

Public Participation in Museums and Cultural Heritage Sites: iCommunity Mobile Application

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ABSTRACT

This paper presents iCommunity, an application that will be aimed at finding a universal method for inclusive societies in decision-making processes for cultural heritage management. iCommunity is being designed as a mobile application facilitating public participation in cultural heritage management. The main idea is to give all people, who are affected by a decision, the opportunity to be involved in the decision-making process. Any cultural heritage institution will be able to publish its activities on the application so as to evaluate users' feedback before the implementation of the activity itself. Based on the user's location, the application displays ongoing activities to the user himself. As a part of a participatory approach, users share each other's experience or data related to the posted activity. They also can show their agreement or disagreement to the activities by voting. The comments, votes and user's activities will be analysed real time for helping authorities to consider the consequence of their activities for more transparent and effective decision-making.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; • **Applied computing** → *Arts and humanities*.

KEYWORDS

Participatory study, cultural heritage, mobile applications

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1 INTRODUCTION

Public participation in cultural heritage, with particular regard to conservation, has been a concern ever since the Venice Charter (1964) and it still is to this day [2]. This approach has also been highlighted in World Heritage Documents. The Faro Convention [1] adopted a shift in focus from the conservation of cultural heritage values to the value of cultural heritage for the society. In this case, it is necessary to engage public and local people in all stages of cultural heritage conservation and management [4]. According

to this convention, cultural heritage institutions inevitably have to apply a public participatory approach. Moreover, a number of papers have focused on the importance of public participation in heritage conservation and tourism management [10, 13].

“Public participation is the general term for diverse formal processes by which public concerns, needs, and values are incorporated in governmental decisions. Public participation involves the use of techniques such as public meetings and hearings, advisory committees, interactive workshops, interviews, questionnaires, focus groups, and other methods to identify public concerns and preferences and address them during decision making.” [5]. Public participation applies different values and aspects for reaching the best results.

According to the core values provided by the International Association for Public Participation-IAP2, it is widely acceptable that people who are affected by a decision have the right to be involved in the decision-making process. This public participation must assure that the people's concern will affect the decision. In addition, “public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.” [9]. The engagement of those affected by, or interested in, a decision must be facilitated by interactive methods for achieving the maximum participation. In this respect, useful and trustworthy information will help people to participate in a meaningful way. Finally, the results of participation must be published for communicating to participants how their input affected the decision.

In this paper we present iCommunity, a mobile application which would like to facilitate public participation in cultural heritage management. The main idea is that all people, who are somehow affected by a decision, have the right to be involved in the decision-making process. Any cultural heritage institution will be able to publish activities on the application as a means to evaluate the users' feedback before the implementation of any activity. We are working on public participation in the Historic City of Yazd as the main case study. Yazd is a world heritage city in Central Iran, where more than 400,000 people are living in buffer and core zones. Based on the user's location, the application displays ongoing and future activities to the user herself (Figure 1). As a part of participatory approach, the users share their experience or data related to the posted activity with other users. They can also show their agreement or disagreement to the scheduled activities by voting. In addition, iCommunity will be able to extract and show all relative activities posted on related websites such as ICOMOS¹ (International Council

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¹<https://www.icomos.org/en>

on Monuments and Sites), ICCROM² (International Centre for the Study of the Preservation and Restoration of Cultural Property), UNESCO World Heritage Centre³, and social networks (e.g. Facebook and Instagram). The analysed data will be shown real time for users who help authorities to consider the consequence of their activities for transparent and effective decision-making.

This paper is organized as follows: Section 2 presents Background and Related Works, Section 3 presents the iCommunity application, while Section 4 concludes the paper and presents future work.

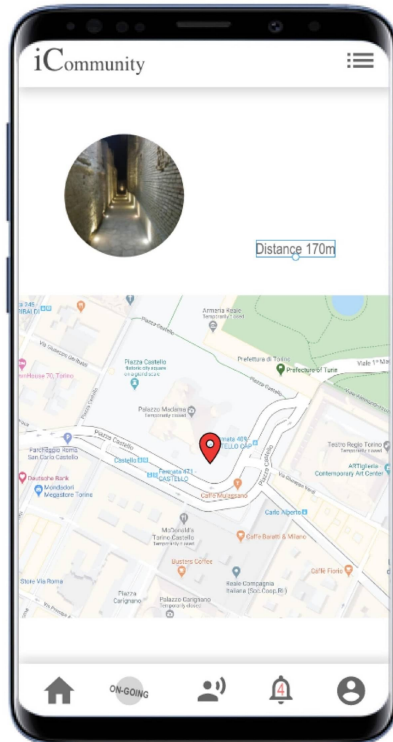


Figure 1: Project's location on iCommunity.

2 BACKGROUND AND RELATED WORKS

One practical example of public participation in cultural heritage management is the Dresden Elbe Valley case [7]. It opened a debate about whether local people would be willing or not to be in a world heritage site if it was up for a vote. The construction of the Waldschlößchenbrücke Bridge was vital for the city, which led the Federal Republic of Germany to put the decision up for locals to vote whether they wanted a construction of the Bridge (which meant being delisted) or designating it as a world heritage site. Interestingly, a little over half of the eligible people participated in the referendum with 67.92% voting for the first option. It took a long time to make the decision.

Many mobile applications have been released for local community purposes. uMayer [11] is a crowdsourcing application that

²<https://www.icrom.org/>

³<https://whc.unesco.org/en>

facilitates the relationships between the general public and administration. The application helps people to report urban problems to authorities via photos taken on-site and thanks to a description of relevant issues. The application encourages authorities to respond to the public needs by making the citizens active. FlashPoll [12] is another application for public participation based on location polling. The users take part in geo-located polls by answering different questions within a specified physical space such as a building, a neighbourhood, a city or a region. The results are available on the application after polling. The FlashPoll works as a place-related tool for facilitating the interaction between public and urban planning administrators and politicians within a limited time and space. In addition, the application makes public participation in urban development more productive in a short time.

Moreover, Lost State College (LSC) was designed for the local community to contribute their stories about the history of Pennsylvania [8]. Later on, in 2014, a society organization, programmers and social scientists produced Democracy OS application in Argentina. They seek to open up the public institutions in decision-making processes [3]. By considering the simplicity of using smartphone applications and difficulty of implementing public participation, the assumption is that mobile applications aim to streamline the participatory approach in cultural heritage management. The main features of the above-mentioned applications are immediate interaction between authorities and people, polling surveys, sharing the stories and including societies in decision-making processes that have been presented in different apps and contexts. The iCommunity will combine and improve these functions in order to provide a unique application for implementing people-centered approaches in museums and cultural heritage sites.

In fact, iCommunity is a combination of useful features in the mentioned applications by improving some functionalities. This application develops the uMayer app by adding voting and workshop functions while utilizing polling features in the FlashPoll. We used the concept of uMayer app for designing iCommunity by adding some features such as voting part.

3 iCommunity

The main goal of this application is to find a universal method for inclusive societies in decision-making processes for cultural heritage management. The idea is to encourage different stakeholders, such as local people living in or around the museums and cultural heritage sites, to take active roles in decision-making processes related to management and conservation. Furthermore, this mobile application will provide sufficient information and clear data for direct and indirect education of users by holding different workshops. Data shown in the application will also help people to understand the reasons behind the implementation of planned activities by taking part in comments and talking with experts or professionals (Figure 2). In addition, it also aims to make the decision-making process clearer and more transparent by presenting voting functions and showing all comments for users. Finally, the application outcomes (which include analysed data collected by feedback, voting, communication, etc.) will help to understand the real needs and interests of different stakeholders in cultural heritage sites and museums.

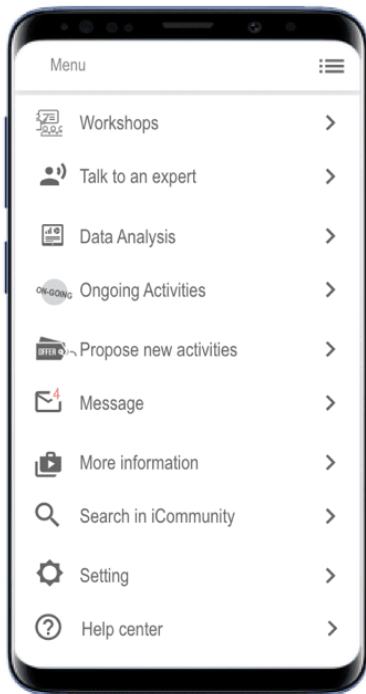


Figure 2: Main functions of iCommunity.

3.1 Target User Groups

The engaged stakeholders in a given cultural heritage site are divided into three main categories; community of place, community of interest and community of practice [6]. In each category, the stakeholders are:

- Community of place, namely local people living in the core zone, buffer zone and other urban areas as public;
- Community of interest, namely local cultural heritage NGOs (Non-Governmental Organisation), media, private sectors;
- Community of practice, namely Cultural Heritage Research Institutions, Municipality, experts, Governmental Cultural Heritage Organization and Administration of World Heritage Protection.

These three main stakeholders can be divided into two main categories, internal and external: internal stakeholders are those people susceptible to direct effect by a decision; external stakeholders are those indirectly involved with the cultural heritage site (Figure 3). Internal stakeholders are living within (or by) the site, external stakeholders are engaged in coordination, funding, resourcing and publication of the issues related to related heritage sites. The iCommunity application will be designed to fulfil goals and needs of all the above stakeholders.

3.2 iCommunity App

iCommunity is going to be designed as a smartphone application for facilitating the interaction between cultural heritage authorities and users so as to stimulate public participation and engagement in cultural heritage management. Through the application, ongoing

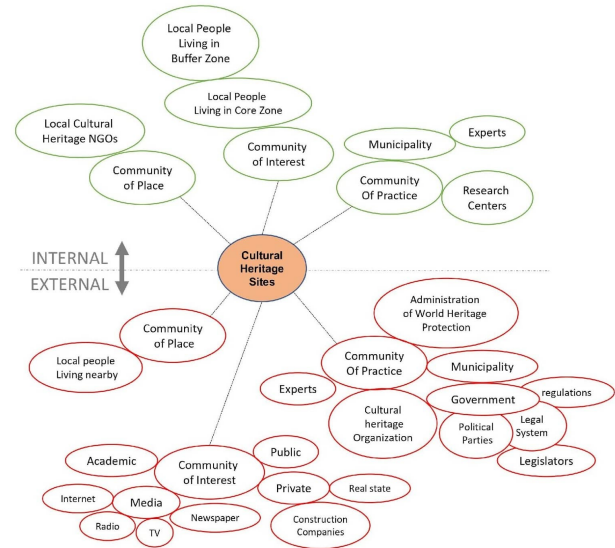


Figure 3: Internal and External stakeholders in cultural heritage activities.

and future activities will be published by institutions, then the users can discuss posted activities in the form of comments and talks to an expert. They can also vote for scheduled or posted activities. Based on users' location, comments and voting, the authorities will be able to assess the users' behaviour for taking it into consideration in their decision-making process. The application will be able to extract all information related to museums, cultural heritage conservation and management from social media (e.g. Instagram, Facebook) and websites (e.g. ICOMOS, ICCROM, WHC, etc.) by APIs. This feature will show collective data about cultural heritage activities for the iCommunity users.

This application, which is under prototyping, will provide various ways of login by using social network accounts (Facebook, Instagram, Google, etc.) or by direct registration on the application itself. There will be two types of accounts: (1) institutional accounts (profiles for decision-makers in e.g. cultural heritage sites and museums) and (2) personal accounts (public participants who are affected by a decision) with different functionality. Institutions will work as a local admin to operate their profile by posting the activities, holding workshops, creating sub-profiles for their experts and using analysed data. They could also tag useful workshops posted by other institutions for their members (e.g. e-learning programs).

Almost all cultural heritage sites and museums will have some training courses for various audiences in different topics and formats. This part of the iCommunity application can be used as on- or off-line e-learning and workshops for users. Since some workshops and e-learning programs are the same, the application will classify them in a group. The institutions will be able to tag the similar workshops and e-learning programs to their profiles for avoiding repetition. This feature will not only improve the quality of training courses, but it also decreases the cost of production for institutions. In addition, this ability will make the workshops and e-learning programs available to larger audiences.

New activities will be posted by institutions on the home page and user's feedback as likes, comments and check-ins, will be immediately shown. Based on the user's location, the application will suggest the users to join the closest institutions for joining. Most often, a number of museums and cultural heritage sites exist in a city with disparate activities and workshops, thus the users can join in each of them depending on their interests. Besides location, each user will be able to search topics for joining their favourite activities among different institutions. In addition, the users involve the posted activities by directly writing comments. Each user will be able to vote and post a comment to the activity and reply to other comments.

The most important part of the application is the voting functionality. Since the group age and other user's specifications will be shown in the user profile if users decide to allow so, collected data will be very important for decision-makers. All collected users' data (such as socio-demographic data, actions, and comments) will be analysed and classified in background by a machine learning component, and inferred needs and interests will be classified and used for taking the best decision. After voting to each project, a bonus will be added to the user's account as an incentive for encouraging participants to vote (ex. visiting the site or museum for free), and also other gamification strategies will be added in order to increase user's participation in the decisions (Figure 4).



Figure 4: Home page of iCommunity on Android.

Users will be able to communicate, talk with experts and comments. This function will provide direct negotiation in order to talk with an expert related to the posted activity. If something is not clear for users, they will be able to ask directly. It will be easier for experts to use this app for public engagement purposes in comparison with their own social media and websites. In addition, user's

feedbacks will be used as participatory cultural heritage conservation, so the users can report a problem to the experts. Besides, the comments will display the various overviews about the activities. It will also help users to make the activity more transparent by "for and against" ideas. This will be beneficial for decision-makers; by analysing the feedback, they can evaluate the hidden consequence of each activity for more consideration.

4 CONCLUSIONS AND FUTURE WORK

iCommunity will be an application for facilitating interactions among different users involved in cultural heritage sites and museums activities. It will help authorities include people in decision-making processes by inclusive society and people-centered approach. Furthermore, the application will provide a strong network between cultural heritage institutions for more collaboration. The project is currently in a prototyping phase. This project is part of a PhD study aimed at using new technology for public participation in cultural heritage management.

As future features, since this application focuses on public participation, we are going to engage different target groups in designing the app and its functionalities following a participatory approach. We would like to ensure the usability of the iCommunity app following the real users' needs and interests by applying a participatory approach before implementing and launching the application.

In the second phase of development, the successful activities will be used as an educational program for museums and cultural authorities in order to implement public participation in their activities. This feature aims to find out an applicable, universal method for people-centered approach in cultural heritage management.

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