# ReInHerit Toolkit Development: Open Source & User-Centered Approach

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*Terms of reuse*
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*Type of best practice*
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Development, Digital Tools, User-centered-Approach, BYOD (Bring Your Own Device), Open Source, Web Apps

*"According to ReInherit's analysis and strategy, the Toolkit's innovative and interactive tools are able to increase visitor engagement and are based on a user-centered approach. Web apps have been developed as first-class targets that make it easier to follow the BYOD approach. To adopt a sustainable management perspective, the strategic goal of the toolkit was the development of open-source code, so as to facilitate the reuse of applications by different organizations.*

**Organisation in charge of best practice**
MICC UNIFI

**Location**
Florence IT

**Dates**
1 year

**Description**
The ReInHerit Toolkit represents a paradigm shift in museum engagement, distinguished by its **interdisciplinary, co-creative, and sustainable approach.** Through **open-source code development,** it offers customization across diverse museum contexts, fostering a continuous dialogue between museum professionals, visitors, and technology experts. This toolkit is born out of collaboration, with in-depth analyses of visitor and museum professional needs shaping its development. The process involves hackathons and workshops, fostering a collaborative environment where communities actively contribute to tailored solutions. At its core, the ReInHerit Toolkit is designed with a **user-centric approach**, aiming to enhance visitor engagement and create interactive experiences. Geared towards young museum visitors it harnesses digital technology to make museum visits playful, emotional, and people-centered.

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Utilizing **AI/CV-based digital and mobile applications,** the toolkit introduces gamification and learning-by-doing techniques. The "wow" effect is strategically employed to captivate audiences, encouraging deeper exploration and study of artwork content during and after the visit. This approach not only enriches the visitor experience but also stimulates the creation of narrative and user-generated content, fostering a vibrant online presence for the museum.

Acknowledging the technology gap faced by smaller organizations, the ReInHerit Toolkit is developed as **open-source code**. This intentional choice aims to facilitate maintenance and encourages reuse by different organizations, irrespective of their size. It provides smaller institutions with the technical support needed to effectively incorporate cutting-edge digital solutions into their exhibits. The strategic framework of the ReInHerit Toolkit revolves around key pillars for **implementation** and **sustainability**. It introduces innovative and interactive tools, leveraging gamification to deepen engagement and connection with museum artifacts. Recognizing the prevalence of personal mobile devices, the toolkit's mobile applications are crafted as primary targets, aligning with the **BYOD approach**. AI/CV-based web applications are strategically integrated to enhance user interaction with museum collections and exhibitions, utilizing a playful gamification approach. The toolkit places a strategic emphasis on open-source development, facilitating easy maintenance and allowing for widespread reuse by different organizations. It supports a forward-thinking digital strategy centered on modularity and reusability, ensuring adaptability in the face of evolving technological landscapes.

In conclusion, the ReInHerit Toolkit provides a framework for best practices in creating engaging, sustainable, and technologically advanced museum experiences. By placing visitors at the center of its design approach and promoting collaboration among diverse stakeholders, the toolkit not only improves the current museum experience but also lays the foundation for a dynamic and collaborative future.

European Commission

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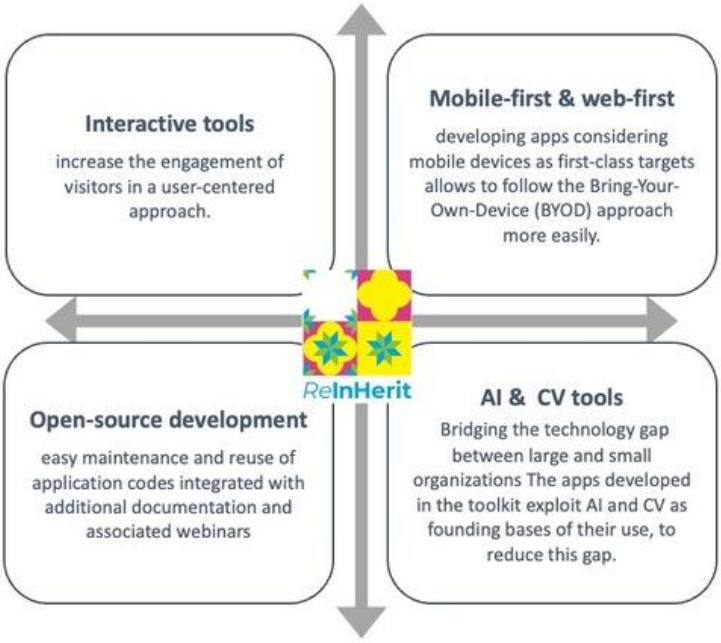


*ReInHerit Toolkit Strategy*

Youtube Playlist:
https://www.youtube.com/playlist?list=PLUekJ7cIDbhzwNZ8JVFtFLBJdPe2H8MsT

**Links**
https://reinherit-hub.eu/tools/apps
https://reinherit-hub.eu/applications
https://reinherit-hub.eu/tools/components

**Resources needed**
Worked on the development of the application: software engineers, web designers, user experience designers, museum curators for quality content creation, mediators and creatives for the co-creation process. Additional documentation and associated webinars have been produced by a team of communication and promotion experts and made accessible on Digital Hub.

**Challenges encountered**
A main challenge in the development of generative artificial intelligence (GenAI) tools is to adopt a model that takes into account important critical issues, such as the scientific accuracy of chatbot results and the ethical implications related to the use of personal and training data. In this regard, the solutions developed avoid errors and hallucinations by relying on quality content provided by museum curators. Collaboration a mediation between different disciplinary fields and the involvement of new museum skills and professions is an important challenge to address. Designing new AI/CV applications require a deep knowledge of technical aspects that may be hard to acquire.

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**Evidence of success**

"Reinherit questionnaires show that young museum visitors are more likely to interact with digital tools in a museum context and, therefore, should be considered the main target audience that will use the ReInHerit Toolkit. They prefer not to download applications but to use webapps, and their use depends on their perceived benefits and involvement in the co-creation process. Despite the growing number of museums and cultural institutions adopting a digital strategy, the ReInHerit survey revealed that smaller museums still lack the capacity to incorporate digital tools into their daily activities and need updating and training on the use of innovative technological tools for heritage management.Evidence of success consists of the involvement of small and medium-sized museums a which to test the web apps pilot project and the involvement of a young audience in their use. According to focus groups conducted with museum professionals, it is useful and relevant to develop tools in dialogue with visitors. The main goal of digital innovation is to provide not just a tool as a final product, but a collaborative development process, creating a mediation between different disciplinary sectors, and inviting communities into the creation process. The ReInHerit's Toolkit has been designed and tested with a bottom-up approach, inviting users to participate in the creation process through workshops and hackathons. Three applications of the toolkit have won best demo honorable mention awards at two foremost international conferences on multimedia and computer vision (ACM Multimedia and Computer Vision and Pattern Recognition 2022). Scientific relevance is demonstrated by a large number of scientific publication related to the apps.

**Potential for transfer**

"In order to adopt a sustainable management perspective, the strategic focus of the toolkit was the development of open-source code, so as to facilitate maintenance issues and reuse of applications by different organizations. Promoting a “future-oriented” Digital Strategy focused on modular and reusable digital architecture, the codes of these applications are supplemented by additional documentation and associated webinars, accessible in the Digital Hub.

**Further Information**

No

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