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This publication is the result of the project 3DPAST – Living & virtual visiting European World Heritage
[Grant Agreement Ref No570729-CREAT-1-2016-1-PT-CULT-CDDP], co-funded by the European Union
(2016-2020), under the programme Creative Europe.
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.

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With the Support of

International Council on
Monuments and Sites

Chaire UNESCO Architecture
de terre, cultures constructives
et développement durable

International Committee of
Vernacular Architecture
ICOMOS-CIAV

International Scientific Committee
on Earthen Architectural Heritage
ICOMOS-ISCEAH

International Committee of
Architectural Photogrammetry
ICOMOS-CIPA
From Vernacular to World Heritage

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Firenze University Press
2020

https://www.fupress.com/isbn/9788855182928

ISBN 978-88-5518-254-6 (XML)
DOI 10.36253/978-88-5518-293-5
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Enhancing vernacular heritage to ensure its outstanding significance and safeguard

Vernacular architecture is one of the most significant cultural expressions of a socio-economic structure: it represents the way in which local materials and traditional building techniques, learned from endogenous evolutionary processes and from cultural advances, were used to respond to the physical and socio-economic needs of a group, thus generating remarkable architectural models adapted to the historical-cultural experience and the specific environmental restriction of each territory. They are, therefore, unique models strongly linked both to the environmental and to the socio-economic and cultural context, which nevertheless have universal elements in common: they use local resources; they adapt strongly to the morphology and to the bioclimatic characteristics of the place; they are the result of the transmission of experience and knowledge; they are the expression of a living model and the identity of a group; they are extremely vulnerable, as they face sudden changes (natural or cultural); and the deterioration process can be easily triggered.

Thanks to the universal nature of vernacular architecture, in recent decades, various organisations have asked for the protection and recognition of this heritage as a cultural asset, and as a shared value. It should be mentioned, in particular, the Charter on the Built Vernacular Heritage, ratified by the General Assembly of ICOMOS, in Mexico in 1999, on which the character of vernacular architecture is claimed as essential for the identity of people: “The built vernacular heritage is important; it is the fundamental expression of the identity of a community, of its relationship with its territory and, at the same time, the expression of the world’s cultural diversity” (Introduction, ICOMOS, 1999).

However, the knowledge to maintain and preserve vernacular heritage is disappearing at an ever-increasing pace, when not properly recognised as part of the people’s identity. Especially considering the few numbers of vernacular sites listed as World Heritage, precisely due to their character, a long way still needs to be undertaken. Raising awareness and sharing the significance and the quality of this still little-known vernacular World Heritage, existing in Europe, increases its Outstanding Universal Value, and contributes to its safeguard and enhancement, but also to raise awareness to future vernacular World Heritage nominations.
Communication and Dissemination strategies

Living and virtual visiting European World Heritage project, known as 3DPAST, was developed to enhance vernacular heritage, the character of its architecture, historical building traditions, and building cultures knowledge, which is still alive in several of these sites, through the use of new technologies. The project contributed to the increase of cultural interest for vernacular dwellings by different audiences. This is the case of World Heritage sites travellers that in situ are able to use 3DPAST App and experience technology and augmented reality. It will also give a chance to non-traveller audiences, which by visiting 3DPAST website (www.esg.pt/3dpast) and platform, will be able to experience (e.g. through virtual reality) the exceptional significance of the World Heritage properties. Communication and dissemination activities can promote and enhance this unique and valuable vernacular heritage. 3DPAST project contributes to its worldwide diffusion, through different tools and outputs.

Communication tools and outputs

Development of 3DPAST Website and interactive platform

The development of the project’s website and platform was an activity transversal to the entire timeline of the project, focusing on the project’s aims, activities and outcomes. It provided an opportunity to document the missions; disseminate workshops, conferences and seminars; mirroring findings and the results of the project. Moreover, the website included a digital platform addressing the different project dimensions, displaying the reconstitution of some of the dwellings. The vernacular buildings deconstruction was also available through virtual reality at the project’s platform, shared with other websites.
and local platforms (e.g. local tourism interactive points). Both are relevant outputs for didactic purposes to different audiences. The website and the platform were created, maintained and updated by the project leader. Following the conclusion of the project, both outputs will continue active. The access to the platform is free, and can be reached at: esg.pt/3dpast/platform

**Development of 3D Past App**

To enable enhanced *in situ* visits with added information regarding the tangible and intangible heritage of each site, the project team developed the 3D Past App, which is available for IOS and Android Platforms. This App provides photos, in-depth texts, detailed drawings and 3D models of selected heritage. Using augmented reality (AR) technology. It allows the visitor to experience a richer visit, with exploded 3D deconstructions of selected buildings, using georeferenced location and target image markers. Through the juxtaposition of historic images and current visualisation, it is possible to understand the site heritage evolution. The 3D Past App also connects with the project book, enabling AR content from the publication images.

**Multimedia communication tools**

Several multimedia communication tools were produced throughout the project, namely an interactive digital e-book; an interactive digital e-booklet; an interaction design and underlying code for Apps; interaction design and code for virtual reality included in the multimedia platform of the project website; Videos of the selected World Heritage sites gathering the three dimensions of the project; but also videos of the different outputs, as well as the ‘making of the project’. 
Edition and publication of 3D-PAST From Vernacular to World Heritage book

Following the analysis, revision of the literature and content development, the systematisation of knowledge regarding the 3 dimensions of the project was produced. It was presented in a scientific book that gathered the main results developed by 3D-PAST research teams. The findings emerged from the elaboration of fundamental data collected at each site: through drawings, laser scanner data, digital images, interviews, tangible and intangible knowledge documentation, etc. The scientific book was sent to key-institutions working on vernacular architecture and World Heritage, which also play a key-role for the project’s dissemination in Europe, and around the World. The book has also been designed to interact directly with digital contents. The 3D-PAST App uses the camera of a smartphone or tablet, to recognise selected printed images of the book. Then, it overlays media on the top of the images, in the form of videos, 3D models, galleries of pictures and web pages. The digital book was produced for dissemination and it was made available for free download, contributing to open access and free transfer of knowledge.

Edition and publication of a booklet, digitally and in paper

Technical strategies for conservation of vernacular architecture, looking for to enhance best practices, were gathered and presented in a booklet, approaching, particularly, study and knowledge, material conservation, policy and management, and dissemination. This publication was produced through a printed booklet and a digital e-booklet, in five European languages: English, Spanish, Portuguese, Italian, and French. The booklet is also available for download, at the website of the project (www.esg.pt/3dpast/), contributing to the free transfer of knowledge, regarding the preservation of World Heritage, and, in particular, of vernacular dwellings.
Digital and Technical workshops for broader local and regional impact

This activity encompassed the identification of intangible knowledge regarding traditional techniques and materials, as well as its maintenance, still in use by local craftsmen. It also become an opportunity for international networking and transfer of knowledge regarding multimedia, virtual and augmented reality. This was just possible by the development of local digital and technical workshops, an indicator of capacity-building and knowledge transference as aforementioned.

Hands-on workshops on stone, wood and earth construction, aiming at the transfer of knowledge among high-school and university students, and involving craftsmen, architects and professors, were developed among the university institutions involved. This activity was also relevant, as it created a network of entities working on tangible and intangible heritage, but also on digital tools. As a result, technical and digital workshops in some of the World Heritage sites were developed, enhancing the knowledge transference, the capacity building of students, and interested people.

Dissemination of results

The results and outcomes of the project are intended to be disseminated in Europe and world-wide, as they were digitally developed and produced, thus breaking barriers and crossing frontiers in nowadays digital era. These outcomes are also devoted to the development of audiences, as they are intended for major interested people, such as: inhabitants of World Heritage Sites; architects and heritage professionals; traditional building and vernacular architecture experts; interaction designers; local developers; craftsmen and technical representatives from the municipalities. The project results are also intended to reach the general public, and to disseminate results across adults, elders, people with disabilities, students and children. It is also meant for tourists, or people interested in travelling or discovering new sites, who can personally find and rediscover this unique heritage through the digital produced contents on virtual and/or augmented reality.

References