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DI PADOVA

DIPARTIMENTO DEI BENI CULTURALI:
ARCHEOLOGIA, STORIA DELL'ARTE,
DEL CINEMA E DELLA MUSICA

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OBJECT: PROGETTO EMOUNDERGROUND – PROJECT ADRION n. 905. CUP n. C94D20000020001.

Wpt2 – Design and development of emotional innovative joint paths across transnational cultural undergrounds.

RELATION ACTIVITY 01.07-31.12.2021

WPT2 – Design and development of emotional innovative paths in the undergrounds of Palazzo dei Pio according to methods of transversal cultural enhancement

Final report

The activity carried out within the project EMOUNDERGROUND, WPT2 – *Design and development of emotional innovative paths in the undergrounds of Palazzo dei Pio* according to methods of transversal cultural enhancement was developed following two ways of research : on one hand the collection of written documents and graphics about the architectural complex; on the other hand the digitalization of contents through the Building Information Modeling method and the design and production of multimedia outputs. Activities were conducted in a coordinated and interdisciplinary way by professor Elena Svalduz and they produced synergic results, reflecting the need to integrate historical and representative aspects in the same shared goal.

The results gradually acquired during the research (as well as collected materials, architectural reliefs and the lines of development of the various multimedia outputs) have been defined through a series of meetings together with the director of Palazzo dei Pio's Museum.

According to the projectual theme, the need of creating an emotional impact was put at the heart of the reflection we shared. So we tried to develop systems that make usable the dynamic changes produced by the transformation of the structure during the centuries. In particular we identified the

old way of access in the building and its transformations, trying then to interpret it in a wider way up to find an interoperable reading system of the whole urban settlement.

From this point of view, outputs were conceived as a gateway both to the development of the noble palace (this one renovated and adapted to its future destination) and to the town of Carpi. So we have a double interpretation of the paths (from palace to urban structure) that represents a peculiar feature of little towns in Italy: they were subject to an extensive transformation as a consequence of the lord's ambition. This ambition translates exactly into a reorganization of buildings and areas of the palace: they were connected through new paths in turn linked to a completely renewed city.

A.T2.1 – Study and analysis of the site

The research has been carefully planned and adapted to the characteristics of the two cultural sites we identified at the preliminary stage: the Torrione degli Spagnoli and the Sala del Guerriero.

The study and collection of sources, part of them already known to studies, particularly concerned the documents of the Municipality of Carpi's historical Archive and the State Archive of Modena.

We put a particular attention to historical maps as the series of views and maps of the town of Carpi; plans of the Palazzo dei Pio (or a portion of it), dated from the 15th century until today, were systematically analyzed and studied through the new perspective required by the project.

Two types of descriptive forms have been prepared in order to make the examination of documents more comprehensible and to allow an easy reading by the research team. The first descriptive form is about archive documents, the second one is about cartography. Master data have been presented uniformly in each form (title, author, dating, location, register, description); there is also a section in which some more interesting elements are highlighted with regard to the research areas : Torrione degli Spagnoli and Sala del Guerriero.

Simone Fatuzzo dealt with this first part of work conducting the archive research, studying documents and developing forms; every step was done in close dialogue with the other team members.

A.T2.3 – 3D reliefs, photographic and photogrammetric campaign of the site

Once the material was collected, it was possible to develop a reconstruction of the building stages, especially for the Sala del Guerriero. The comparison between the existing building – that is a complex architectural palimpsest – and the findings of the reinterpretation of the documents allowed us to reconstruct more precisely the building history during the centuries. We could also suggest some new and more detailed hypothesis concerning the transformations of the palace between the middle age and the modern age.

In the second part of our work Andrea Momolo, assisted by Professors Andrea Giordano and Rachele A. Bernardello, translated historical data and architectural elements of the BIM model's relief into digital contents. He used two different techniques for the digital relief: Terrestrial laser scanning (LIDAR) and digital photogrammetry. This allowed us to obtain a complete documentation on the current status of the two areas from an historical and geometrical point of view.

Through BIM methodology, spaces were rebuilt and geometrical, historical, informational and relational data were digitally implemented. In the informative model we also mapped lost and hidden elements, highlighting their relationship with those still existing.

So we obtained an interoperable analysis through the models and their dual role: first a role of knowledge in order to document and verify historical transformations of Palazzo dei Pio; then an educational role being the main subject of museum path.

A.T2.4 – Virtual, digital and multimedia contents production

Concerning multimedia contents production, the research team defined the storytelling to be implemented through the more innovative techniques of artistic heritage enhancement; then we finally produced them.

In this area, videos welcome visitors and illustrate the context through three themes:

1. general context, from town to palace
 2. decorations as a trace for architecture
 3. accessibility and levels: ancient and modern accesses. The door as access to urban development.
- Multimedia contents will be accessible to visitors also by a webapp; this one is under development (A.T2.6)

A.T2.5 – Design and development of technological, multimedia and interactive installations

Multimedia contents are realized by video immersive installations placed in Sala ex Poste, a room in Palazzo dei Pio (see the attached plan), seat of Incarpi – promotion and tourism office.

This is the first space upon entering in the Palace that visitors meet; in this room they can receive the first information about the palace history, paths and how to visit: tourists can buy the Carpicard and enter, physically and virtually, to the network of monumental sites, museums and nature sites in our town and territory. It's really a "gateway to knowledge".

The space is divided into three parts: first the central room in which the Incarpi's reception is placed. Then in the next large room, the museum path begins: here visitors can see three immersive video projections, on screens and also in videomapping model, through a shaped projection on architectural elements. Projectors are placed on supports (a kind of column) so that the three multimedia contents, being synchronized, can dialogue with each other and with visitors.

The length of videoprojections is about 10 minutes.

Finally visitors enter in the Guerriero room: this is an underground space at present, but until the 15th century it was one of the access door to the palace. Here visitors can find a multimedia installation on holographic screen, reproducing the architectural development of this area.

Padova, 23 dicembre 2021

In fede

Elena Svalduz

