

# Using AR Illustration to Promote Heritage Sites: a Case Study

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## Abstract

The Precettoria of Sant'Antonio di Ranverso, property of the Fondazione Ordine Mauriziano, is an extraordinary museum complex recently interested by a global effort to promote the site, an effort that since 2020 has taken a new direction.

Thanks to the site's richness in history, art, and anthropologic elements, for the second year in a row the Techniques in Visual Arts course at the Libera Accademia d'Arte Novalia was able to work on an educational and promotional project aimed at reaching a wider audience, specifically targeting the youngest visitors.

To reach this objective, the course focused on exploiting the possibilities offered by augmented reality, both as a way of spreading the knowledge of the site and to address a younger audience with educational content.

## Keywords

augmented reality, heritage sites, Accademia Novalia, educational services.



## Goals

The Precettoria of Sant'Antonio di Ranverso [1] is a museum complex including an abbey, a church, a hospital and a few buildings used for farming; founded by the Hospital Brothers of Saint Anthony of Vienne, it is located not far from Turin, at the entrance of the Susa Valley and along the pilgrim route of the Via Francigena (Fig. 1).

The monastery was built at the very end of the 12th century and the complex was completed in the 15th century, which accounts for the Gothic style of the church and the hospital. Especially interesting, among its many works of art, are the frescoes (Fig. 2) painted by Giacomo Jaquerio, one of the main artists of the International Gothic, active in Piedmont at the beginning of the 15th century, and the polyptych by Defendente Ferrari depicting the *Nativity*, dated 1530. Over the last years, works have been carried on to restore the site, establishing new tour routes and increasing the number of visitors: this project, co-authored by Libera Accademia Novalia and the Fondazione Ordine Mauriziano, is part of that initiative, which has now reached its second year.

Since its outbreak in 2020, the Covid-19 pandemic has affected the Precettoria in different ways: negatively, with the closure and the drop in the number of visitors (above all students), but also positively, giving new stimulus to the digital contents renovation process, leading to small but significant steps.

Before the emergency caused by the pandemic, nobody deemed necessary to update the fruition of the site, which happened almost exclusively in person, with tour guides, printed maps and info pillars, but there was also no drive to reach a new audience, based even far away from the Precettoria.

Now the way the museum complex is interacted with has changed greatly, owing mainly to digital content: thanks to social networks and other channels, the Precettoria of Ranverso is now always accessible, along with its stories, pictures and anecdotes, having now built a stronger and more intimate link with the online users and reaching a much wider audience than the one physically close to the site itself.

Additionally, the forced absence of the vast majority of visitors from schools was the starting point of a new project aimed at spreading knowledge and engaging with the youngest visitors, usually aged 10-18, who would have previously benefited from guided tours tailored on their needs, but instead had soon become the least attracted by and interested in the museum complex.



Fig. 1. Precettoria of Sant'Antonio di Ranverso.



Fig. 2. Frescoes inside the Precettoria of Sant'Antonio di Ranverso.

To this end, a collective decision was made to leverage the potential of augmented reality as a basis for the Accademia's students' projects. This proved beneficial to the diffusion of knowledge about the site on new channels and with new languages: for instance, the symbols and ornamental motives embellishing the doors and the abbey became stylized markers, while events from the life of Saint Anthony were translated to short stories and anecdotes to be shared on Instagram. It is indeed possible to recount the Middle Ages, the saints' lives and the fascinating world of Medieval pilgrims through these means, maybe unconventional but certainly effective.

## Methodology

The first project involving the Precettoria, over the course of academic year 2019-20, resulted in the design of a QR-code augmented map to be used as an audio-guide: the map was presented at the Museum Week 2021 and is still proving to be a useful resource.

On that occasion, a preliminary analysis of the needs of the museum complex was carried out, but in the new scenario after Covid-19 an update of the results was due. The huge task of examining and understanding the needs of the visitors, of the Accademia didactics, and of the site has been the first step of our new project, as summarized below.

Precettoria's needs:

- A new, engaging tool aimed at an under-18 audience, to be shared independently and with a greater duration than the time required to visit the site.
- New content for social media channels.
- An increase in online followers, to be translated into new visitors.

Accademia didactics needs:

- Enhance the students' skills while looking for a meaningful way of applying their knowledge of art history and painting techniques to the actual management of a museum.

Visitors' needs:

- Exploring the site, also online, as a mean to prepare for a future visit in person.
- Smart content specifically designed for a younger audience and that can be shared easily on social media.

In the second step, the students had to acquire the necessary knowledge regarding the site and its works of art but also about the new technologies they were going to employ. The Precettoria management provided us with information, images, maps, and the opportunity to speak with personnel, granting also free access to the site. In order to master the new technologies, a basic training proved necessary: despite the students' familiarity with augmented reality and social networks, their knowledge of terminology and specific languages was limited.

Our students had to learn the basics of the software Spark AR, distributed by Facebook/ Meta to specifically use augmented reality on Instagram and Facebook. This free software has several strong points: it doesn't require coding as it resorts to block coding, it offers templates and extremely clear documentation, and it is easy to learn.

While studying the Precettoria and its daily activities, our students also researched museums comparable to Sant'Antonio di Ranverso, both in Italy and abroad, understanding the various planned activities and differences in audiences, comparing them, evaluating their effectiveness and their weak spots.

At the end of this painstaking task, our students start the actual design phase:



Fig. 3. Examples of a student-created Personas (Anna Cerato and Alessandro Pietramolla).

- First, they created corresponding to the type indicated in our survey, that is, young people in the age group between 10 and 18 years.
- Second, have they designed the Personas-based filters (Fig. 3).

The final projects presented by our students belong to three categories:

- Markerless in selfie-mode: users can take selfies with the main characters of Sant'Antonio di Ranverso, most notably a black piglet, characteristically attributed to Saint Anthony and for this reason chosen as the site mascot, and share them on social media (Figs. 4a-4b); the aim is to reach an audience that is not yet familiar with the site and increase visits to the Precettori Instagram profile.

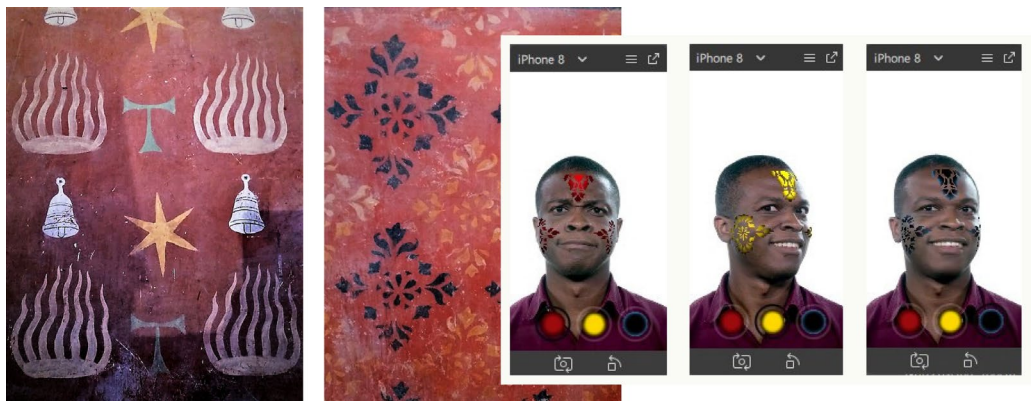


Fig. 4.a. Selfie-mode filter, face decorations inspired at original Precettori's paintings (Marianna Luberto's first proposal).

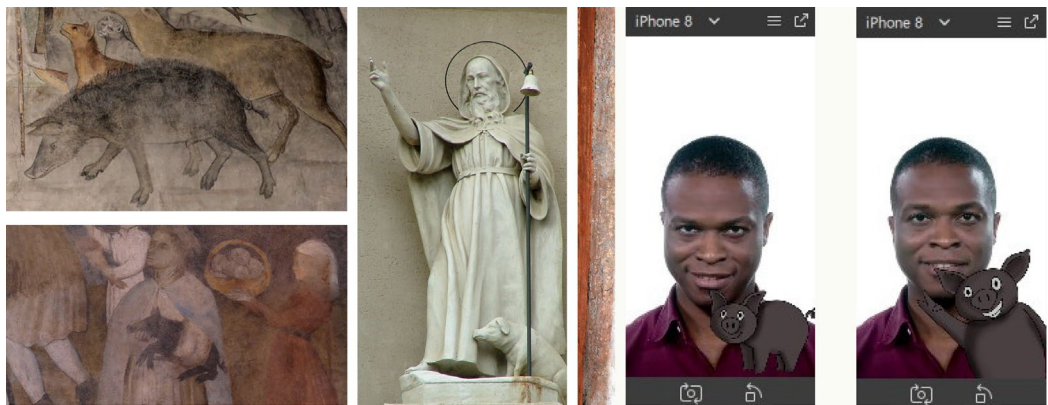


Fig. 4.b. Selfie-mode animated filter, a selfie with Ranverso's mascot: Sant'Antonio's pig (Marianna Luberto's second proposal).



Fig. 5. Markers printed on freebies, first users test (Beatrice Forno).

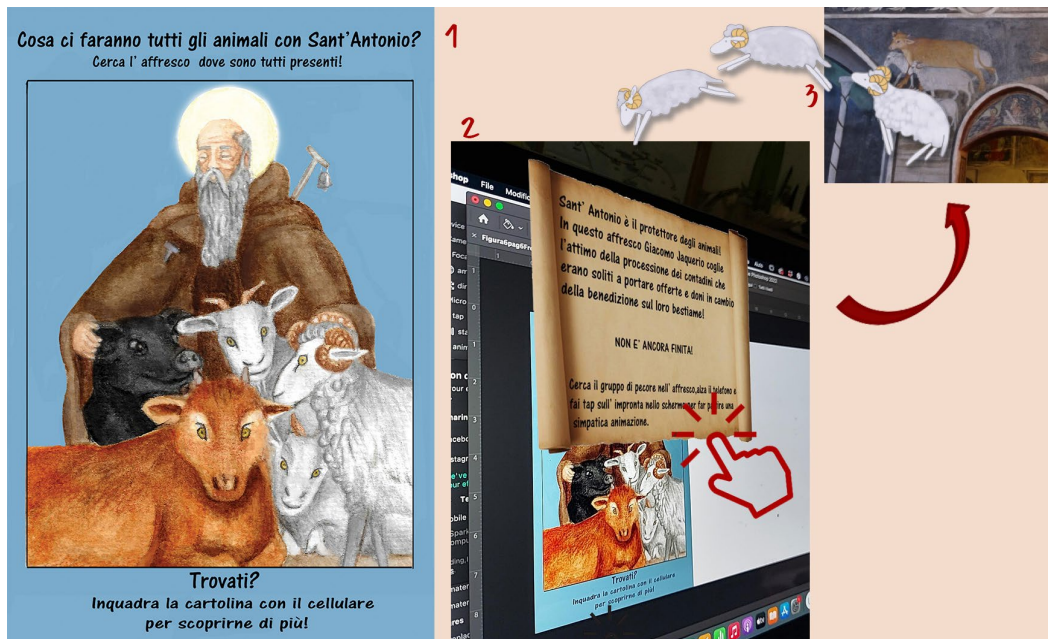


Fig. 6. Markers printed on freebies, user's journey first test (Anna Cerato).

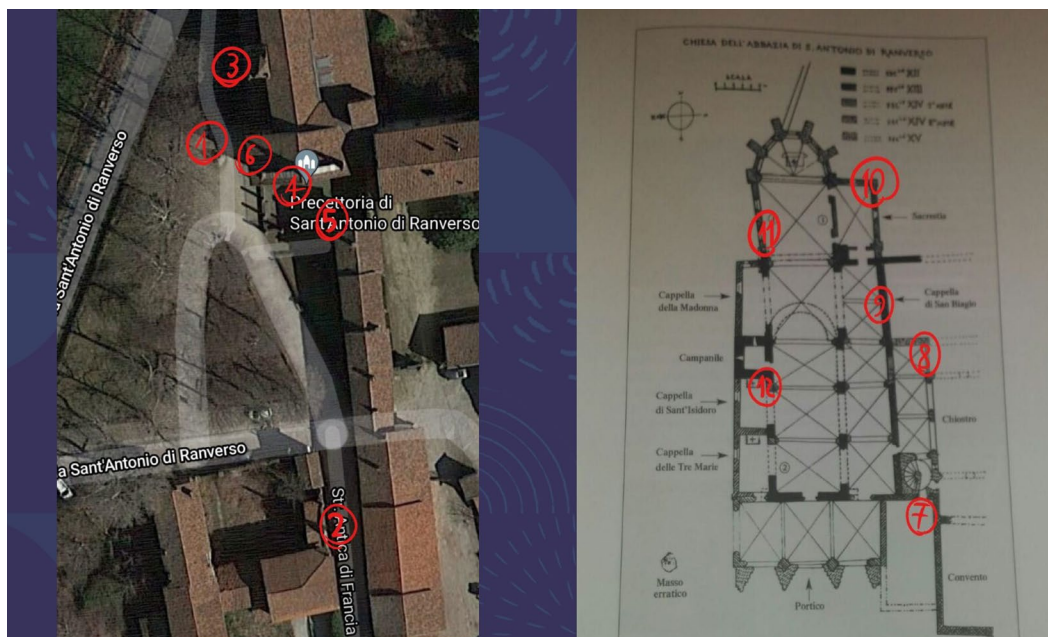


Fig. 7. Treasure hunt in AR, map of the stages (Sacchet Emanuele).

- Markers printed on freebies, such as postcards and posters (Figs. 5-6): the aim is to entertain the audience while teaching them about the site; freebies can be virtually shared on social medias but also printed and gifted to friends.
- Filters for the gamification of the visit route: the AR markers placed on the site in a specific order allow the users to find clues to solve treasure hunts and mysteries (Fig. 7).

## Conclusions

By the end of the course, notable projects had been produced (especially for first-year students) while the level of engagement stayed high and Spark AR proved to be a valid and easy-to-use tool.

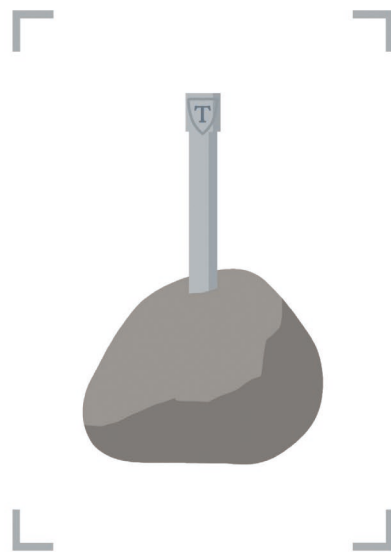


Fig. 8. The original erratic boulder, the marker, and the QR code for the demo filter by Francesca Rocchia.

The SparkAR software, therefore, confirmed the expectations, despite some intrinsic limitations (the use of the filter only on social platforms and the choice to start from a template), allowed the students to independently experiment the whole process of creating a complex digital object (Fig. 8), from the design of the user experience to the final phase of product testing.

The main hurdle was the students' low familiarity with the testing phase and with different devices, and also the general shyness shown in giving a feedback to their classmates, despite being explicitly requested. Unfortunately, the testing phase is still not yet considered a quintessential part of the development of a project and is wrongly perceived as a critique to the quality of the project itself.

Spark's block programming was also a good start to understanding the workflow and logic behind an AR project without the necessity of writing code, a competence not currently foreseen in our study plan.

We are now waiting for the results of the interaction with the users.

#### Link test:

<https://www.instagram.com/ar/700315888010344/?ch=NmU5M2E0OGU2Y2N-jNTcxNTRhMzhmNmMIYWZkZjM5NDQ%3D>

#### Notes

[1] The site of the Precettoria belongs to F.O.M. Fondazione Ordine Mauriziano, also owner of the Palazzina di Caccia of Stupinigi and the Abbey of Staffarda (<https://www.ordinemauriziano.it>).

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