.momus.gr/en/

MOMus Facebook page
https://www.facebook.com/MOMusContemporary/

MOMus Instagram page
https://www.instagram.com/momus_museums/?hl=it

MOMus YouTube channel
https://www.youtube.com/c/momusmuseums/about

Mind's Eye - Opening Arts to the visually impaired 2019/20 links
https://mindseye.gr/
https://repository.ihu.edu.gr

Mind's Eye - Opening Arts to the visually impaired 2019/20 YouTube channel
https://www.youtube.com/channel/UC5HpStns8hYJ0Pj09EoYtag/videos

Off Stream Facebook page
https://www.facebook.com/this.is.offstream/

Other references:

3D printing:
https://www.twi-global.com/technical-knowledge/faqs/what-is-3d-printing

Methodology:

- To make 3D replicas of the museum collection, a professional 3D printer, preferably a resin printer, can be used. Audio descriptions can be associated with the replicas, which can also be recorded by the museum staff themselves. To realise the catalogue in Braille, simply send the cards and descriptions of the works to a company that will transcribe and print them in Braille.

Resources needed and start-up costs:

- Professional 3D printer: from 2,000 euros
- Post-cure UV lamp (for 3D printer): from 800 euros
- Cleaning Station (for 3D printer): from 500 euros
- Braille catalogue: 1/1.50 euro per page
- Braille tactile map: from 5,000 euros
- QR code: free on QR Code Generator

Possible low-cost solution:

- Low-cost alternatives to the tactile map could be:
1. Printing braille maps to hand out at the entrance in the form of flyers;
2. Install a path with tactile flooring (about 20 euros for 3 metres of path) and record an audio guide that, besides describing the exhibition, accompanies the visitor along the way and announces possible junctions.
- The price quoted for the 3D printer and its accessories guarantees a certain level of printing quality. However, it is possible to spend less by lowering the quality of the product. A cheaper 3D printer can cost as little as 200/500 euros; while, as far as the cleaning station and UV lamp are concerned, 2-in-1 machines can be found for as little as 100/150 euros. Another option is to hire an external company to do the printing. This type of service, however, can be cheaper than buying the printer only if you need few 3D prints.

Glossary:

3D printing: 3D printing, also known as additive manufacturing, is a technique for generating three-dimensional objects layer by layer from a computer-generated design. It is an additive method that involves building up layers of material to form a 3D component. This is the inverse of subtractive manufacturing procedures, which involve cutting a finished design from a bigger block of material. Therefore, 3D printing wastes less material. 3D printing is also suitable for quick prototyping or for the production of smaller-scale artwork.

MUV FMJJ MUSEO VIRTUAL FUNDACIÓN MARÍA JOSÉ JOVE

🇪🇸 A Coruña

Space needed: n.a.

Activity: The MUV brings together the activities of the artistic area of the María José Jove Foundation and can only be visited virtually. The main themes proposed in its exhibitions are architecture, environment, landscape, heritage, rural and sustainability.

Contact: +34981160265

isgmartinez@fundacionmariajosejove.org

Website: www.muv.fmjj.org

MUV – Museo Virtual
Fundación María José Jove

Description of the educational/professional project

Name of initiative: n.a.

Target group: General public

Purposes:
- Facilitating cultural exchange and connection between people from different places, fields and disciplines
- Offering new ways of production, dissemination and accessibility

European reference initiative: n.a.

Transferable innovative principles and methods:

1. Creation of a virtual space

The MUV consists of a 3,000 square metre virtual structure facing the Atlantic Ocean, faithfully designed with Galician landscapes in mind. It can be accessed directly from the site and can be visited via digital visualisation or 3D glasses.
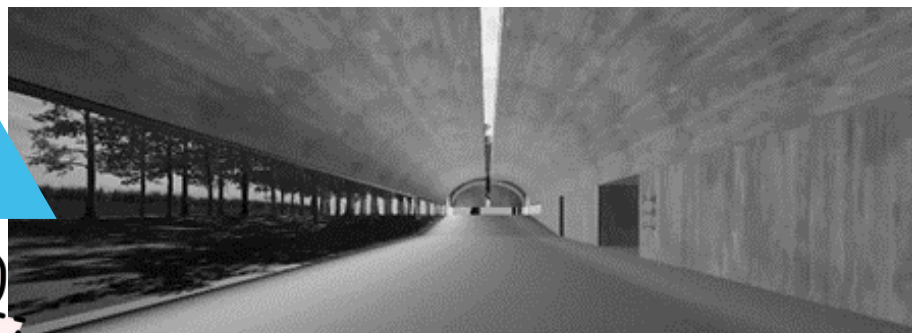
2. Versatility and cultural exchange

This online space offers an opportunity for exchange between people from different places, fields and disciplines.
This kind of networking makes the MUV open to new ways of influencing research, communication and knowledge transfer through artistic practice.

Digital solutions:

- VR Technology
- Virtual Museum
- Digital visualisation

Weaknesses:

- Possible increase in the digital divide among the digitally illiterate population
- High skills required for creating and managing virtual space

Strenghts:

- A wider selection of products
- Networking with other cultural institutions, artists, researchers and other professionals
- No running and maintenance costs of a physical space
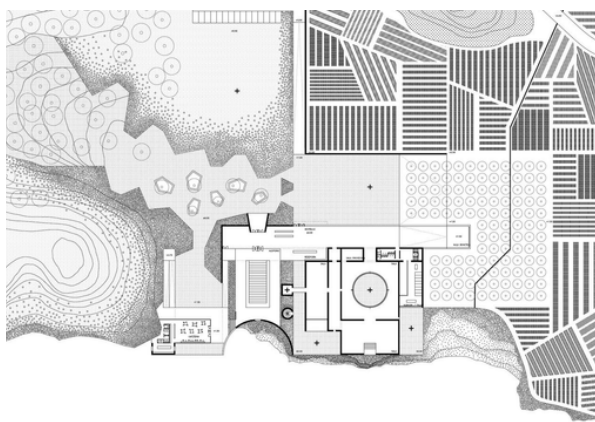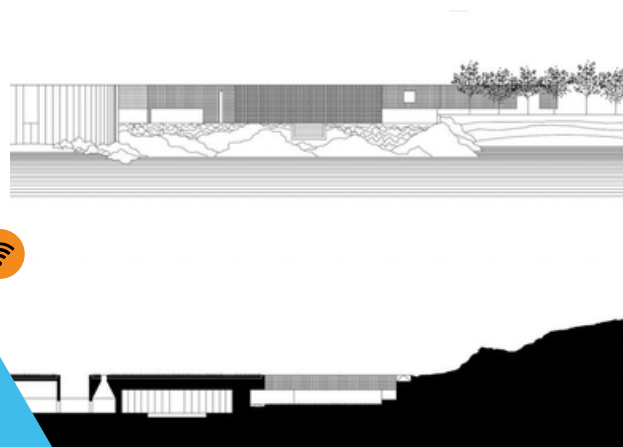
Useful links/further references:

MUV FMJJ - Museo Virtual Fundación María José Jove
https://muv.fmjj.org/
Fundación María José Jove
https://www.fundacionmariajosejove.org/secciones/coleccion-de-arte-de-la-fundacion/

Methodology:

- The creation of the virtual space involves the following activities: development of game mechanics, construction of a multiplayer server, graphic design, animation, 3D designs, audio design, programming, prototyping, review and final development.

Resources needed and start-up costs:

- Virtual space programming: 45,000/50,000 euros

Possible low-cost solution:

- A cheaper alternative is to develop VR environments yourself with Adobe's After Effects (from 24 euros per month).
- One can also take advantage of free tools such as Google's Arts & Culture to develop a virtual tour.
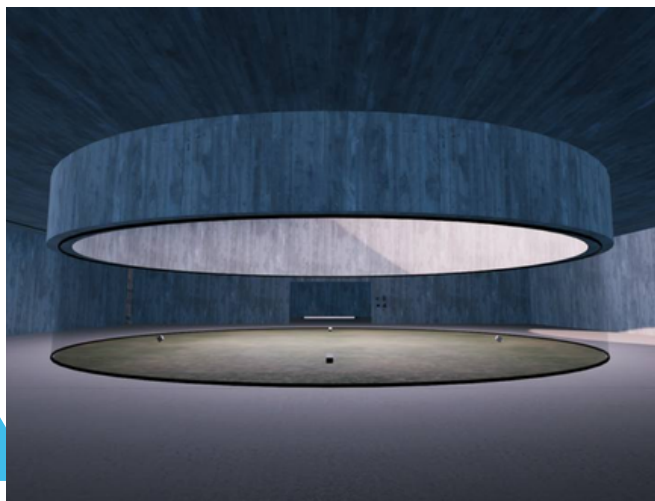
INTERPRETATIVE CENTER OF THE HISTORY OF COD

🇵🇹 Lisbon

Space needed: Small

Activity: The Centro interpretativo da historia do Bacalhau defines itself as a space that tells 'Portugal's most epic story' and the adventures of fishermen in search of the Cod. This museum is dedicated to the Portuguese connection to the sea and to the Cod as a historical, cultural and identity symbol of Lisbon and Portugal.

Contact: +351211126155

info@historiabacalhau.pt

Website: www.historiabacalhau.pt

Description of the educational/professional project

Name of initiative: n.a.

Target group: General public

Purposes:
- Enhancing the historical and cultural importance of cod in Portugal
- Offering an interactive space where technology is combined with tradition

European reference initiative: n.a.

Transferable innovative principles and methods:

1. 4D simulation of a boat in the ocean

In one of the rooms of the interpretation centre, you can live a 4D experience. The spectator sits alone in a moving boat and is surrounded by images of the ocean with accompanying sound. This type of technology has great potential precisely because of the possibility to create simulations that allow users to identify with and experience stories that are not their own, like that of all those fishermen who spent hours alone in the ocean.

2. Video mapping on a book-shaped stand

Video mapping is always a great tool in museums. It allows a large number of different projections and effects to be created. In the Centro Interpretativo, thanks to this technique it is possible to witness, watch and read a real fairy tale. The story of the first expeditions and struggles over codfish is projected onto a large book, creating a real adventure story set in the cold seas of the Atlantic Ocean.

Digital solutions:

- Possibility of buying tickets online
- Audio guides
- Projections and video mapping
- 4D simulation

Weaknesses:

- Higher equipment maintenance costs
- Initial investment in equipment and customised experience creation

Strenghts:

- Possibility of creating unique and immersive experiences
- Light and engaging content for viewers
- Engaging even for children

Useful links / further references:

Interpretative Center of the History of Cod
https://historiabacalhau.pt/
Canva
https://www.canva.com/
Powtoon
https://www.powtoon.com/

Methodology:

- For the realisation of video mapping, you have to choose the surface on which the video will be projected and/or a to buy a special support if necessary. Based on this, the video will be developed by a professional. It will be necessary to equip yourself with a good projector and possibly speakers, in case the video also has sound (recommended).

Possible low-cost solution:

- You can try to exploit the surfaces of the museum itself to realise the video mapping. You can also develop a video yourself with free programmes such as Canva and Powtoon.

Resources needed and start-up costs:

- Projector: 450/3,000 euros
- Professional video of about 5 minutes: 1,500/2,000 euros
- Video mapping stand: variable
- Speakers: 500/2,000 euros
- Simulator: variable depending on the type of experience

PRADO MUSEUM

🇪🇸 Madrid

Space needed: Big

Activity: The Prado Museum is dedicated to the conservation and dissemination of a unique collection. In addition to exhibiting the paintings collected by the Spanish monarchs of the 16th and 17th centuries, the museum is involved in research, restoration, education, organisation of events and cultural activities.

Contact: +34 91 330 2800

museo.nacional@museodelprado.es

Website: www.museodelprado.es

Description of the educational/professional project

Name of initiative: n.a.

Target group: General public

Obiettivi:
- Development of a museum model in constant renewal
- Commitment to the cultural enrichment of society

European reference initiative: n.a.

Transferable innovative principles and methods:

1. TikTok profile of the museum

In addition to being present on social networks such as Instagram, Facebook, Twitter and YouTube, the Prado Museum also has a social profile on TikTok, an application mostly used by young people. On this platform, the museum publishes videos and content aimed at making art light and engaging in order to reach and enthuse young audiences.

2. Interactive educational content on the museum website

In addition to explanatory videos and audios, the museum website offers the possibility to interact and discover more about the history, art and contents it offers. The following image shows an example: an interactive family tree to learn more about Greek Roman mythology.

Digital solutions:

- Possibility of buying tickets online
- Interactive, audio and video educational content
- Strong social presence, especially TikTok

Weaknesses:

- Consistency in content creation and publication required
- Prior research, care in content creation, creativity and originality required

Strenghts:

- Strengthen
- Low implementation costs
- Light and engaging content for viewers
- Engaging even for young people
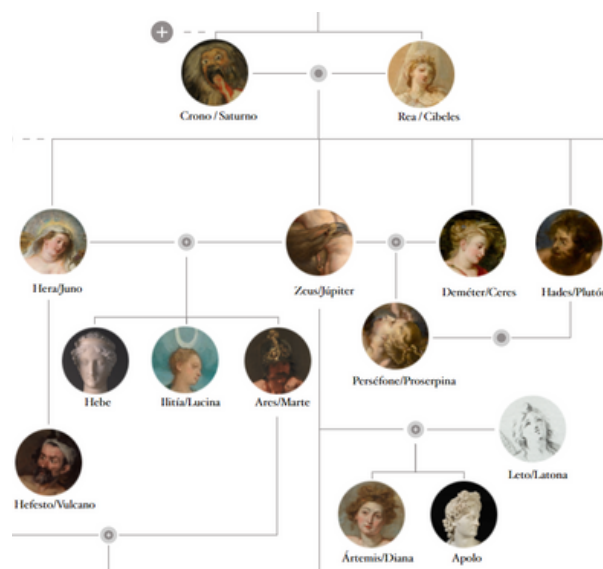
Useful links/further references:

Prado Museum
https://www.museodelprado.es/
Prado Museum TikTok page
https://www.tiktok.com/@museodelprado
Interactive Section of the Prado Museum
https://www.museodelprado.es/actualidad/interactivos
Genially
https://genial.ly/
Canva
https://www.canva.com/
Metricool
https://metricool.com/

Methodology:

- If you want to develop games or interactive content on your website, you can set up a special page where you can programme this content.

Possible low-cost solution:

- In order to avoid contracting a social media manager, the development and management of content to be published on social media can be handled by the museum staff. There are several free apps that can help such as Metricool (for management) and Canva (for the graphic part of the content).
- Free online platforms such as Genial.ly and Kumu can be used for the creation of interactive content.

Resources needed and start-up costs:

- Social media manager: 500/1,000 euros per month
- Programming of interactive content on the site: 1,000/25,000 euros
  (example 1: approx. 960 euros
  example 2: approximately 9,600 euros
  example 3: approximately 24,000 euros)
- Game programming: from 50,000 euros (example)
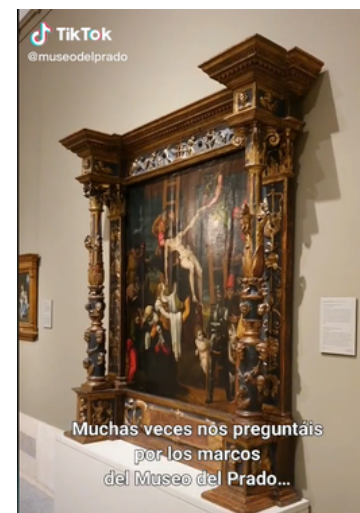
BASSINS DES LUMIÈRES

🇫🇷 Bordeaux

Space needed: Big

Activity: Bassins de Lumière is the world's largest digital art centre and has hosted exhibitions by Klimt, Paul Klee and Sorolla. The museum offers visitors high quality visual and sound experiences in exhibitions perfectly adapted to the spaces they are housed in, dedicated to the greatest artists in the history of art and contemporary art.

Contact: +33 5 35 00 00 90

groupes@bassins-lumieres.com

Website: www.bassins-lumieres.com

Description of the educational/professional project

Name of initiative: n.a.

Target group: General public

Purposes:
- Enhancing the former submarine base where Bassins des Lumières is located by adapting the visual and sound experiences to the spaces in which they are housed.
- To create an immersive and direct relationship between the work of art and the public, which becomes the protagonist of the visit.

European reference initiative: n.a.

Transferable innovative principles and methods:

1. Virtual exhibitions

In particular, the technology used is video mapping. It consists of projecting an animation or images onto one or more surfaces, as if they were real screens, in which the projection is not altered, but adapts perfectly to the real surface and creates an artistic and dynamic effect.

Protagonists of the projections are works of art, but not only. This technology makes it possible to play with graphics and create surprising 3D effects that intersect and merge with the work, e.g., plays of light, light and shadow that highlight certain projected elements, geometric figures that move from one point to another, water effects.

Digital solutions:

- Possibility of buying tickets online
- Virtual exhibitions and video mapping
- Museum App "Les centres d'art DES LUMIÈRES

Weaknesses:

- High initial investment for the purchase of the necessary material.
- Costs of maintaining the equipment and producing the works to be projected.
- Need for a space entirely dedicated to virtual exhibition.

Strenghts:

- This type of exhibition will capture the attention of visitors, potentially leading to greater participation in the exhibitions and increased popularity for the museum.
- The adoption of 3D projections makes the museum an innovative, creative and up-to-date centre of culture.

Useful links / further references:

Les Bassins des Lumière Bordeaux
https://www.bassins-lumieres.com/en
MapMap - open source video mapping software
https://mapmapteam.github.io/
Resolume
https://resolume.com/
Dataton
https://www.dataton.com/products/watchout

Methodology:

- The virtual exhibition consists of projecting one or more works of art onto the walls and/or floor of a room, using video mapping projection that allows the public to enter fully into the work and experience it at 360°, walking and passing through every corner of the room or sitting and relaxing, surrounded by the colours and images projected around and lulled by the background music.

Possible low-cost solution:

- Free programmes such as Mapmap and Resolume can be used to create the videos to be projected. Watchout, on the other hand, is a software that offers both a free and a paid version, recommended if you want to use a media server and use one or more screens.

Resources needed and start-up costs:

- One or more rooms entirely dedicated to the virtual tour: 3D effects can be projected either in a dedicated room or in small spaces, such as corridors, to create a fun and creative effect.
- Projector: 500/3,000 euros
- Video production: from 10,000 euros
- Sound system: 300/1,500 euro
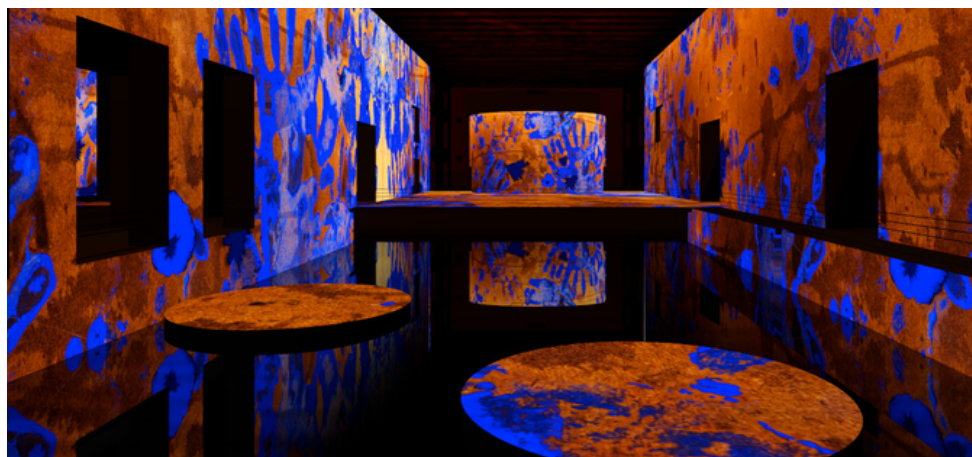
NATIONAL ART MUSEUM OF CATALONIA

🇪🇸 Barcelona

Space needed: Big

Activity: The Museu d'Art de Catalunya brings together an extensive collection of medieval, romantic, modern, Romanesque, Renaissance and Baroque art. The museum thus aims to show Catalan artistic expression beyond chronological limits. The organisation of temporary exhibitions and activities to bring people closer to art also make the museum a centre for artistic dialogue and debate.

Contact: +34 936 22 03 60

internet@museunacional.cat

Website: www.museunacional.cat

Description of the educational/professional project

Name of initiative: n.a.

Target group: General public

Purposes:
- Promote the social and educational use of art.
- Offer itself as a space for knowledge, debate, social ties and participation
- Generate new knowledge through research and collaboration with other institutions.

European reference initiative: n.a.

Transferable innovative principles and methods:

1. Guided tours via the app

The Second Canvas Museu Nacional app offers a new way to visit the museum. In the app, you can explore the works through very high-resolution images with interactive narration, or take an audio-guided tour of the building or of the museum's 20 most important works, in 9 different languages: Catalan, Spanish, English, French, German, Italian, Russian, Japanese and Chinese.

2. Digitised collection

The digitisation of the museum's collection via Second Canvas not only allows the creation of multimedia and interactive content to make the experience more immersive, but also allows the images of the works to be zoomed in with unparalleled quality.

Digital solutions:

- Second Canvas Museu Nacional App
- Digital collection with multimedia and interactive content

Weaknesses:

- Possible increase in the digital divide in terms of access to technological support

Strenghts:

- Possibility to organise digital exhibitions and reach a wider audience
- Possibility of zooming in on photos of digital works and catching details difficult to notice with the naked eye
- The digital collection can replace the physical collection or complement it
- Increased audience engagement rate
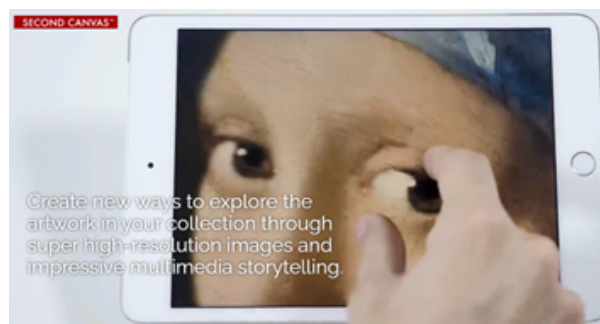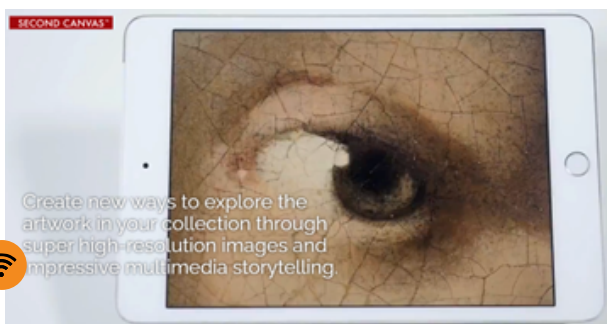
Useful links/further references:

National Art Museum of Catalonia
https://www.museunacional.cat/es
'Second Canvas Museu Nacional', a new way to explore the museum
https://www.museunacional.cat/es/articulo/second-canvas-museu-nacional-una-nueva-manera-de-explorar-el-museo
Second Canva
https://www.secondcanvas.net/

Methodology:

- Second Canvas involves one or more days of digitisation at very high resolution at the museum or in a photographic studio, if possible. The museum will have to prepare a card, with at least 5 details, for each digitised work.
- The digitised collection will then be uploaded onto the museum's Second Canvas app or a platform of the museum's choice and multimedia and interactive content can be added.

Resources needed and start-up costs:

- Second Canvas subscription: after a free trial, from US$ 900 per year

Possible low-cost solution:

- To realise a low-cost digital collection, you can also consider photographing the paintings with cheaper equipment, even with simple cameras. Although the resolution of the photos would be significantly lower, you can make the collection more appealing by taking advantage of free platforms such as StoryMapJS that allow you to add interactive content to a photo.

MATRIX: DIGITAL TOOLS USED BY MUSEUMS

DIGI.MUSE
Education in small museums: digital solutions for a renewed accessibility

Tessuto Museum

🇮🇹 Prato, Toscana region

🔗 museodeltessuto.it

Digital solutions

• Gamification services via Genial.ly
• Virtual tour on digital platform ThingLink
• Qr Code Technology

Methology

• With Genial.ly you can easily create content (including interactive content) in a simple and intuitive way. On the website you can also find a short guide on how to use it.
• To create a QR code, simply enter one of the many free sites that generate them and enter the link you want to associate with the QR.

Weaknesses

• Eventual increase in the digital divide in low digitally literate population groups
• Cost of purchasing and maintaining digital technologies
• Poor positioning at an international level due to a lack of English language online content

Resources needed and start-up costs

• ThingLink subscription: from 25 euros per month
• Genial.ly app: free

Strenghts

• Presence of digital tools to support the visit (multimedia devices, touchscreens, macro-video projections)
• Presence of tools for enjoyment through gamification systems
• Presence of virtual tours
• Increase in online visitors following the Covid-19 Pandemic
• Possibility of providing a wider range of services on the web (digital catalogue, online archives, etc.)
• Implementation of solutions (even minimal, such as QR codes) for accessing content from mobile devices

Possible low-cost solution

• There are several sites where you can generate a QR code for free. One example is QR Code Generator.

Small Diary Museum

🇮🇹 Pieve Santo Stefano, Toscana region

🔗 piccolomuseodeldiario.it

Digital solutions

· Projectors and lights
· Sensors
· Microcontrollers
· Computers for audio and video playback

Methology

· The diary museum has made the exhibition more engaging and interactive through the use of highly interactive video projections on various surfaces of the museum.

Weaknesses

· Absence of an online rendition of the digitised archive
· High cost of purchasing and maintaining digital technologies

Resources needed and start-up costs

· Projectors: 450/3,000 euros each
· Sensors: 5/30 euros each
· Microcontrollers: 5/40 euros each
· Speakers: 500/2,000 euros
· Interactive video production: from 10,000 euros

Strenghts

· Interactive layout also suitable for the blind and deaf
· Bilingual exhibition route
· Wi-Fi availability throughout the facility
· Possibility of expanding the number of online (and thus onsite) presences through the creation of usable online content

Possible low-cost solution

The price of equipment varies widely and one can try to reduce costs by slightly reducing its quality or functionalities. Regarding the design of the museum set-up and the development of the video and audiovisual effects, one might consider not hiring professionals, but using free apps to create the graphic effects in the video. Beware, however, of the interactive part of the video and its connection to the sensors: professional help may be needed.

Regional Archaeological Museum "A. Salinas"

🇮🇹 Palermo, Sicily

🔗 regione.sicilia.it/beniculturali/salinas/

Digital solutions

Social media (see "useful links"):
- Facebook
- Instagram
- Twitter
- Pinterest
- Youtube
- Google+

Methology

- To start a marketing campaign, a prior research phase is necessary to get to know your audience better. At this point, you can plan the campaign and design the content, which must be published on an ongoing basis. Once the campaign has started, it will be sufficient to analyse its progress in order to make any changes to optimise the results.

Weaknesses

- Lack of direct website management. For example, state museums may not have direct control over their own website, which is managed instead by other institutional bodies
- Lack of personnel specialised in social media management and/or cultural web marketing strategies
- Costs for hiring or training specific professionals:
- Possible increase of the digital divide in low digitally literate population groups

Resources needed and start-up costs

- Social media manager: 500/1.000 euros per month

Strenghts

- Ability to intercept a young audience
- Low technology investment cost
- Increase in online visitors following the Covid-19 Pandemic
- Ability to provide a wider range of services on the web (digital catalogue, online archives, etc.)

Possible low-cost solution

To avoid contracting a social media manager, the development and management of the content to be published on social media can be handled by yourself. There are several free apps that can help, such as Metricool (for management) and Canva (for the graphic part of the content).

MUDEC Museum of Cultures e in Milan

🇮🇹 Milan, Lombardia region

🔗 mudec.it

Digital solutions

- Hardware and software tools for audio track acquisition and management
- Profile on specific platforms such as Spotify and iTunes

Methology

- Including podcasting in your communication strategy is very easy. On the Internet, you can also find free short courses, such as that of Podcast Insight, on how to create a podcast. Once the episodes have been recorded, they can be published free of charge on platforms such as YouTube, Spotify and iTunes.

Weaknesses

- Possible cost increase in the long run
- Difficulties in producing a quality product in the absence of specific expertise
- Need to include podcasts in a broader communication strategy

Resources needed and start-up costs

- Recording set (audio interface, microphone, studio headphones, cables): 150/300 euros

Strenghts

- Low investment cost
- Affordable and adaptable solution
- User-friendly technology

Possible low-cost solution

The price of the necessary equipment can vary. You can lower the cost by looking for cheap options and promotions, or you can even buy used equipment.

Forte Belvedere Museum

🇮🇹 Lavarone, Trentino-Alto Adige region

🔗 fortebelvedere.org

Digital solutions
· Video games and virtual reality (VR)

Methology
After choosing what type of video game to make and the desired general scenario, you have to write the game script. You can then move on to the programming (or in general the development) of the first prototype. Between the first prototype and the final video game, there may be various phases of testing and modifications.

Weaknesses
• High initial investment cost
• Possible increase in the digital divide in terms of access to technological support

Resources needed and start-up costs
Video game programming: 45,000/50,000 euros

Strenghts
• Maximum public involvement
• Increased accessibility to heritage
• Creation of an emotional link between museum and user
• Good positioning at an international level

Possible low-cost solution
It is possible to develop video games on your own with specific apps. Among them, Unity offers totally free packages and a manual to help you use the app to the fullest.

Saint Francis Museum

🇮🇹 Montefalco, Regione Umbria

🔗 museomontefalco.it

Digital solutions
· Umbria Culture' App (available for iOS and Android)
· iBeacon transmitters

Methology
· Once the app has been developed, beacons can be configured by entering their unique code into the app.

Weaknesses
· Possible increase in the digital divide in terms of access to technological support
· Need for Bluetooth enabled

Resources needed and start-up costs
· iBeacon transmitters: 10/50 euros each
· App programming: 22,000/25,000 euros
· App programming with audio guidance: from 50,000 euros

Strenghts
· No wi-fi connection (Bluetooth low energy technology)
· Possibility of providing insights and exclusive content
· Economical solution
· Easy to implement and use solution
· Possibility of collecting information on the behaviour of visiting users

Possible low-cost solution
· You can develop apps yourself using free apps like GoodBarber. It is not necessary to know how to programme.

War Museum

Rovereto, Trentino-Alto Adige region

museodellaguerra.it

Digital solutions

· Consultation software
· Professional scanner
· Digital management system

Weaknesses

· High initial investment costs
· Involvement of specific skills

Strenghts

· Increased accessibility of heritage
· Reduction of management and information search time
· Improvement of the organisation's image in terms of efficiency, modernity, and availability

Methology

· The function of the platform is to offer an information service. It therefore allows the archiving of and access to files with information material in different formats and a search tool by categories or keywords.
· The development of a platform with these characteristics involves a component of technical design at the graphic level, database design and analysis, one of programming the public website (mainly html + DHTML + Javascript + PHP) and one of programming private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs

· Software programming: 6,000/10,000 euros

Possible low-cost solution

One could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.

Municipal Museum in Modena

Modena, Emilia-Romagna region

museocivicomodena.it

Digital solutions

· Wikimedia platform (open source)

Weaknesses

· Possible increase in the digital divide

Strenghts

· Active and participative involvement of the community
· Possibility of expanding the number of users through the provision of online cultural content
· Open-source platform
· High-quality digital reconstruction

Methology

· The development of a platform with these characteristics involves a technical design component at the graphics and database architecture level, a programming component for the public website (mainly html+ DHTML+ Javascript+PHP), and a programming component for private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs

· Platform programming: 25,000/30,000 euros
· Training course (digital database): from 50 euros per hour

Possible low-cost solution

· One could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.
· As for training courses, one can find free courses or guides on how to manage a digital database on the Internet.

MED Museum of the Sea and Ancient Navigation

🇮🇹 Santa Marinella, Lazio region

🔗 museosantasevera.it

Digital solutions

· Platform for the creation of interactive three-dimensional environments
· Portable Virtual Set

Weaknesses

· High initial investment cost
· Expensive maintenance

Strenghts

· Innovative and highly interactive mode of use
· Possibility of providing in-depth insights and exclusive content at multiple levels
· Improvement of the organisation's image in terms of efficiency, modernity, and availability

Methology

The Live Art system allows the production of multimedia content, which the visitor can access by connecting to the museum's network and scanning QR codes. These will provide additional information on selected objects in the museum, which will be represented three-dimensionally.
The live art system provides for the realisation of several functions, for example Gesture recognition:
For other available functions, see the manual "Interactive Virtual Environment for a Light Virtual Studio", connected via hyperlink.

Resources needed and start-up costs

The following resources will be needed to develop the Live Art System:
· A team consisting of a storyteller, a director and developers
· A camera: from 100 euros
· Green screen: 115/150 euros
· PC: from 200 euros
· Wireless microphone: from 100 euros
· QR code
· Total cost: from 20,000 euros

Possible low-cost solution

It is possible to use cheaper tools, such as:
· a webcam (instead of a camera): 10/30 euros
· green photo wallpaper: 20 euros
· ice cream microphone: 20 euros
· There are several sites where you can generate a QR code for free. One example is QR Code Generator.
· It is possible to download pre-made virtual sets, an example is iStock www.istockphoto.com. Subscriptions vary depending on the download material: 20/200 euros

BAVA Bagatti Valsecchi Museum

🇮🇹 Milano, Regione Lombardia

🔗 museobagattivalsecchi.org

Digital solutions

· Messaging app

Weaknesses

· Need for internet connection to be able to use the service
· Possible increase in the digital divide in low digitally literate population groups

Strenghts

· Free messaging app for both user and museum
· Low use of staff resources
· Messaging platform already known and used by most users, especially younger ones
· High degree of interactivity

Methology

· A chatbot can be programmed mainly in two ways: guided or with AI. In the first case, the customer can choose responses from standard ones during the conversation; in the second, the customer responds by writing freely and the bot's AI analyses the message and responds accordingly.

Resources needed and start-up costs

· Chatbot programming: 3,000 euros

Possible low-cost solution

On the Internet, you can find several platforms that allow you to develop a chatbot without knowing how to programme. ManyChat, Smartloop, Landbot and Pandorabots, for instance, also offer free packages.

Digital Art House

🇱🇻 Latvia - Riga

🔗 digitalarthouse.eu

Digital solutions

· Multimedia exhibitions
· Generative art exhibitions
· Photo exhibitions 360º
· Educational movies 360º
· HD projections
· 360º cinema
· Surround Sound
· Yoga in digital video surround

Weaknesses

· High skills required for the implementation and the management of digital tools
· Difficulties in going beyond the niche

Strenghts

· Digital art as the museum vision
· High digital skills of the staff
· New target groups
· New exhibition every 3-4 months
· New digital products every 1-2 months (list of areas of ongoing development)
· A brand new event every 1-2 months

Resources needed and start-up costs

·360º video realisation: from 600 euro (5 min)
·Projector: 450/3.000 euro
·Professional surround sound speakers: 500/2.000 euro
No-fungible token: from 10/100 euro

Methology

· Multimedia exhibitions are extremely customisable. One can be very creative in trying to build a path or exhibition using digital tools. As regards the set-up, the elements that certainly cannot be lacking are projectors, speakers and screens. Then you can also consider using lights and sensors

Possible low-cost solution

· To lower the costs of equipment for multimedia exhibitions, you can look for offers and promotions or you can buy used equipment.
· It is also possible to realise 360º videos and virtual tours on free platforms such as Paneek, simply by uploading panoramic photos

Etnografski muzej Istre - Ethnographic Museum of Istria

🇭🇷 Pazin, Istria County

🔗 emi.hr/en/

Digital solutions

· The virtual exhibition
· I-ON movie - EDUCATIONAL FILM (a movie about forced migrations)
· I-ON short movies
· I-ON long movies
· Webinars
· Videos
· "SHARE your STORY": digital form to collect testimonials
· Social network and website (media in general)

Weaknesses

· Reliability and reworking of testimonials as historical sources
· Possible divergences in the way resources are collected by partners
· High skills required for the implementation and the management of digital package
· Additional costs for the implementation and maintenance of joint exhibition and digital package

Strenghts

· A wider selection of tools, products and workshops
·Free access and free download to the resources
· New target groups
· Networking with the project's partners and professionals
· International relevance of the project
· Facilitated access to finance: some specific costs are financed by the project

Methology

The initiative includes the development of a website with a page dedicated to collecting the stories and testimonies that will make up the exhibition. The exhibition has therefore been uploaded to a special page on the website.

Resources needed and start-up costs

· Production of a short movie: 500/1.500 euro per minute
· Programming of virtual exhibition with customized word press: from 1.500 euro

Possible low-cost solution

Instead of programming a special page to collect people's stories and testimonies, one could create a free google form and share the link within the museum's website or social pages

Historiska Museet - The Swedish History Museum

🇸🇪 Stockholm, Stockholm County

🔗 historiska.se

Digital solutions

· Audio-visual materials
· Online collections management tool
· Digital exhibition
· Social network and media in general
· Axiell community

Weaknesses

· Additional costs for the implementation of digital solutions
· Intermediarity of collections management (critical issues of data ownership)

Strenghts

· New products and a new way of experiencing art
· Axiell software user-friendly
· Networking with the Axiell community
· Increase museum's outreach

Methology

·The function of the platform is to offer an information service. It therefore allows the archiving of and access to files with information material in different formats and a search tool by categories or keywords.
The development of a platform with these characteristics involves a technical design component at the graphic and database design and analysis level, a programming component for the public website (mainly html+ DHTML+ Javascript+PHP) and a programming component for private access (mainly using php with a mysql database) for its administration.

Resources needed and start-up costs

· Programming of the web-based collections management system: 6.000/10.000 euro
· Already developed forum to be implemented: from 500 euro

Possible low-cost solution

You could also develop a website without programming thanks to platforms such as WordPress. The latter also offers free or almost free packages.

Muzeum W Lęborku – Museum of Lębork

🇵🇱 Lębork, Pomerania

🔗 muzeum.lebork.pl

Digital solutions

· Video stations
· APP Museum in the Pocket
· Draw Alive children corner
· Feed-back digital forms
· Augmented reality (AR) technology
· Social network and website (media in general)

Weaknesses

· Possible increase in the digital divide in the population with low digital literacy
· Shortage of staff specialised in digital skills (e.g., social media management and/or cultural web marketing strategies, app development)
· Additional costs for the implementation of digital solutions

Strenghts

· A wider selection of products: digital and web services
· New target groups
· Networking with the project's partners
· Facilitated access to finance: some specific costs are financed by the project (e.g., training, implementation of new digital tools)

Methology

· The app can be developed by programming with html code or via special platforms.
· A video introducing the museum or presenting the works can easily be made by the museum staff. The same is true for questionnaires: google forms is a very simple and intuitive way to enter questions with several answer modes (1 or more choices allowed, open answer, likert scale, drop-down list).

Resources needed and start-up costs

· Programming an app: 25.000/50.000 euro
· Augmented reality (AR) technology: 3.000/30.000 euro

Possible low-cost solution

· You can develop apps yourself using free apps such as GoodBarber. No programming skills are required. Questionnaires and feedback forms can be created free of charge thanks to Google Forms.

Muzej novejše zgodovine Slovenije — National Museum of Contemporary History of Slovenia

🇸🇮 Ljubljana, Central Slovenia

🔗 muzej-nz.si

Digital solutions

· App IMPROVISA Mobile
· Multimedia contents: images, samplers and short videos
· Audio-visual tools
· Social network and website (media in general)

Weaknesses

· High skills required for the implementation of mobile technologies
· Additional costs for the implementation of new technologies
· Possible increase in the digital divide in the population with low digital literacy
· App IMPROVISA Mobile: from prototype to product

Strenghts

· A wider selection of tools, products and workshops
· New target groups
· Networking with the project's partners
· Cross-border and cross-sector mobility
· International relevance and polyvalence of the project
· Facilitated access to finance: some specific costs are financed by the project

Methology

App development involves the following activities: development of graphics resources adapted to different android/ios display layouts, construction of a multilingual setting, technical design and code development, animation, audio design, programming, prototyping, review and final development.

Resources needed and start-up costs

· Programming of the app: from 2.000 euro

Possible low-cost solution

· You can develop apps yourself using free apps such as GoodBarber. No programming skills are required.

Rijksmuseum - Amsterdam State Museum

🇳🇱 Amsterdam, Amsterdam metropolitan area

🔗 rijksmuseum.nl/en

Digital solutions

· Rijksmuseum APP
· Free multimedia tours
· Online collection (rijksstudio- since 2012)
· Artificial Intelligence (AI)
· Machine-learning technology
· Ultra-high-resolution photo and video cameras

Weaknesses

· High skills required for the implementation and the management of digital tools
· Costs for the implementation of digital solutions
· Possible increase in the digital divide in the population with low digital literacy

Strenghts

· A wider selection of products
· Engagement of new audiences
· International relevance of the museum and the city

Resources needed and start-up costs

· Programming of the app: from 20.000 euro
Ultra-high-resolution photo and video cameras: from 8.000 euro

Methology

· Once the museum app has been developed, one can proceed with the creation of the guided tours and their upload into the app. Digitised works in the restoration process can also be uploaded to the app.
The museum organises the restoration of the works in a way that is accessible to the public, who can then witness the process in an interactive and engaging way.

Possible low-cost solution

· You can develop apps yourself using free apps such as GoodBarber. No programming skills are required.
· To realise a low-cost digital collection, you can also consider photographing the paintings with cheaper equipment, even with simple cameras. Although the resolution of the photos would be significantly lower, you can make the collection more appealing by taking advantage of free platforms such as StoryMapJS that allow you to add interactive content to a photo.

Stadtmuseum Dresden - Dresden City Museum

🇩🇪 Dresden, Saxony

🔗 museen-dresden.de

Digital solutions
· Over twenty media stations
· Numerous film installations
· A small cinema

Weaknesses
· Possible increase in the digital divide in the population with low digital literacy
· High skills required for the implementation and the management of digital tools
· Additional costs for the implementation of digital solutions

Strenghts
· A wider selection of products
· Networking with the other cultural institutions
· Facilitated access to finance: some specific costs are financed by the project

Methology
To set up media stations and a small cinema, all the necessary equipment must be installed in a dedicated space. The downloading (or realisation) and installation of the audiovisual content and materials to be screened or implemented in the media stations must also be taken care of. With regard to the small cinema, it is advisable to provide seating for visitors.

Resources needed and start-up costs
· Interactive screen for media station: from 1.000 euro (Please consider that the price can vary considerably depending on the size of the screen)
· Small cinema set-up: from 400 euro

Possible low-cost solution
· To make a media station on a budget, smaller screens must be considered. You can make the visitor experience engaging and interactive even with simple tablets.
· In any case, buying used equipment is a viable option that will reduce costs.

MOMus - Museum of Contemporary Art

🇬🇷 Thessaloniki

🔗 www.momus.gr/en/contemporary

Digital solutions
· 3D replicas
· QR codes
· Audio descriptions
· Inclusive interactive catalogue

Weaknesses
· High skills required for the implementation and the management of the new applications
· Costs for the implementation of innovative solutions
· Difficulties in going beyond the niche

Strenghts
· A wider selection of products and activities
· New way of experiencing art
· Networking with niche associations
· Engagement of new audiences
· Social relevance of the initiative and museum
· Replicability and upskilling of the initiative

Methology
To make 3D replicas of the museum collection, a professional 3D printer, preferably a resin printer, can be used. Audio descriptions can be associated with the replicas, which can also be recorded by the museum staff themselves. To realise the catalogue in Braille, simply send the cards and descriptions of the works to a company that will transcribe and print them in Braille.

Resources needed and start-up costs
· Professional 3D printer: from 2,000 euros
· Post-cure UV lamp (for 3D printer): from 800 euros
· Cleaning Station (for 3D printer): from 500 euros
· Braille catalogue: 1/1.50 euro per page
· Braille tactile map: from 5,000 euros
· QR code: free on QR Code Generator

Possible low-cost solution
· Low-cost alternatives to the tactile map could be:
1. Printing braille maps to hand out at the entrance in the form of flyers;
2. Install a path with tactile flooring (about 20 euros for 3 metres of path) and record an audio guide that, besides describing the exhibition, accompanies the visitor along the way and announces possible junctions.
· The price quoted for the 3D printer and its accessories guarantees a certain level of printing quality. However, it is possible to spend less by lowering the quality of the product. A cheaper 3D printer can cost as little as 200/500 euros; while, as far as the cleaning station and UV lamp are concerned, 2-in-1 machines can be found for as little as 100/150 euros.
Another option is to hire an external company to do the printing. This type of service, however, can be cheaper than buying the printer only if you need few 3D prints.

MUV FMJJ Museo Virtual Fundación María José Jove

🇪🇸 A Coruña

🔗 muv.fmjj.org

Digital solutions

· VR Technology
· Virtual Museum
· Digital visualisation

Methology

The creation of the virtual space involves the following activities: development of game mechanics, construction of a multiplayer server, graphic design, animation, 3D design, audio design, programming, prototyping, review and final development.

Weaknesses

· Possible increase in the digital divide among the digitally illiterate population
· High skills required for creating and managing virtual space

Resources needed and start-up costs

· Virtual space programming: 45,000/50,000 euros

Strenghts

· A wider selection of products
· Networking with other cultural institutions, artists, researchers and other professionals
· No running and maintenance costs of a physical space

Possible low-cost solution

· A cheaper alternative is to develop VR environments yourself with Adobe's After Effects (from 24 euros per month).
· One can also take advantage of free tools such as Google's Arts & Culture to develop a virtual tour.

Centro interpretativo da historia do Bacalhau

🇵🇹 Lisbona

🔗 historiabacalhau.pt

Digital solutions

· Possibility of buying tickets online
· Audio guides
· Projections and videomapping 4D simulation

Methology

For the realisation of videomapping, you have to choose the surface on which the video will be projected and/or a to buy a special support if necessary. Based on this, the video will be developed by a professional. It will be necessary to equip yourself with a good projector and possibly speakers, in case the video also has sound (recommended).

Weaknesses

· Higher equipment maintenance costs
· Initial investment in equipment and customised experience creation

Resources needed and start-up costs

· Projector: 450/3,000 euros
· Professional video of about 5 minutes: 1,500/2,000 euros
· Video mapping stand: variable
· Speakers: 500/2,000 euros
· Simulator: variable depending on the type of experience

Strenghts

· Possibility of creating unique and immersive experiences
· Light and engaging content for viewers
· Engaging even for children

Possible low-cost solution

You can try to exploit the surfaces of the museum itself to realise the videomapping. You can also develop a video yourself with free programmes such as Canva and Powtoon.

Museo del Prado

🇪🇸 Madrid

🔗 museodelprado.es

Digital solutions

· Possibility of buying tickets online
· Interactive, audio and video educational content
· Strong social presence, especially TikTok

Weaknesses

· Consistency in content creation and publication required
· Prior research, care in content creation, creativity and originality required

Strenghts

· Low implementation costs
· Light and engaging content for viewers
· Engaging even for young people

Methology

· If you want to develop games or interactive content on your website, you can set up a special page where you can programme this content.

Resources needed and start-up costs

· Social media manager: 500/1,000 euros per month
· Programming of interactive content on the site: 1,000/25,000 euros
(example 1: approx. 960 euros
example 2: approximately 9,600 euros
example 3: approximately 24,000 euros)
· Game programming: from 50,000 euros (example)

Possible low-cost solution

· In order to avoid contracting a social media manager, the development and management of content to be published on social media can be handled by the museum staff. There are several free apps that can help such as Metricool (for management) and Canva (for the graphic part of the content).
· Free online platforms such as Genial.ly and Kumu can be used for the creation of interactive content.

Bassins des Lumières

🇫🇷 Bordeaux

🔗 bassins-lumieres.com

Digital solutions

· Possibility of buying tickets online
· Virtual exhibitions and video mapping
· Museum App "Les centres d'art DES LUMIÈRES

Weaknesses

· High initial investment for the purchase of the necessary material.
· Costs of maintaining the equipment and producing the works to be projected.
· Need for a space entirely dedicated to virtual exhibition.

Strenghts

· This type of exhibition will capture the attention of visitors, potentially leading to greater participation in the exhibitions and increased popularity for the museum.
· The adoption of 3D projections makes the museum an innovative, creative and up-to-date centre of culture.

Methology

The virtual exhibition consists of projecting one or more works of art onto the walls and/or floor of a room, using videomapping projection that allows the public to enter fully into the work and experience it at 360º, walking and passing through every corner of the room or sitting and relaxing, surrounded by the colours and images projected around and lulled by the background music.

Resources needed and start-up costs

· One or more rooms entirely dedicated to the virtual tour: 3D effects can be projected either in a dedicated room or in small spaces, such as corridors, to create a fun and creative effect.
· Projector: 500/3,000 euros
· Video production: from 10,000 euros
· Sound system: 300/1,500 euro

Possible low-cost solution

Free programmes such as Mapmap and Resolume can be used to create the videos to be projected. Watchout, on the other hand, is a software that offers both a free and a paid version, recommended if you want to use a media server and use one or more screens.

Museu Nacional d'Art de Catalunya

🇪🇸 Barcellona

🔗 museunacional.cat

Digital solutions

· Second Canvas Museu Nacional App
· Digital collection with multimedia and interactive content

Methology

· SecondCanvas involves one or more days of digitisation at very high resolution at the museum or in a photographic studio, if possible. The museum will have to prepare a card, with at least 5 details, for each digitised work.
· The digitised collection will then be uploaded onto the museum's SecondCanvas app or a platform of the museum's choice and multimedia and interactive content can be added.

Weaknesses

· Possible increase in the digital divide in terms of access to technological support

Resources needed and start-up costs

· SecondCanvas subscription: after a free trial, from US$ 900 per year

Strenghts

· Possibility to organise digital exhibitions and reach a wider audience
· Possibility of zooming in on photos of digital works and catching details difficult to notice with the naked eye
· The digital collection can replace the physical collection or complement it
· Increased audience engagement rate

Possible low-cost solution

To realise a low-cost digital collection, you can also consider photographing the paintings with cheaper equipment, even with simple cameras. Although the resolution of the photos would be significantly lower, you can make the collection more appealing by taking advantage of free platforms such as StoryMapJS that allow you to add interactive content to a photo.

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