



Digital Storytelling and Long-Term Participatory Strategies for a new Hackable Museum-Making Model: The #iziTRAVELSicilia and the Ursino Castle Civic Museum Case

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Abstract

According to scholars, the Hackable City model is replacing the Smart City one. The participatory approach in the digital revolution is a fundamental element of this new city and society model, which is much more inclusive than the previous one. This model is also perfectly applicable to the co-creative, inclusive and bottom-up participation in culture. Here, presenting the case study project #iziTRAVELSicilia, we can demonstrate how a creative and participatory involvement in co-creation of cultural digital content could have positive impacts on a museum management also in terms of costs of implementation and updating; maintenance; conservation; long-term social and economic revenues; and, finally, quantitative performances. According to the evolution from the smart city model to the kaching one, this project offers insights both to policy makers, on the possibility for defining territorial promotion strategies, and to museums' and cultural institutions' staffs, on the possibility of defining sustainable communication and participatory strategies about their collections, such as the case of the Ursino Castle Civic Museum in Catania, which staff since 3 years is involving many High School and University of Catania students in communicating their collection.

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Introduction

Focusing on the concept of “Cultural Democracy” (Evrard 1997; Matarosso and Landry 1999), a democratic participation in culture is based on three main activities: promoting the right to culture for everyone, encouraging pro-active participation in local cultural life and making accessible to everyone cultural resources and contents related to heritage. Cultural engagement can therefore be defined as

“participation in any activity that, for individuals, represents a way of increasing their own cultural and informational capacity and capital, which helps define their identity, and/or allows for personal expression” (UNESCO 2012: 5).

In this framework, the Convention on the Value of Cultural Heritage for Society, known as the *Faro Convention*, has definitively established that knowledge and use of heritage have the same value of all the other Human Rights and are part of the citizen’s right to participate in cultural life. Its real revolution is about the introduction of the concept of *heritage community*, which means group of people - such as public institutions, cultural associations, schools, universities and private citizens interested in heritage - who value specific aspects of cultural heritage which they want to transmit to future generations, by sustaining it within the framework of public action. Cultural heritage, in fact, defines communities’ identity and contributes to the social, cultural and economic communities’ development, based on principles of a sustainable resource use (Zagato 2015; Borda and Bowen 2017). Therefore, heritage communities are called upon to cooperate in order to promote a wide participation in the preservation and enhancement of the cultural heritage.

Digital storytelling (Robin 2008; Handler Miller 2008; Bryan 2011), culture-based creativity, crowdsourcing technologies and participatory approach became a great trend in the heritage domain (Giaccardi 2012; Keskin et al. 2016) and have a greater role for culture dissemination and in encouraging both the creation and sharing of users’ contents (Van Dijk 2011).

In the meantime, global digital and storytelling platforms and mobile storytelling apps with GPS localization are growing as important tools for developing cultural and territorial promotion strategies and for creating new cities models by adopting a crowdsourced approach, able in influencing travellers’ decision (Bonacini 2017; Bonacini and Giaccone 2018; Liang et al. 2017; Marroquín et al. 2018; Pyshkin and Korobenin 2017)

This paper describes the #iziTRAVELSicilia project as a good practice of engaging heritage communities in long-term participatory and co-creative processes to enhance local cultural heritage through the digital storytelling approach and according to the new Hackable City model (De Wall and De Lange 2019). The first aim of the project was to bridge the Sicilian gap in cultural communication (lack of websites, online collections, common communication strategies) through the engagement of the local communities. The paper wants also to highlight how important could be crowdsourcing in encouraging people to promote their heritage, by transforming them into digital storytellers, co-working with local institutions and co-creating digital contents (text, photos, videos, audios). Following the definitions of “Participatory Culture” (Jenkins 2006; Delwiche and Henderson 2013), “Cultural Tourism” (Richards 2018) and “Experience Economy” (Pine II and Gilmore 1999), the ultimate aims of the project are to prove how new strategies and connections between cultural heritage, heritage communities and digital participatory tools could be done in a new hackable way, by offering local people a new role in enhancing their heritage and to users and tourists memorable tourism experiences, so enhancing their satisfaction (Ali et al. 2016; Zhong et al. 2017), by exploring any places they want in any remote location (Hanna et al. 2019).

Heritage Communities between Smart and Hackable City Models

According to scholars,

“there is no doubt that a Smart City is a multidisciplinary concept that embodies not only its information technology infrastructure but also its capacity to manage the information and resources to improve the quality of lives of its people” (Ramaprasad, Sánchez-Ortiz and Sin 2017: 15).

Without debating about the concept and definition of a Smart City (Harrison and Abbott 2011), and about evaluating its paradigm (Angelidu 2015; Goh 2015; Ramaprasad, Sánchez-Ortiz and Sin 2017), it is now proven that life quality, social cohesion, culture-based creativity, knowledge circulation and innovation could be improved by sharing cultural heritage, so better building identity communities (KEA 2009; Albino, Berardi and Dangelico 2013; Borda and Bowen 2017).

In this framework, crowdsourcing and storytelling could be very useful in city brand building and heritage communities processes (Keskin et al. 2016; Lee and Gong Hancock 2014; Vattano 2014; Mora and Bolici, 2017).

According to scholars (Gaiani, Martini & Apollonio 2017), cultural content providers and local heritage communities can develop mutual synergies in building culture-based participatory and creative projects and in creating Smart cities models, where local communities could be transformed in Smart Heritage Communities of a Smart Cultural City, by adapting traditional cultural content in Smart Cultural Objects.

However, as recently analyzed, although cultural heritage is often declared as one of the many strategical issues addressed, the cultural smart initiatives revealed fragmented approaches,

“cultural heritage is not systematically exploited and formally incorporated in smart city initiatives, despite the fact that it offers an array of opportunities for smart city development, while significant technological advancements have taken place in the cultural heritage domain in recent years, as well” (Angelidou et al. 2017).

Therefore, the top-down superimposed smart cities strategies have failed the objective of a genuine, decision-making and creative involvement of people, while a new concept is growing, that one of *Hackable City*, a tech-driven approach used to evoke a bottom-up participatory alternative to the smart city model, a more inclusive process of city-making. Hacking, in the cultural context, can be understood both as an ethos, a collaborative form of “citizenship in the network era”, and a “set of iterative and collaborative city-making practices, bringing out new roles and relations between citizens, (design) professionals and institutional actors” (De Wall and De Lange 2019: 1). According to this model, our urban society can organize itself through social and digital media platforms, based on collaboration, openness and participation, moving towards a more inclusive process of city-making, by creating *Hackable Communities*.

By applying this model to the cultural heritage sector, we can't talk anymore of “users” engagement or involvement (which is a top-down concept, because users use something made by someone else) but of “participants”, which can be real co-creators of a sharing knowledge and real protagonists of a crowdsourcing hackable culture, where cultural digital content could be finally transformed in *Hackable Cultural Objects* and communities themselves in *Hackable Heritage Communities*.

Digital Storytelling Platforms for Long-Term Hackable Cultural Participatory Strategies: The #iziTRAVELSicilia Case

This paper explores the #iziTRAVELSicilia regional-scale participatory and storytelling project on the free izi.TRAVEL platform (Palin and Itró, 2015; Bonacini 2017; Bonacini 2018), based on creativity (intended both for the process and the products) and storytelling for creating museum audio guides and itineraries.

The izi.TRAVEL Storytelling Platform

Launched in 2013, izi.TRAVEL is a global free storytelling platform to create museum audio guides and audiotours for cities and territories, born with the aim to help organizations in the heritage and tourism sectors to bring their stories to life.

It is based on participatory culture, creativity and storytelling and, thanks to its gratuity, izi.TRAVEL is also a digital key tool: through its content management system interface, it offers cultural and tourist institutions the opportunity to upload and manage self-generated content to enhance on-site visits or to facilitate itinerary planning.

Everyone can easily create a multimedia audio guide, with photo galleries and videos: in this way, izi.TRAVEL plays a great key role in democratization and promotion of culture and territories, allowing people to discover cultural and tourist places via the web platform, searching by countries

and cities, and via the izi.TRAVEL app or by scanning the Qr-Codes in situ. Every single audio guide could be downloaded and enjoyed in offline mode.

With about 7.5 million usages per month, 60 languages, 101 countries, about 2500 destinations, a total of 11.000 audio guides, 60 million interactions per year, and a great amount of data available to all, izi.TRAVEL is now the most popular free platform for museums and itineraries audio guides in the world.

The #iziTRAVELSicilia Project

On 2016 there were only 7 guides on izi.TRAVEL (Fig. 1). According to a previous analysis (Bonacini 2012), which has not evolved in the meantime, many Sicilian museums do not even have a website and, until the beginning of the project, almost no Sicilian museum had published their online collections.

Thanks to a general agreement with the Regional Department of Cultural Heritage and Sicilian Identity, an annual research project - launched by Elisa Bonacini as #iziTRAVELSicilia on May 2016 - was financed by a grant from izi.TRAVEL itself. It was aimed to fill the gap in communication and cultural and touristic promotion in Sicily, by encouraging native Sicilian people to enhance their cities and cultural resources through digital storytelling by creating cities audiotours and museum audio guides, under a single regional-level management, coordination and support.

The second aim was to set up good practices of heritage communities participation and co-creation of digital cultural content around museums and institutions, by developing cultural crowdsourcing participation, citizenship and social cohesion. It implied the creation of museum audio guides and audio tours for cities and territories, by involving local people through a series of actions: by promoting new forms of relations between people and their heritage; by strengthening the synergy between all the heritage communities involved; by transforming them in hackable heritage communities, through both the bottom-up co-creation of tours and museum audio guides for cities and territories and the dissemination of new digital cultural objects.

A great number of local heritage communities have been involved, such as the Regional Department for Tourism and Performing Arts, many municipalities, museums and cultural institutions, museum and tourist local offices networks, cultural associations, schools, the Universities of Catania and Palermo, some Dioceses and Churches.

A network of storytellers have been created, embracing the common idea to promote culture and territories through a bottom-up, disseminated and participated process, as the Faro Convention requires, to guarantee the common right to cultural heritage.

This project was soon transformed into a spontaneous participatory process: more than 3.000 people have been involved, becoming storytellers of their own heritage, from primary school children to high school and University students and to the museum managers themselves. Numerous projects have been carried out with Primary and High Schools, conducted in collaboration with local authorities. After training workshops, students and teachers from many Sicilian schools have contributed to the digital enhancement and promotion of their cultural heritage and territories.

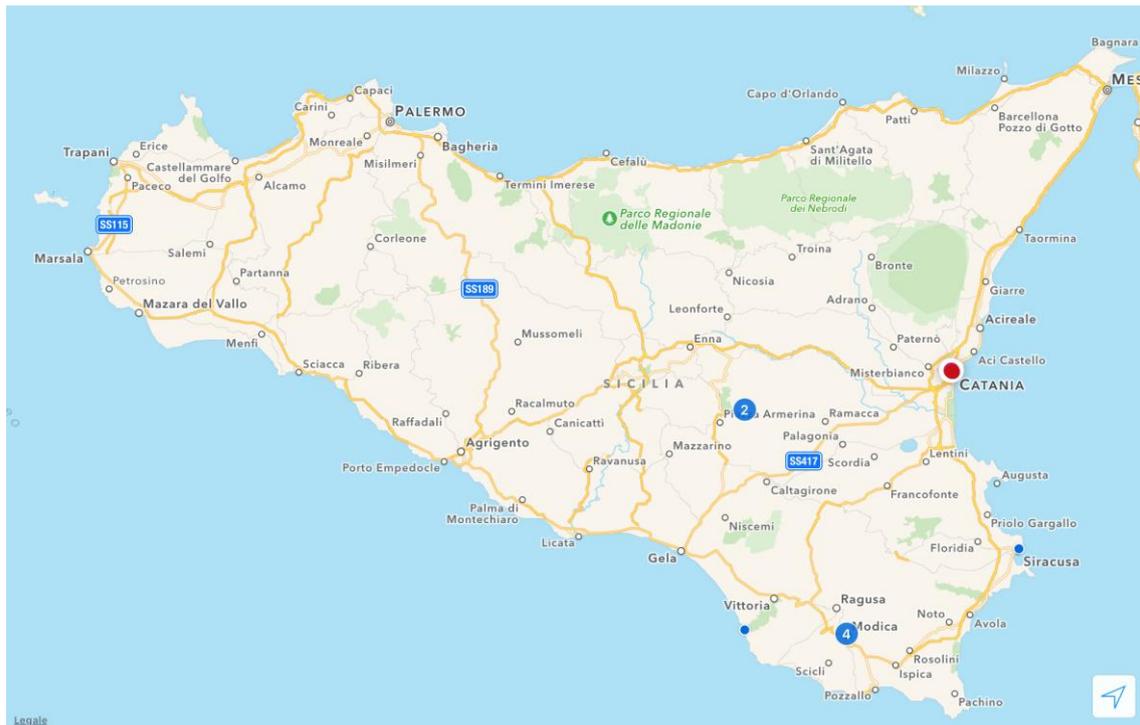


Figure 1. Sicily on izi.TRAVEL app on May 2016.

Joining the project was enthusiastic at any level, because of the lack of existing strategies and tools in the digital cultural dissemination: both the institutions and common people felt the need to do something about it.

Participatory methods and storytelling techniques have been used in engaging heritage communities to promote local heritage and museums' collections. They have been encouraged to co-create and share cultural content, knowledge or narratives through storytelling and creativity, by providing original narratives, photos, videos and audios. By actively participating in the project in a bottom-up way, they transformed themselves in hackable communities by having contribute to make hackable their own cultural heritage and territories: in fact, each audio tours' digital content has been correctly located on Google maps, so providing online GPS access to hundreds of POIs, through the izi.TRAVEL app free walking mode.

On one hand, local heritage communities thus contribute to strengthening local identity and sense of belonging to their territory; on the other, they are motivated to better enhance their heritage.

According to a digital storytelling approach, an appealing, descriptive and simple way of telling have been created, with the very first purpose to make both the contents and the stories as attractive as possible. The people involved in this participatory process have acquired both the skills to organize contents according to specific dissemination projects, and a narrative style adapted to a modern communication of culture, understanding how scientific divulgation needs to fit itself also in its descriptive language.

People joined the project thus realizing both the "right" to be part of common cultural heritage and the "responsibility" in contributing to the digital and creative promotion of the territory to support the development of tourism, thus demonstrating how creative involvement is the key today to create sustainable and long term cultural processes.

The project was carried out the first year with the funding of the research grant. From May 2017 onwards, further projects have been coordinated without funding, with the sole purpose of not interrupting the activated process. After three years the audio guides created in Sicily under a central coordination are 218 (Fig. 2), specifically 97 museums or cultural sites audio guides, 7 temporary exhibitions, 114 cities and territorial audiotours. More than 1800 points of interest have been geolocated in the audiotours and the objects or artworks schedules exhibited in the museums are over 3.000.

A great map (Fig. 3) has been created by the Regional department of Tourism with Google My Map, with sheets of all the regional sites, parks and museums, where all the published audio guides are well indicated.



Figure 2. Sicily on izi.TRAVEL on June 2019.

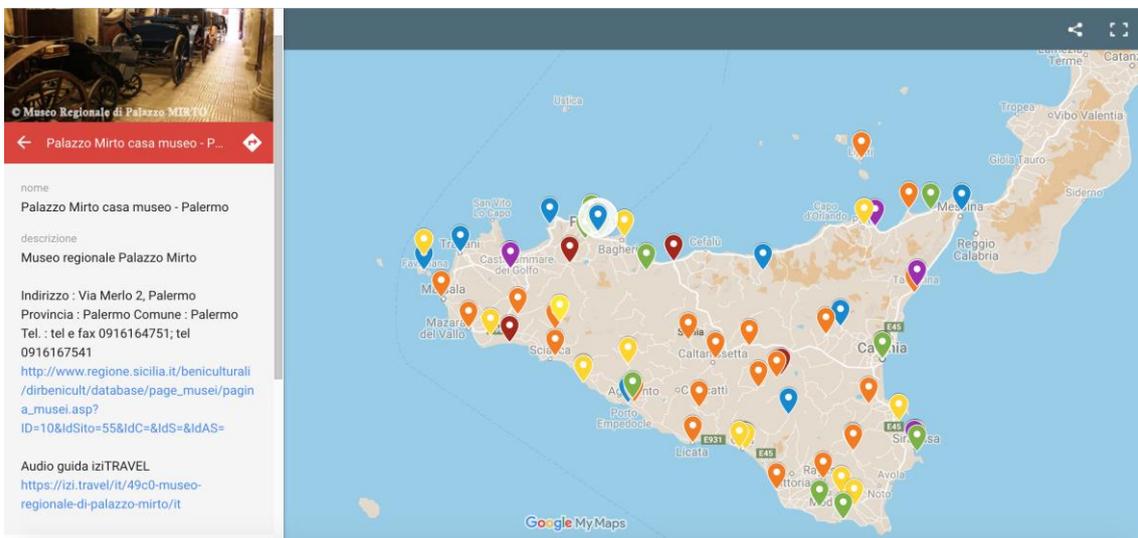


Figure 3. Sicilian Regional Museums and Sites map.

#iziTRAVELSicilia and the Ursino Castle Civic Museum Case

izi.TRAVEL has been used, over these years, by some institutions for participatory projects that have proved to be a real long-term strategy of sustainable production of cultural contents.

A real case study of a long term strategy of participatory projects on izi.TRAVEL is the audio guide of the Ursino Castle Civic Museum in Catania, where the museum staff, since 2016, is coordinating hundreds of students as “digital Cicero” for three years, to implement the audio guides of the museum and its collections in Italian and English. This is a perfect example of how

the activities of a museum have quickly adapted according to a strategic plan of communication and enhancement of the collections.

Ursino Castle was built under the rule of Frederick II of Swabia in 1239 and was adapted to a civic museum since 1934 following a decision by the Council of Catania. Nowadays, it is the most visited museum in Catania (2018 registered 72.353 visitors) and one of the most prestigious cultural heritage in Sicily, with a lot of cultural events organized in all seasons. The whole collection consists of about 13.000 pieces and many different collections are displayed, consisting of Greek and Roman archeological findings, paintings, sculptures, drawings, ivories, coins, ancient clothing from the seventeenth century and other objects.

This museum therefore is an interesting cultural hub for educational workshops, naturally devoted to informing and training people in art, history and identity. As a consequence, its main purpose and mission is to attract above all its own community, by participating in a strategic process of cultural, economic, touristic and social development of the community itself, according to the evolution of a city in line with the *Hackable City Model*. A partnership regulates the relationship between institutional actors, stakeholders, professionals (University of Catania, Centre of National Research) and students.

According to the national law no. 107/2015 on work experience and training courses in Italian secondary schools, every year the Ursino Castle Museum hosts about ten secondary schools, each of two or three classes, for a total of more than 500 students.

Since 2016 the museum easily started hosting several classes of local high school and university students, as trainees to use izi.TRAVEL platform in order to create a complete audio guide of the museum, by telling interesting stories about artworks, transforming them in *Hackable Cultural Objects*. Trainees have been able to employ their knowledge of technological and digital devices by improving creativity and knowledge circulation; this aspect of the izi.TRAVEL platform has allowed the museum itself to imagine and cocreate together a new and young face of Catania and of its cultural heritage.

The title of the work/training project is “Io, operatore/guida museale virtuale”, that is “I am a virtual museum guide”. At the very beginning, after welcoming students, they have to work on the project for about six days. They are always accompanied by a guide when visiting the museum in order to be informed and trained to create multimedia sheets, consisting of some pictures they take as well as a text and a voice recording. The students present the artworks through “self-made images”, supported by accessible and straightforward storytelling. Thanks to their collaboration and through a didactic and scientific method, the museum presents itself with a direct narrative language, art for everyone. The main protagonist is the artwork, transformed into an hackable cultural object; working together with the museum’s staff, the students become the co-creators of digital content. Using the izi.TRAVEL mobile application, they can spread the content through sharing it on social media; at the end they always leave positive and uplifting feedback about their own experience.

The izi.TRAVEL museum audio guide (Fig. 4) is offered at the entrance of the museum as the official digital audioguide. It has 100 schedules on line, translated into English. The project has continued until now and many other schedules will be created. Today, it is a “five star app”. Since the very beginning of the project (June 2016), the CMS registers more than 117.000 total downloads of the content (about 17.000 in English); about 13.000 users downloaded the audio guide (more than 2.000 by locally scanning the Qr code) and used it in offline mode; about 15.000 users listened to the whole guide.

Another project, successfully embedded into the izi.TRAVEL platform, deals with a crowdsourcing experimentation conducted by the students of University of Catania within a partnership with the Department of Civil Engineering and Architecture (DICAR) and the MuRa (Museo della Rappresentazione, university museum under the responsibility of DICAR) aimed at the 3D digitalisation of the Museum’s collections and their online accessibility. The partnership has been developed within the pilot project #invasionidigitali3D (Bonacini et al, 2017) started in 2015. The students have been involved in the co-creation of 3D models by using SfM (Structure from Motion) techniques which allows for obtaining 3D textured models starting from a set of images. Then aiming at unlocking collections to everyone (Santagati et al, 2018), it has been chosen www.Sketchfab.com, a web-sharing platform for 3D models used by several cultural institutions to spread the knowledge of their sites and/or collections. The best models have been uploaded on the platform (fig. 5), with a description, and labeled with specific hastags for their easy retrieval by social network communities. Furthermore, it is possible to enrich the models with annotations and audio notes. Finally, the models have been linked to izi.travel guide, and they can be easily explored using mobile devices and, in some cases, such as the courtyard and the

interior of a tower they can be explored even in Virtual Reality mode. This way, the museum heritage is accessible in a more engaging and interactive way allowing novel ways of understanding and learning not only augmenting and enriching the visit on site but also remotely.

The Ursino Castle Civic Museum of Catania to date has had a great exposure thanks to the izi.TRAVELSicilia project: it is no more viewed as an isolated island but as a meeting place where both dialogue and production and people and artworks meet each other by creating a digital book of stories. For this reason, schools and the University of Catania continue asking for training workshops.

The project on izi.TRAVEL, which has a long life ahead yet, has definitively contributed to spread local culture among visitors and has a strong impact on local native young community. It has been producing an open and welcoming cultural process that involves everyone including tourists and students, the true contributors to the creation of the audio guide.

Museo Civico Castello Ursino

★★★★★ 6 recensioni | Sicilia, Catania | Gratis

Info museo

Riguardo il museo

00:00 -01:06

Guarda video

Se ti trovi a Catania, vieni a visitare il **Castello Ursino**, uno dei luoghi più interessanti della storia della città.

Esso fu fatto costruire dall'imperatore **Federico II di Svevia**, tra il 1239 e il 1250, circa 800 anni fa, con funzione di **fortezza**, dal suo architetto **Riccard...**

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Pianifica la visita

Piazza Federico di Svevia
Catania, Italia

Oggi: 9:00 - 20:30

[Mostra tutti gli orari di apertura](#)

<http://www.comune.catania.it/la-citta/turismo/>

Audiotour

Le Collezioni del Museo Civico

★★★★★ 0 recensioni

Il Castello Ursino

★★★★★ 3 recensioni

La Collezione Archeologica

★★★★★ 0 recensioni

Figure 4. The Ursino Castle Civic Museum official audioguide on izi.TRAVEL.

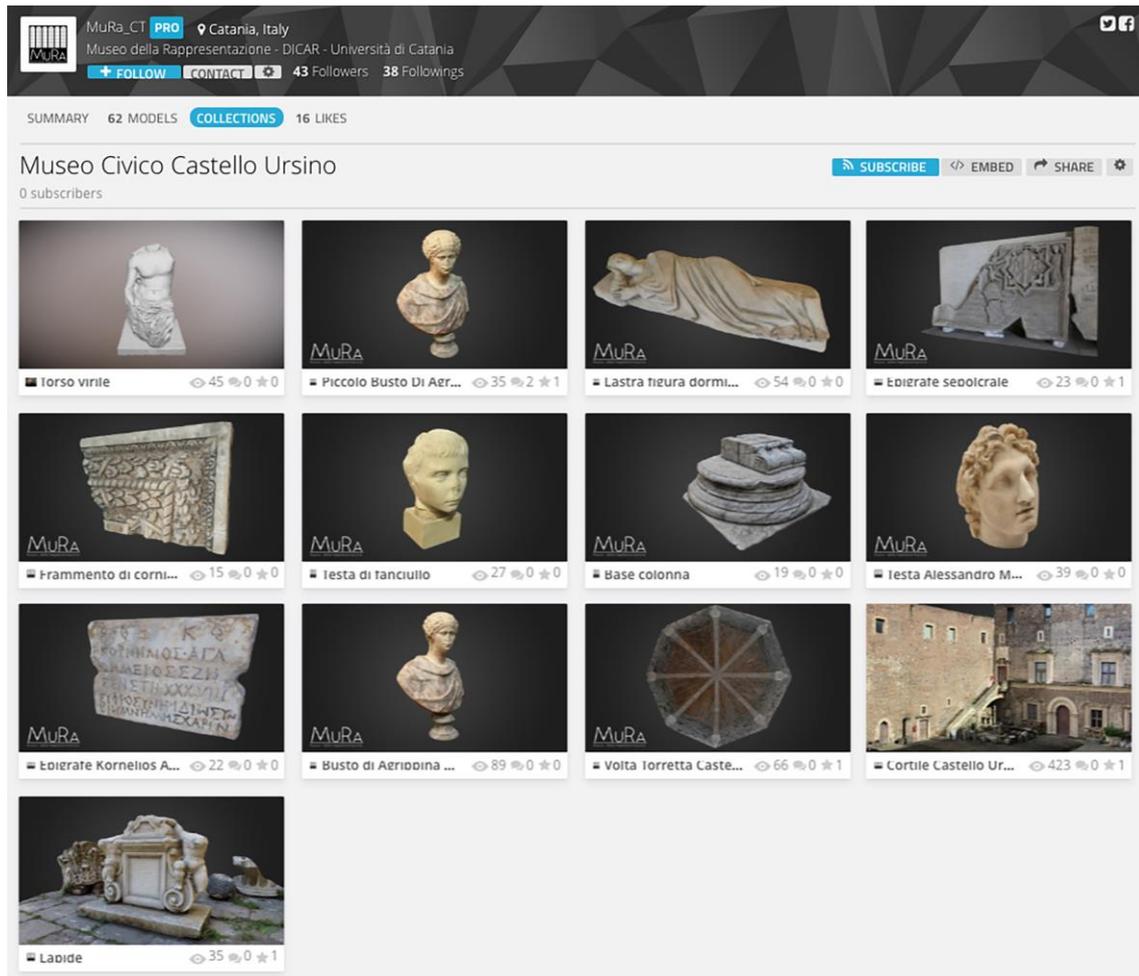


Figure 5. The Ursino Castle Civic Museum 3D models collection on Sketchfab, made by the MuRa.

Impacts and Results

As described elsewhere (Bonacini and Giaccone 2017), the results in terms of contents' visualizations, downloading and on-line use of published audio guides, both from tourists and Sicilian people and the feedbacks on the high usefulness of this digital tools to discover and enjoy local cultural heritage, led to the following propositions:

“Proposition 1: The application of ICTs and open platforms in the promotion of cultural heritage is positively related to the tourist attractiveness of the area and to the quality of the tourist experience in the enjoyment of culture.”

“Proposition 2: The adoption of simple, creative and appealing narrative techniques for cultural contents is positively related both to the wide participation of local actors to the contents' co-creation and to their appreciation by users.”

“Proposition 3: The creation of open digital platforms for cultural contents co-creation, based on free and spontaneous participation of different local actors and on the recognition of each one's contribution, is positively related to the development of social cohesion and sense of belonging to the territory.”

Returning to the initial argument, it is easy to understand how the #iziTRAVELSicilia project, based on a real participation to co-creation made by heritage communities, may be fully considered a real example of the new city model, and lead us to this new proposition:

“Proposition 4: The adoption of a participatory, collaborative, inclusive and bottom-up approach - local heritage communities together with local institutions - is a new hacking city model typical approach.”

According to the evolution from the smart city model to the hacking one, authors can assume that this project contributes to develop knowledge about innovative tools for the glocal promotion of a territory. It highlights both the strategic importance in stimulating people emotional and creative involvement in the cocreation of app contents and of innovative tools in promoting cultural heritage of a territory.

By coordinating and active involving local people, this project can reveal what a serious impact this platform could have on civil society: Sicilian heritage communities have been able to both transform themselves in *Hackable Heritage Communities* and their local heritage in an *Hackable Heritage*, made by *Hackable Cultural Objects* enjoyable both online via web and mobile via a GPS app.

The #iziTRAVELSicilia project offers insights to policy makers on the possibility for defining participatory promotion strategies for cities and territories; according to the *Museum Innovation Model* (Eid 2016), the project offers insights to museums' and cultural institutions' staffs, on the possibility of defining sustainable communication and participatory strategies about their collections and their social and cultural mission.

The project can, finally, demonstrate how a creative and participatory involvement in cocreation of cultural digital content could have positive impacts on a museum management, in terms of:

1. *costs of implementation and updating*: the use of a free and self-managed platform guarantees a museum the possibility not only to create its own audio guides, but to implement them, to update them, to build different cultural offers, at no external management costs;
2. *maintenance*: the use of a free and self-managed platform guarantees allows the direct management of contents, without contacting external companies for any modification;
3. *conservation*: the system allows, through specific APIs, to “duplicate” the contents on other applications or on other websites, ensuring also their replicability and dissemination of the contents;
4. *long-term social and economic revenues*: there are many forms of long-term revenues. Long-term revenues at the museum's social and cultural mission level: the museum will be able both to create creative relationships with its public, which becomes an affiliate and feels such as a participant in a cultural co-production and to disseminate its collection and its behaviour; long-term revenues at the museum's economic direct and indirect level: the museum will be able to create and implement digital contents without costs and izi.TRAVEL platform and app could be a great tool to let people know something about the museum and its collections and to let them decide to visit it.
5. *quantitative statistics*: the system allows museums to control quantitative statistics about their audio guide performances.

Conclusions

Talking about the role of Heritage Communities in a Hackable City context, the #iziTRAVELSicilia project it could be considered as a socially, culturally and intelligently sustainable heritage action, by having investigated how cultural institutions have been able to create a culture of bottom-up participation around their digital contents, collections, information and services.

According to izi.TRAVEL itself, Sicily is the only region in the world testing a participatory, democratic and horizontal process on such a large scale with such involvement and coordinated way: it provided a new and replicable model of collaborative and co-creative partnership giving public cultural institutions and local heritage communities the opportunity to relate to each other, so obtaining a greater democratic participative action.

Manifold and different in nature are the produced benefits and the statistics from all the CMS profiles centrally managed tell how big the quantitative impact of these digital cultural products is (Bonacini and Giaccone, 2018).

The #iziTRAVELSicilia project can be definitively a process which has already transformed the Sicilian cultural context: all together Sicilian people and institutions are already bridging their digital cultural gap and interesting benefits related to the cultural heritage promotion have been produced, such as the spread of dissemination of knowledge on local cultural heritage and the contribution to fill the digital gap of many Sicilian museums, whose collections are now online.

Finally, it could be recognized as a good practice of new collaborative and hackable city-making practices through cultural content and values co-creation, by engaging people in hackable heritage communities, able to create promote their cultural landscape and in creating a holistic smart city framework, by co-creating hackable cultural objects, automatically enjoyable on people's smartphones thanks to the free walk GPS mode.

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