

MATRIX: DIGITAL TOOLS USED BY MUSEUMS

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

Strengths

- 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

Strengths


- 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
- Pinterest
- Instagram
- Youtube
- Twitter
- 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


Strengths

- 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


Strengths

- 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

Strengths


- 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

Strengths

- 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.



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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

Strengths

- 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.

Digital solutions

- Wikimedia platform (open source)

Weaknesses

- Possible increase in the digital divide

Strengths

- 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.

Municipal Museum in Modena

 Modena,
Emilia-Romagna
region


 museocivicomodena.it



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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 360°
- Educational movies 360°
- HD projections
- 360° 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

Strengths

- 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

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

· 360° 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

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

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

Strengths

- 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

Etnografski muzej Istre - Ethnographic Museum of Istria

 Pazin, Istria County

emi.hr/en/



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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)

Strengths

- 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.

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

Strengths

- 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.


Muzeum W Lęborku - Museum of Lębork

 Lębork, Pomerania

 muzeum.lebork.pl



Muzej novejšje 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.


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

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

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

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.

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.



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Stadtmuseum Dresden - Dresden City Museum

 Dresden, Saxony

museen-dresden.de

Digital solutions

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

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.

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

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

Strengths

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

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](http://www.momus.gr/en/contemporary)

Digital solutions

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

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.

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

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

Strengths

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

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

Strengths

- 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

 Lisboa

 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

Strengths

- 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

Strengths

- 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.

Strengths

- 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 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.

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

 Barcelona

 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.



Co-funded by
the European Union

"The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein."