

# Between Memory and Innovation: Murals in AR for Urban Requalification in Angri (SA)

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## Abstract

The present paper reports about a recent urban acupuncture project, *Augmenting Angri*, started with its first edition in 2020 and carried on in the small city of Angri (SA). The project has adopted the city of Angri to test appropriate techniques for the enhancement of local cultural heritage, experimenting the attractiveness and easy access to digital content offered by recent augmented reality apps, with the aim of engaging the local population in. The project therefore falls in the field of digital humanities for the enhancement of cultural heritage through ICT but, at the same time, it is also in the field of urban art, especially street art, very popular in the last two decades in Italian cities. According to a Urban acupuncture approach, we combined some advanced digital representation techniques to the traditional painted street art, designing the interaction of physical murals with digital content overlapped through augmented reality.

## Keywords

street art, Generale Niglio, ecomafia, urban acupuncture, cultural heritage.



## Urban Acupuncture in Angri

During the last decades, the most diffused interventions in the contemporary city are characterized by actions of recovery, redevelopment, regeneration and requalification of degraded and abandoned spaces. Bottom-up, low-cost and fast practices are spreading quite everywhere to achieve redevelopment effects very quickly, sometimes in anticipation, sometimes in compensation to the longer timelines of the traditional top-down urban planning.

We refer to urban acupuncture interventions and tactical urbanism actions, able to regenerate small public spaces, rebuilding the identity's sense in the local communities. These are two broad categories of actions characterized by different participatory practices but both able to revitalize degraded areas in the city [Lerner 2013].

Urban acupuncture recalls the Eastern therapeutic technique that, by means of punctual and targeted pressures, manages to spread the benefits to the entire city, considered holistically as an organism. The urban acupuncture uses the same methodological principles of the Eastern practice in the identification of those sensitive points capable of generating positive flows in the city. It is also characterized by local communities' participation both in the construction phases and in setting the vision for a transformation scenario that could be quickly implementable, in response to the urgent local needs. Such actions are designed to be characterized by flexibility and reversibility. Urban acupuncture "not only" transforms places by means of physical actions, but also it generates, in the local community, the ability to recognize and give value to degraded and abandoned spaces.

The present paper reports about a recent urban acupuncture project, *Augmenting Angri*, started with its first edition in 2020 and carried on in the small city of Angri (SA). The project has adopted the city of Angri to test appropriate techniques for the enhancement of local cultural heritage, through the involvement of the local population in experimenting with new forms of use based on the attractiveness and ease of access to digital content offered by recent augmented reality apps. The project therefore falls in the field of digital humanities for the enhancement of cultural heritage through ICT but, at the same time, it is also in the field of urban art, especially street art, very popular in the last two decades in Italian cities. We experimented and tested to add advanced digital representation techniques to the traditionally painted street art, designing the interaction of physical murals with proper digital content, overlapped to the mural by means of augmented reality's app.

The leader of all these actions is the Department of Architecture of Federico II University of Naples, with the scientific responsibility of proff. Alessandra Pagliano and Paola Vitolo and the participation of students enrolled to the Master of Science in Design for the Built Environment.



Fig. 1. Urban acupuncture map in Angri (2020-23).

Fig. 2. Square dedicated to General Gennaro Niglio: photo-installation of murals in AR.



The project is based on a careful design, at the urban scale, of medium and long term interventions, based on acupuncture techniques. The aim is to carry out high impact and low cost tactical actions in sensitive places of the city, thus creating a networks of thematic routes, intended as narrative paths connecting widespread locations.

The goal is to overcome the difficulties of the current urban fragmentation through the attractiveness of strong thematic connections, as a continuum among widespread presences. It is about linking cultural heritage assets, ancient and modern, into thematic networks, a transverse corridor between places, made of real movements together with virtual paths of knowledge. These networks have been designed to start from the historic centre, exactly the Angevin village, then woven with other thematic routes in the neighbouring areas of the modern city; from each thematic network, we designed proper points of connection that push towards other nodes belonging to another thematic net. By connecting knowledge our aim is to produce also real physical movements in the city. The unifying element of these paths of re-development and enhancement ancient and recent cultural heritage, is the use of augmented reality as a communicative tool of proven attractiveness, able to trigger virtuous phenomena of involvement, in very transverse age groups, thanks to the attractiveness of digital content added to the real space. Augmenting Angri is addressed first to the local communities and customized for them.

*Augmenting Angri* thus becomes an infoscape project (Iaconesi, Persico 2017) for the local cultural heritage, based on the integrated use of different digital technologies, in order to promote effective forms of communication and interaction between the physical and digital worlds, in a network of cultural places and paths. Each "place" becomes a "node" of a network, made by the intersection of thematic paths drawn and aimed at redefining a new landscape, made of in situ visits and immersive experiences in digital spaces, physical relationships between places and / or connections only of a cultural nature, to generate information and knowledge. In this way, a new relationship between information technologies and the organization of the territory is structured, with the primary purpose of valorisation.

### Augmenting Angri Second Edition: New Murals in AR for the Legality

The 2020 edition of the *Augmenting Angri* project was dedicated to preserve the memory of about twenty murals located in the historical centre by means of designing an innovative valorisation path based on storytelling, animations and digital restoration of the old murals, often damaged and sometime definitely lost [Pagliano 2020]. Since it was not possible to carry out a pictorial restoration of the remaining painted images, and since we also did not consider appropriate to remake (re-paint) those of them which completely disappeared,

the aim was to preserve the memory of that fruitful interaction, made in the early eighties, among the beauty of the murals, their social message and the urban regeneration that they activated in that concentrated urban context.

We installed an exhibition path made by small printed panels, directly affixed onto the façades and containing some markers activating augmented reality contents; in this way it was possible to bring the disappeared murals back to their original location.

All the remaining murals, in most cases only partially visible, were reproduced in their original state, also enriching each artwork with additional narrative contents. Augmented reality digital contents, superimposed to the physical reality, create a surprising relationship among three different spatial dimensions: the perspective space represented in the mural, the digital space of the augmented content and the real one of the urban environment that is physically experienced by the public. The positive acceptance of the open-air exhibition by the citizenship, which has become the guardian of the installation, still free of any vandalism, has prompted us to replicate a similar experience of urban redevelopment, through a new project of street art in AR, this time located in a peripheral area of the city, near a large parking lot frequently used by citizens and by people arriving to Angri from neighbouring areas.

Urban art is increasingly responding to the collective demand to improve the aesthetic quality of cities, as it can change the perception of a place through culture and creativity and thus promoting positive impacts on built spaces in the local community, reconfiguring the perception of spaces. Urban art can raise issues otherwise unexpressed, interpret the malaise of the local community and denounce degradation both social and physical. In the last decade, murals have transformed from spontaneous works of denunciation to art installations commissioned by the public administration. So, creativity at the service of the local community can facilitate to interpret and express the feelings of the inhabitants. In the edition of *Augmenting Angri 2020*, thanks to the contribution of the Embassy and Consulate of Milan of the Netherlands was painted also a new mural by the artist Dünja Atay at the outdoor spaces of the Istituto Comprensivo Statale Don Enrico Smaldone in Angri, in a popular neighbourhood near the historic centre. The augmented reality exhibition in the historic centre and the new mural by Dünja Atay (which also makes use of an expansion of the narrative content thanks to the animation of the painted shapes when framed by an appropriate augmented reality app), represent two strategic nodes through which the second thematic network of routes among contemporary street art paintings, in the suburbs close to the city centre, is put in contact with the murals in AR of the historic Angevin village. In fact, the local administration has recently commissioned Marta Lorenzon and Nicholas Perra to create a majestic mural in the Alfano district dedicated to the patron saint, St. John the Baptist, towards whom the local population feels a deep and still well-rooted devotion.

Also dedicated to San Giovanni is the recent mural painted along the perimeter wall of the Novi stadium by the artist Diego Tortora. These are authorial street art installations, commissioned by the local administration for the city, and an expression of the painter's artistic sensitivity in interpreting places and characteristics that are predominant in the local culture. In this network of recent murals in peripheral areas, the Dünja Atay's one acts as a *trait de union* between the thematic paths of the murals of Via di Mezzo and the new one under construction, thanks to the same digital technology adopted to expand the communicative potential of the works, i.e. the open source augmented reality app, adopted as an advanced representation tool and as a digital expressive medium also in the second edition of *Augmenting Angri* by DBE students.

The second edition theme was to give value to the toponymy of the installation site, dedicated to the Carabinieri General Gennaro Niglio. The purpose is to increase the attention of the local community towards the memory of his battles against local crime.

Here too, the project is based on the narrative capacity of the murals once augmented by digital content: citizen can establish with them an interactive relationship of fruition in support of the learning and knowledge process.

The aim of the new mural series is to underline the courage, the value and the determination of General Niglio in his fight against illegality.

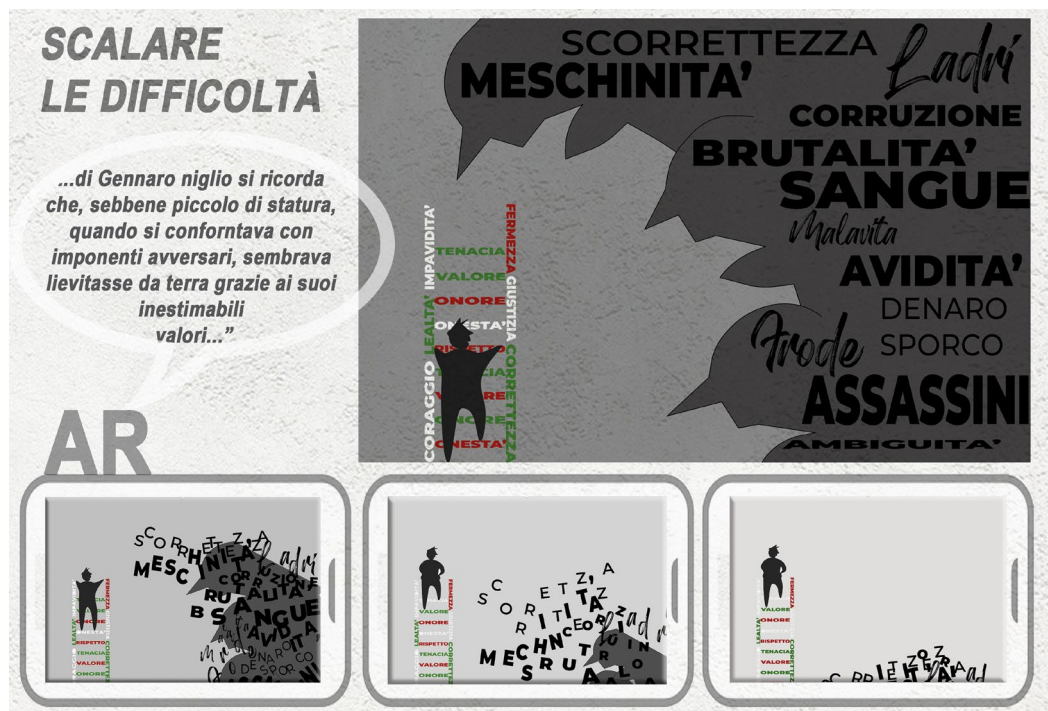


Fig. 3. Climbing the hardships: the mural and a brief extract of AR digital contents.

With an intuitive and high-impact language that combines the pictorial expressiveness of the painted murals with the captivating expansion of its digital contents, that appear overlapped to the murals, AR integrates and expands the storytelling of each image; the goal is bringing to life the memory of a little-known local hero, to whom numerous honors have been dedicated by virtue of his constant commitment in the fight against mafias and in particular ecomafias. The motion, the diachronic development of the story, the emotional factor due to the surprise of the visual epiphany and the possibility to interact with the new digital configurations, generates a playful dimension related to the freedom of individual exploration, in a phygital reality [Zurlo et al. 2018] where the physical space is integrated and collaborates with the digital one. Each mural narrates an episode of his life, such as: the murder of Simonetta Lamberti, the awards and honors he received, the fight against ecomafias, his death and an invitation to a more active involvement of local populations in the fight against mafias of all kinds.

In order to fully enjoy the compositional and narrative aspects of the murals, it is necessary to download the free ARTIVIVE app and frame the image painted on the wall, which thus seems to come to life thanks to the animation of the static signs painted. Students have designed eight murals in a site-specific installation of the long wall between the residential area and the parking lot; the installation, strongly influenced by the pop art culture prevailing in contemporary street art, according to an appropriate sequence of murals narrates the main stages of the general's life, unfortunately totally unknown to young people, and his tireless fight against mafias. The redevelopment of the square through the positive impact of traditional street art, consisting of about 30 meters of painted wall, is enriched here with a further social value, that of the narration of an important character of recent history of Campania, whose actions are proposed by short animations that give life and movement to the painted shapes of each mural, superimposing them digital contents, specifically designed since the beginning as an integral part of the mural itself.

The static image of the mural was in fact traditionally conceived as a pictorial work in function of the artistic and visual impact on the real physical scene, in its calibrated proximity to the other murals, but the instant crystallized in those static and coloured forms is only the most significant extract of an animation that brings that frame within a flow of images sounds and narrations that expand the time of the portrayed scene and consequently the

message conveyed by the traditional mural. Augmented reality therefore provides additional perceptual and cognitive dimensions added by digital content to the perspective fixity of traditional murals: these are animations that, superimposed on the painted forms, create a narrative that expands the artistic meaning of the single work through the interface of your smart device.

Today, the capability of cultural heritage to arouse emotions, establish links and stimulate curiosity can become effective if we consider that contemporary users have completely changed: they are both 'digital immigrants' and 'digital natives' with different expectations, pre-existing knowledge, historical/cultural backgrounds and interpretative strategies.

The students of the Design for the Built Environment course were encouraged to address their project to this new audience, uncovering the evocative power of each mural to develop and enhance its storytelling. From a purely perceptual point of view, a new spatiality is created through the addition of digital content aimed at expanding and enlarging the physical dimensions of real space. These are ephemeral spatialities, illusory depths and animations, that exist only in the interaction with a smart device, which is increasingly asserting itself as our filter in perceiving the world, because capable of conditioning perceptions and actions.

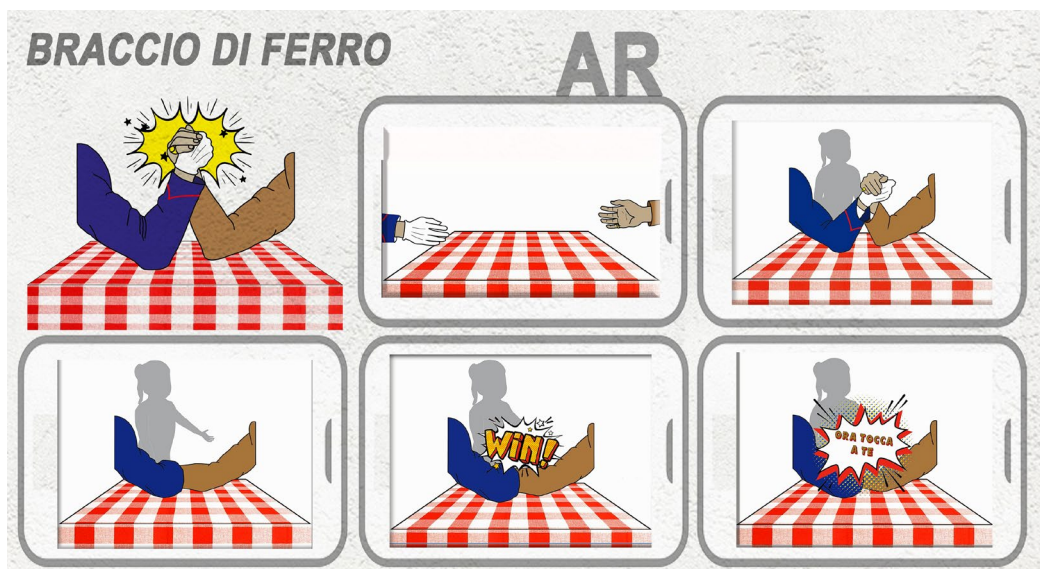


Fig. 4. *Armwrestling*: the mural and some images from digital contents in AR.



Fig. 5. *I refuse!*: the mural and some images from digital contents in AR.



Fig. 6. You're not alone! the mural and some images from digital contents in AR.

There are eight murals and they deal with different themes, such as: the murder of Simonetta Lamberti, awards and honours, ecomafias, the mysterious car accident and an invite to social activism.

In the mural dedicated to the General's battle against ecomafias, in the augmented reality animation, the painted toxic bonfire comes to life thanks to the flames that sway in the wind, but then they gradually dies down to become a green meadow in which emerges a single flame, this time with a positive value, the symbol of the Carabinieri to indicate the General's fight against these criminal organizations. The writing "I refuse", which appears at the end of the animation, is deliberately declined in the first person, to convey to the viewer a strong message of awareness to active social participation in the fight against these criminal acts.

The mural titled "Non sei solo!" (You are not alone!) is an invitation to take active part in the fight against the organized crime. General Niglio is represented on the wall surrounded by vague coloured human silhouettes, among which the observer is invited to take his own place to be portrayed together with the general. The expansion of the narrative content of the painted static image is particularly effective here because, framing the mural, the undefined silhouettes become instead real people, of various ages and ethnicities, ready to affirm their support to Gennaro Niglio, but in general to all those heroes who are frequently left alone during their dangerous fight. All of them loudly state "You are not alone!".

With the aim of involving the local community and especially young people in the rediscovery of this fragment of recent history, and of sending an invitation to awareness and social participation, the murals, initially designed for the nearby area, will be painted in spring 2022 on the wall in front of the entrance to the high school "Don Carlo La Mura", whose manager, Prof. Filippo Toriello, has already expressed the broadest willingness of the High School to offer adequate support for logistical and organizational aspects, because the same school hosted the inaugural ceremony when the nearby street was dedicated, in 2014, to Gennaro Niglio. In the new but nearby location of the school, the installation is thus designed by young students with the active participation of even younger local students. Our project is also in line with the recent cleaning actions in some cities of Campania region aimed at removing Camorra's symbols, illegally painted in form of murals praising small and big bosses, using the strong communicative effect of street art to engage small children who can be inspired by the ideals of violence and abuse represented by these people. The inaugural event of the installation will take place in spring 2022 in the presence of local political figures and the family of General Niglio to whom the project is dedicated.

Augmenting Angri has also been selected by the Falcone Foundation, in agreement with the Ministry of Universities and Research (MUR), the Conference of Italian University Rectors of

Italian Universities (CRUI) and the National Council of University Students (CNSU), through the call for proposals "UNIVERSITY FOR LEGALITY – V EDITION", for presentation at the event of November 22, 2021 at the Aula Bunker of the "Ucciardone" Prison in Palermo in the presence of the Minister of University and Research and the President of the Falcone Foundation.

## Conclusions

The aim of *Augmenting Angri* project is to test the communicative potential of augmented reality applied to different case studios, selected according to Urban acupuncture strategies in order to enhance the single cultural asset but also the whole city, intended as a live organism according to the oriental holistic approach. Augmented reality digital contents are site specific and properly adapted to the single asset. Digital contents have been designed to virtually restore lost and degraded murals, to expand the painted image adding a new spatial and narrative dimension, to disseminate Angri's cultural heritage to the same local population especially in case of frequently closed monuments than can be virtually visited, through short clip in Augmented Reality. The positive feedback of local population, especially the oldest one, is a clear testimony of the attractiveness of augmented reality and its substantial ease of use, as well as the desire of the local population to enhance their identity and cultural heritage.

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