The Temple of Brunello: Virtual Journeys to Enhance a Unique Product and Its Territory—Brunello di Montalcino Wine

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1   Company Description

ETT S.p.A. (www.ettsolutions.com) is a digital and creative industry specialised in technological innovation and experience design. It was founded in 2000 and currently employs over 200 people.

The company is a general contractor for experiential installations and complex information systems. From its Genoa headquarters and other venues in main Italian cities and London, ETT is a market leader in concept creation and the management of Italian digital cultural heritage, the design of information systems for smart governance job markets, and integrated smart city systems connecting cities, locations, and people. In order to do so, ETT uses technological innovation to enhance knowledge

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and experience systems. Gathering a wide range of skills in a single production system, ETT integrates innovative solutions in order to deliver specific digital solutions for process efficiency and optimisation. Specialist areas of expertise include tourism, cultural and landscape heritage, training, edutainment, corporate communications, fitting-out of spaces and corners, data management, and data mining.

Regarding cultural heritage solutions, ETT has been active for years in the new media field, in which it creates innovative applications, exploiting the potential of new technologies and combining digital design and advanced storytelling techniques, to create engaging experiences for museums and corporate and public spaces. In this field, since 2008, it has over 3100 multimedia installations for over 1000 museums and private customers, for over 6,5 million visitors.

In the latest years, according to the main developing and emerging trends in new technologies, special attention and research has been paid to create emotional experiences that could develop deeper levels of immersion in virtual spaces and in extended realities via parallel integration of design, storytelling, and cutting-edge technologies. In this scenario, the project Temple of Brunello finds its roots.

2   Project Summary

In order to react to a period of uncertainty, consortiums and producers have had to find a proactive response to the pandemic, implementing innovative virtual and immersive experiences to promote their products and their territories.

In Tuscany, the Temple of Brunello project consists in a multimedia visiting path, both physical and digital, which starts from the narration of a worldwide famous product, Brunello di Montalcino wine, and guides towards a deeper understanding of the Montalcino territory and its history.

In Montalcino, the experience starts in the medieval Saint Augustine complex, an ancient former convent that acts as the starting point of the immersive journey. The Temple of Brunello multimedia set-up was inaugurated in July 2021. The project has been commissioned to ETT by

Opera Laboratori, a leading Italian company in cultural heritage management and has been widely supported by the most important local stakeholders. The project, in fact, has been promoted by the Archdiocese of Siena, Colle di Val d'Elsa, and Montalcino, the Municipality of Montalcino, and the Consortium of Vino Brunello di Montalcino, and is the result of a solid agreement between the institutions and stakeholders involved. These stakeholders, in the difficult period of the pandemic and its aftermath, have worked together to ensure a bright and innovative future for Montalcino and territory.

The museum concept is based on the firm conviction that the wine journey does not end with merely a wine tasting experience, but increasingly represents a cultural phenomenon that can be communicated in an emotional way thanks to innovative and immersive technologies. The multimedia exhibition of the Temple of Brunello aims at promoting and enhancing curiosity towards the Montalcino territory through an experience that, starting with Brunello di Montalcino wine, tells the story of the area over the centuries. The link between the multimedia solutions and the territory is created by describing with the aid of different types of technologies its archaeological and artistic heritage, the landscape, and its precious products. The interactive and multimedia exhibits characterise the interiors of the complex and introduce, with suggestions and memories, the aspects that have made Brunello di Montalcino one of Italy's leading products: its bond with a unique territory, man's commitment and care, the evolution of production processes, stories, and colours of the breath-taking landscape. Brunello di Montalcino wine history is narrated to visitors in an immersive and interactive experience: combining heritage and innovation, the journey culminates with an encounter with the wine that has made Montalcino famous throughout the world, since the end of the nineteenth century.

3   Project Details

The main concept has been to seamlessly integrate physical and digital element, creating an experience that could touch different immersion levels on the *reality–virtuality continuum* (Milgram et al., 1994).

To do so, and to mirror this choice in the physical set-up created, a single narrative thread unites the environments that create the visiting path in the former convent of Saint Augustine. A conceptual and emotional crescendo accompanies the visitor in the discovery of the peculiarities of Brunello di Montalcino wine and the territory in which it is produced, of the work and passion that distinguish the protagonists of its history and its future evolution. Thanks to the narration of the close and constant link with the territory, the visiting experience takes the form of a continuous dialogue between the visitor and the atmospheres that contribute to making Brunello di Montalcino wine so unique, characterised and distinctive.

In the past few years, it has become more and more evident how the boundaries between physical and virtual content within informal learning environments are being blurred, such as cultural and tourism ones, where digital and virtual advances have been adopted as a means to promote engaging and meaningful visitor experiences. Museums and historical sites are gradually learning how best to create highly engaging instructional experiences by emphasising and highlighting particular aspects of an exhibit (Bressler, 2013).

Whilst in the academic field studies that investigate the level of use of extended reality experiences in museums are being carried out (Silva & Teixeira, 2022), it is reliable to assume that extended reality experiences can provide many different benefits in the creation of visiting experiences, for example, the ability to guide the visitors' attention towards aspects that otherwise may be overlooked by or unavailable.

In the Temple of Brunello project, starting from the physical set-up, technology has been integrated in solutions that could bring up intangible aspects of Brunello di Montalcino wine, connected to human led production, still happening today, and the stories and testimonies of the protagonists.

The multimedia itinerary unfolds on the ground floor of the former convent and in its underground spaces is characterised by the combination of various technologies that have been selected to enrich and enhance the naturally characteristic features of the rooms dedicated to the multimedia set-up. In order to create physical technological settings that could not only bring knowledge but also create deeper emotional connections

between museum visitors, and more in general tourists, and visiting experiences, one of the multimedia physical set-up examples is an Artwall created with monitors on two side walls and the floor. The monitors are set in a wooden structure that reminds of the roundness of fermentation casks, made out of real wood coming from production barrels donated by local producers (Fig. 1). Other multimedia solutions implemented in the visiting path are project mapping, touch exhibits, and immersive sound design.

Moving along the *reality–virtuality continuum*, the Temple of Brunello visiting path offers different solutions in which components of virtual and real-world environments are integrated, in order to guide the visitor towards immersive and engaging exhibits based on augmented and virtual reality, described in the following paragraphs.

Fig. 1 Artwall set-up in the first underground environment of the visiting path

3.1 InVolo

The visit begins in a covered cloister, an environment that connects the Temple of Brunello with the other two sections of the Civic and Diocesan Museum of Montalcino, the Sacred Art collection and the Archaeological collection, on display in the same building. In the covered cloister area, ten virtual reality stations are set up for the experience called InVolo, which literally translates to *in flight*. The virtual reality experience aims, through an emotional 360° video created with evocative shots and drone flights, to present a first view of the territory that with its unique soil composition and weather allows Brunello di Montalcino wine production.

By wearing virtual reality headsets, visitors can enjoy a spectacular flight over ancient villas and castles, to admire breath-taking views of the city centre, seen from above, and of the small villages in the vast and diverse municipal area. The most modern visual technologies allow an otherwise impossible vision of the typical Montalcino places and panoramas during the different moments of the day, from dusk to dawn, in 13 different locations connected to the main Brunello di Montalcino production cellars and the most evocative views of the area (Fig. 2). With an original soundtrack music to enrich the video, the virtual reality

Fig. 2 Still image from the virtual reality video

experience, strategically placed at the beginning of the visiting path, prepares visitors for discovery and aims to stimulate their curiosity.

3.2   Temple of Brunello: Panoramic Skyline Close to the Wine Shop, Bistrot, and Cafeteria

Moving forward in the visiting path, in an uncovered cloister, the Panoramic Skyline of Montalcino exhibit is the first experience that can be enhanced via a mobile app created for the project. The "L'Oro di Montalcino" mobile app is meant for guiding and expanding the visiting experience: with three proposed itineraries—Saint Augustine Complex, Montalcino, and Territory—it is meant to guide the visit both in the multimedia set-up and in the territory, allowing geolocalisation and presenting points of interest characterised by text, audio, gallery, video and other multimedia contents. Within the physical itinerary, the mobile app makes it possible to activate various contents, favouring interaction between the visitor and the multimedia exhibits, allowing a deeper level of experience customisation. In the uncovered cloister, the interaction between the mobile app and QR Codes presented on the Panoramic Skyline of Montalcino presents 360° spherical photos of the territory. In this way, as well as intriguing visitors by giving them a broad overview of the area's cultural offerings, it allows a virtual and privileged visit to sites and places that are not always open or easily accessible.

The uncovered cloister is also the area that leads to the Wine Shop, the area dedicated to wine tastings and moments of conviviality. The invitation to enter the Wine Shop is related to another augmented reality activated experience: by using their personal device as a remote control, the visitor can take the lead of an interactive window shop. By answering some questions about his or her preferences and feelings, the system will elaborate a profile of the user and animate the interactive showcase with a suggestive video regarding the territory and its beauties, customised on his or her choices.

Furthermore, according to the detected personality, the app will propose a selection of recommended wines produced by local wineries and on sale in the wine shop. By creating an emotional connection between

one's own personality and the recommended wine choices, the interaction with the shop window allows it not only to guide the visitor's tasting and purchase experience, but also to connote it as different from what the user may have experienced in similar tourism occasions.

3.3   Augmented and Interactive Shelves in the Wine Shop

Inside the Wine shop, the shelves provide a new interactive experience, offering an in-depth look at four macro-categories of wine. Using the "L'Oro di Montalcino" mobile app, visitors can access additional content and videos that allow them to select and better appreciate the wines on display. These are an integrating part of the store set-up, as they show visitors ever-changing and updatable compositions of images and videos, based on the types of bottles on display and their periodicity. The augmented shelves allow visitors to scan QR Codes (Fig. 3), again using the mobile app, and autonomously access in-depth content.
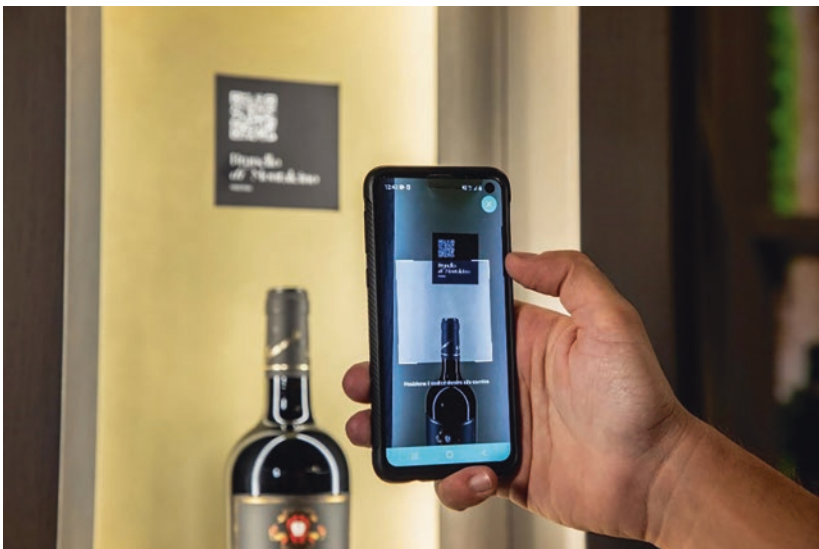

Fig. 3   QR Code scanning to activate in-depth content

4   Feedback from End Users

As the project was recently inaugurated, analytic information and feedback from end users are not yet available. The most significant data set currently available is the number of downloads of the mobile app, which amounts to 1869 downloads from the Google Play Store and 1461 downloads from the Apple Store.

5   Future Outlook

The Temple of Brunello project can lead to interesting future developments, either to improve the project itself or export it to other contexts. An interesting proposal may lead to the creation of new thematic itineraries, which can further enrich the visiting experience of the city of Montalcino and the surrounding territories. In addition to this, the "L'Oro di Montalcino" mobile app can also be enriched with additional content in augmented reality, providing further insights into the Temple of Brunello.

Thanks to its flexibility and modularity, the project itself can be replicated in further similar contexts, such as other wineries or excellence products both in Italy and abroad.

6   Conclusions

The creation of highly immersive environments, based on the combination of real-and-virtual settings, allows extending visiting experiences and widening the possibilities of fruition and discovery. The construction of virtual and augmented reality experiences allows the implementation of multimedia journeys, where visitors are guided to discover new points of view, in order to understand their multiple implications and facets. As evidenced by the Temple of Brunello project, the integration of extended reality solutions in physical multimedia set-ups can lead to a more complete exploration of an excellence product. The use of multimedia

solutions, connected to different areas of the *reality–virtuality continuum*, can guide the creation of deeper emotional engagement in the knowledge of an excellence product like Brunello di Montalcino and the territory where it is born, its history, art, landscape, and traditions. Simply by wearing virtual reality headsets, entering an immersive multi-projection area, or exploring information via a dedicated mobile app, storytelling can be enhanced and enriched in order to create memorable experiences.

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