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► To cite this version:

Khaoula Stiti, Samia Ben Rajeb. Participatory Heritage Platforms for Raising Awareness of Endangered Heritage. Usability and acceptability study in the historical urban landscape of Tunis. H2PTM'23: La fabrique du sens à l'ère de l'information numérique: enjeux et défis, Oct 2023, Valenciennes, France. pp.218-234. hal-05196028

HAL Id: hal-05196028

<https://hal.science/hal-05196028v1>

Submitted on 1 Aug 2025

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Participatory Heritage Platforms for Raising Awareness of Endangered Heritage

Usability and acceptability study in the historical urban landscape of Tunis

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RÉSUMÉ. Cette étude s'intéresse aux plateformes patrimoniales participatives et leur impact potentiel dans le contexte du patrimoine en danger du paysage urbain historique de Tunis. Trois principaux axes ont structuré cette étude : (1) comprendre les modes d'envoi, de réception et de partage d'informations actuellement utilisés par la population, (2) sonder les plateformes que la population utilise et les raisons de leurs choix, et (3) appréhender comment la population perçoit l'impact potentiel des plateformes patrimoniales participatives sur leur patrimoine en danger. Les résultats de l'étude sont présentés puis interprétés dans la section de discussion. Nous concluons avec les limites et les recommandations pour les travaux futurs ainsi que pour l'amélioration d'une plateforme patrimoniale participative en cours de développement.

ABSTRACT. This study focuses on participatory heritage platforms and their potential impact in the context of the endangered heritage of the historical urban landscape of Tunis. Three main focuses structured this study: (1) understanding the modes of sending, receiving, and sharing information (SRSi) currently used by the population, (2) polling the SRSi platforms that the population uses and the reasons behind their choices, and (3) capturing how the population perceives the potential impact of participatory heritage platforms on their heritage in danger. The results of the study are presented and interpreted in the discussion section. We conclude with the limitations and the recommendations for future work and the improvement of a participatory heritage platform that is currently being developed.

MOTS-CLÉS: plateformes patrimoniales participatives, patrimoine en danger, prise de conscience de patrimoine, acceptabilité, utilisabilité, impact potentiel.

KEYWORDS: participatory heritage platforms, endangered heritage, raising awareness about heritage, acceptability, usability, potential impact.

1. Introduction

Although participation has been a part of cultural democratization policies for some time, it has gained significant success in recent years and is now considered an essential element in the management of heritage sites (Navarro and Renaud, 2022). Hence, the deployment of digital tools for cultural mediation has facilitated the visibility of the public's contribution and has further enhanced their engagement in a constructive manner (Navarro and Renaud, 2022). With the advent of the Internet and the emergence of Web 2.0 platforms, public participation has become increasingly feasible. The idea of a participatory Web is founded on the availability of platforms and services that enable users to contribute to the development, classification, collaboration, content distribution, and application customization (Borges *et al.*, 2020). In this context of the right to engage and participate in cultural heritage valorisation, it has become important to promote free participation (Martins, 2020, 40). Our study aims to assess three main focuses (1) the specificities of the context by questioning the modes of sending, receiving, and sharing information (SRSi) as currently used by the population surveyed, (2) the SRSi platforms that the population use and the reasons behind the choices of using these platforms to understand which platforms are used, and (3) the perception of the population of the impact of participatory heritage platforms on their heritage in danger to assess the potential role of these platforms in raising awareness about heritage. Hence, aspects related to acceptability and usability study are also underlined. To do this, the article first presents a theoretical framing of our key concepts. It then describes the research methods of the study. The overview of the results allowed us to answer the three main focuses of the survey. In the discussion, we interpret the results, place them in the context of previous findings and set recommendations for theoretical future work as well as for the improvement of a participatory heritage platform that we are currently developing.

2. Theoretical framing

2.1. Participatory heritage platforms, usability, and acceptability

Participatory heritage websites are used to describe all online platforms where people are actively involved in the conservation of urban heritage (Van der Hoeven, 2020). In this study, our definition of participatory heritage platforms is broader than Van der Hoeven's (2020) definition, since it includes not only websites such as social network sites (SNS) (Verduyn *et al.*, 2020) but also mobile applications. Since advancements in mobile technology have enabled service providers to develop their own mobile applications that users can download and install on their devices (Papadopoulos *et al.*, 2017), content can be available on both mobile applications and websites, which can be accessed from mobile browsers.

While the idea of a platform, including a participatory heritage platform, is only as good as its ability to be accepted and used by the intended audience, the platform should successfully integrate into the context, it must be designed to fit the socio-economic reality of that context. This requires a focus on issues related to the acceptability and usability of the platform. In this study, acceptability refers to the willingness of individuals to use a participatory heritage platform by understanding (1) their use of other platforms and their use habits and (2) their knowledge and or use of a participatory heritage platform and the interest in sharing and in receiving information related to heritage. On another side, usability refers to the ease of use and functionality of the platform. A platform that is not user-friendly or does not meet the specific needs of the audience is unlikely to be widely adopted. In this study, usability is evaluated by understanding (1) the type of information related to heritage interviewees want to know and the obstacles that may forbid them from using a such mobile application. Some other aspects studied in this paper, such as the credibility of the information related to heritage can be considered at the intersection between

core zone represents the area that is expected to embody the “Outstanding Universal Value” (OUV) of the site, while the buffer zone aims to improve the integrity and management of the WHS and safeguard the views and settings of an urban area (Martin and Piatti, 2009). To address the long-term persistence of WHS being threatened by specific and serious dangers, the Convention of World Heritage has created a “List of World Heritage in Danger”. This list aims to encourage remedial action. Some examples of these dangers include natural disasters, collapse, fire, archaeological looting, accelerated deterioration, large-scale or rapid urban and/or tourist development projects, and armed conflict (Levin *et al.*, 2019). Meanwhile, large-scale rapid urban development projects are intentionally located outside of World Heritage Sites (WHS) and are subject to less stringent heritage regulations (such as the example of Star Architecture Landing in UNESCO Sites studied by Cominelli and Jacquot, 2020). The absence of a buffer zone in such cases serves to define the relationship between the WHS and the potential for rapid large-scale urban projects (Cominelli and Jacquot, 2020). On this basis, we hypothesize that the non-definition of the perimeters of a buffer zone can be behind the difficulty of determining whether the buffer zone in question and thereafter a WHS, is in danger or not. When it comes to Tunis, the Medina or old town, a major component of the city, has been on the World Heritage List since 1979. Unfortunately, its buffer zone has never been approved in land management tools (Council of Architects of Tunisia and Édifices & Mémoires¹, 2018), and all the neighbourhoods built during the 19th and 20th centuries located within this delimitation are not subject to regulations that respect the heritage character of this landscape. Even worse, it is subject to densification (Order of Architects of Tunisia and Édifices & Mémoires, 2018). Based on this situation, we have chosen the buffer zone of the Medina of Tunis for our study. The exact boundaries of our study zone will be detailed in section 3.2.

2.3. Raising awareness of heritage

Raising awareness of heritage represents the earliest step of a process called heritagization or patrimonialization². This process, deeply revealing interpretive dynamics, can summon and construct social representations (Renaud, 2019). Patrimonialization is, ultimately, a construction whose outcome is precisely the collective representation of an object. The heritage process is therefore linked to the structuring of collective memory, it involves symbolic mechanisms and the mobilization of different actors and forces. It has been described as a linear process composed of three main phases: identification, conservation, and exploitation (Youssef and Kharrat, 2015). Each phase is composed of two steps in the following order: the awareness-raising step, then selection, then protection, then conservation, then exhibition, and finally valorisation, as the final step of an element becoming heritage (Youssef and Kharrat, 2015). In our research, we hypothesize that, in the context of an endangered heritage such as the buffer zone of the WHS of Tunis, the use of participatory heritage platforms can raise awareness about this heritage and thus initiate the heritagization process so that this architectural and urban ensemble acquires a value of memorial representativeness.

2.4. Historical Urban Landscape approach

The adoption of the UNESCO 2011 Recommendation³ on the Historic Urban Landscape (HUL) has provided additional impetus to urban conservation approaches that move beyond a historical perspective of preserving individual-built heritage objects, to managing urban heritage and its transformation within its broader context (UNESCO, 2011). In the HUL approach, participation is acknowledged as a critical element of heritage management practices (Veldpaus *et al.*, 2013). Recent studies have argued that HUL is dynamic, multi-layered, and mediated. Therefore, we emphasize the ability of participatory heritage platforms, thanks to their mediation capacity, but also the space they offer to capture the dynamicity and multilayers of HUL, to raise awareness of heritage in danger the buffer zone of the WHS of Tunis.

3. Materials and methods

3.1. Study design

The study is part of a research project that includes doctoral research whose theoretical objective is to examine the role of participation and ICT in raising awareness about heritage in the historical urban landscape of Tunis. The applied objective of this doctoral research is to develop P@trimonia, a platform for the participatory management of spatial-semantic information related to architectural and urban heritage. In the context of this paper, we use the in-person structured (also called directive) interviews to investigate the main focuses: (1) understanding the modes of sending, receiving, and sharing information (SRSi) currently used by the population, (2) polling the SRSi platforms that the population uses and the reasons behind their choices, and (3) capturing how the population perceives the potential impact of participatory heritage platforms on their heritage in danger. A structured interviewing format in which the stimulus (questions) and analyses are standardized (DiCicco-Bloom and Crabtree, 2006) allow for producing overwhelmingly more accurate and reliable ratings of job-related content than unstructured interviews (Swider *et al.*, 2006). When it comes to in-person interviewing, it seems to be a consensus among scholars that conducting interviews in-person is the most preferred format (Johnson *et al.*, 2021). However, opinions about remote methods such as phone or virtual interviews range from being acceptable and necessary to uncertain (Johnson *et al.*, 2021). In our case, since we didn't have any prepared list of names of the people to interview, in-person interviews were the best choice since they allowed us to go and meet people in the study zone. In-person interviews are viewed as advantageous as they provide a more natural conversational setting and a stronger foundation for establishing rapport (Irvine *et al.*, 2013). We have prioritized in-person interviews to ensure understanding of the questions regardless of the interviewee's spoken language, given the partially disadvantaged nature of the area. It is possible that some, especially the elderly, may not be able to read printed documents.

To collect the data, 18 interviewers were recruited and were master students enrolled in the National School of Architecture and Urbanism in Tunis (ENAU) and the Higher Institute of Environmental Technologies, Urban Planning and Building (ISTEUB) in Tunis. Both institutions are affiliated with the University of Carthage. It was important to recruit interviewers living in Tunis and know the city centre well. Prior to the interviews week, a training of 2 hours took place at the National School of Architecture and Urbanism in Tunis to present the survey context and its protocol and to form teams. The 18 students were distributed to work in 9 two-persons teams where one person oversaw interviewing the participants and the other person oversaw taking notes, recording, and taking photos if the participant gave consent to be recorded or photographed. The teams (T1 to T9) were distributed to work in different zones as explained in Table 1 (Section 3.3.). The fieldwork lasted 5 days and was devoted to the interviews, the transcription, and the translation (from Tunisian to French). Then, all these data were subsequently processed and analysed by the authors to answer the questions presented above.

3.2. Study area

Since we are examining participatory heritage platforms and the impact they can have on the heritagization process of endangered heritage, our study area is an example of an identified endangered heritage in Tunisia: the architecture of the 19th and 20th centuries of the buffer zone of the WHS of the Medina of Tunis (Stiti and Ben Rajeb, 2023). In 2018 the association Édifices & Mémoires and the Order of Architects of Tunisia carried out a project called "Inventory of the Architectural and Urban Landscape of the 19th and 20th Centuries, case of the City of Tunis". The alarming observation of the degraded state of the historical landscape of the 19th and 20th centuries, and the will of the previous parliament to move towards a policy of demolishing these properties by calling to vote law projects that would anticipate a planned and irreversible destruction of the heritage made civil society organizations

the Tunisian National Railway Company). The study area is represented in red in Figure 1 below.

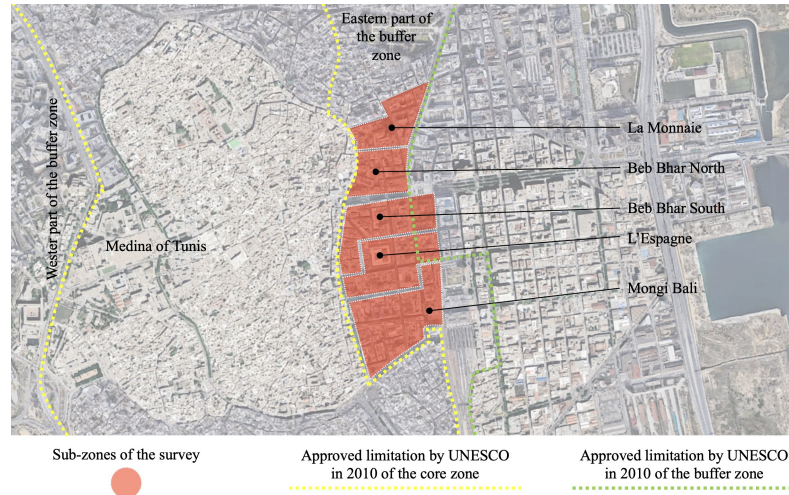


Figure 1. *Distribution of the survey staff in the sub-zones of the study area*

3.3. Participants

During the interviewing days, the interviewers actively approached individuals in public spaces within the study zone and verified that the individuals they approached were living or working within the designated study area. Importantly, these individuals voluntarily expressed their willingness to participate in the interviews, demonstrating their interest and cooperation in the research process. The basic demographic characteristics of the respondents by sub-zones and interviews-stuff are in Table 1 below.

Sub-zones and interviewing teams		Numbers of interviews	Men	Women	Average age
La Monnaie	T1	15	14	1	53 (32/70)
Beb Bhar North	T2	24	10	13	40 (17/80)
	T3	17	15	2	46 (22/71)
Beb Bhar South	T4	19	17	2	55 (25/71)
	T5	11	11	0	53 (31/69)
Espagne	T6	14	10	2	61 (46/73)
	T7	16	14	2	55 (23/81)
Mongi Bali	T8	21	15	4	42 (18/71)
	T9	15	13	2	56 (22/82)
Total/Average		152	119 + 5 interviews didn't specify the gender of the interviewees	28	51 (17/82)

Table 1. *Basic demographic characteristics of the respondents*

4. Findings

The results section includes a summary of the answers of the participants in the survey. To guarantee convenient visibility, a detailed description and respective figures are in the appendix of the paper, accurately describing the results.

4.1. Understanding the ways of sending, receiving, and sharing information (SRSi)

The study aimed to understand how SRSi (social media and related internet services) platforms are used by interviewing 152 participants. The collected

found useful were checking the news, staying in touch with loved ones, and promoting business, self-improvement, and personal growth.

4.2. Participatory heritage platforms in the historical urban landscape of Tunis

Before gathering feedback from users on their use of participatory heritage platforms, we first investigated their participation in cultural events or organizations related to heritage which was as follows: 86.8% answered no while 11.8% answered yes. When it comes to knowledge of participatory heritage platforms that allow sharing content related to heritage, 88.8% of interviewees answered no while 8.6% answered yes. Among the 14 interviewees who answered no and commented on their answers, the reasons were as follows: they either knew about heritage preservation non-governmental agencies or books related to heritage preservation or lacked interest. Among the 13 interviewees who answered yes, the platforms they knew about are mainly on social networking sites such as Facebook and Instagram. When asked about their interest in sharing on participatory heritage platforms, 51.3% answered yes while 26% answered no. Regarding the interest of interviewees in receiving heritage-related information on participatory heritage platforms, 43.3% answered yes while 8% answered no. Regarding the types of information related to the heritage that interviewees want to know, the top three answers were photos, stories of people who lived there, and texts. Only 23.33% of interviewees identified obstacles to participating in participatory heritage platforms. The obstacles identified can be grouped into three categories: mobile application-related obstacles, content-related obstacles, and user-related obstacles.

4.3. Role of participatory heritage platforms in raising awareness and the place of information credibility in the process

47.68% of the interviewees said they believe that the participatory heritage platform contributes to raising awareness. When it comes to information credibility, 32.7% of the interviewees preferred to consult the information provided by experts, while only 5.3% chose to consult the information provided by inhabitants, and 21.7% believed that both sources of information are important. The rest of the answers were not taken into consideration since they were indefinite answers (11.8%) or no answers (37.5%). The average age of those who preferred to consult with experts was 44 years old, while the average age of those who preferred to consult with inhabitants was 54 years old. The average age of those who believed that both sources of information were important was 51 years old.

.5. Discussion

In this section, we will interpret the results of the interviews and place them in the context of the development of P@trimonia, the participatory mobile application for spatial-semantic information related to heritage. The recommendations following the interpretation of the results will be taken into consideration in the next steps in developing the mobile application.

5.1. The global gender gap

The data collected during the interviews allowed us to uncover a demographic asymmetry when it comes to mobile SRSi use. Although it is not possible to generalize, it is consistent with what is described in other scientific literature. This asymmetry is related to gender. While only half of the male interviewees use mobile SRSi, 81.1% of female interviewees use mobile SRSi for longer hours. This asymmetry is also significant in the frequency of daily SRSi use, 78.3% of female interviewees confirmed daily use of SRSi, compared to 58.8% of male interviewees. If we consider the most used SNS among our interviewees, this gender disparity conforms to the disparity observed between male and female Facebook users in Europe, America and Oceania which have a higher number of female users, unlike Asia (Gil-Clavel and Zagheni, 2019). Gender-inclusive design recommendations

dissemination, and innovation of intangible cultural heritage (Guo and Wang, 2020), it is crucial to develop participatory heritage platforms that take into consideration the promotion and the safeguard of the intangible cultural heritage and design adapted platforms to mediums promoting not only tangible heritage but also intangible heritage.

5.3. Social network sites (SNS) on the top of the list of participatory heritage platforms in Tunisia

Platforms like Facebook, Twitter, Instagram, and YouTube have emerged as spaces where the construction and interpretation of historical events take place, often within significant social, political, and cultural contexts (Kelpšienė *et al.*, 2022). In the context of this study, the results show that an important percentage of individuals who do SRSi use are users of SNS. If such SNS technology is used with proper attention, it can contribute to upgrading knowledge (Ansari and Khan, 2020) and we suggest that this can be tested in cultural heritage awareness. This observation gives us two recommendations for the future. On the theatrical level, the evaluation of users of SNS interested in heritage in Tunisia through an SNS case study would be helpful to assess the views of these confirmed users on participatory heritage platforms. And on the technological level, testing the possibility of allowing SRSi between SNS and P@trimonia for more information related to heritage spreading, especially since the presence of social media share icons improved the users' interest and valuation (Townsend *et al.*, 2019) in a different context.

5.4. The need for “expert” information related to heritage

In the previous findings of a study, we conducted with a group of experts in 2020 (Stiti *et al.*, 2022), we analysed the credibility of information provided by various actors and evaluated their interest in the information shared by other actors. As information on platforms suffers from a relative lack of professional gatekeepers to monitor content (Li and Suh, 2015), evaluating information credibility has become an important issue for today's information consumers. In this study, most interviewees favoured consulting information provided by experts, although a significant number recognized the importance of consulting information provided by both sources. Compared to the previous study, this credibility concern is similar to the results of the focus group with experts, where the criterion of “credibility of the data” generated a lot of debate and was considered a central element in structuring, organizing, and displaying information in participatory heritage platforms. Nevertheless, the previous study found that the credibility of each actor was almost equal but highly depended on the type and level of information provided. This observation was not the same in the current study due to the limitation of the interview method. While the focus group method allowed debate and discussion between experts, the interviews only allowed interviewees to indicate which source they want the information they consult to come from. These findings about age highlight the potential influence of age on the preference for sources of information related to heritage: while younger individuals seek to consult information coming from experts, older individuals were interested in consulting information coming from inhabitants. This observation was against the hypothesis that older individuals are more rigid regarding information sources and expertise. Continuing the development work to guarantee a clear distinction between sources of information is crucial.

6. Limitations

The major limitations of this study are due to the data collection method which is the in-person structured interviews and the usability evaluation aspect. Among the limitations of the in-person interview method, there is the social desirability bias where participants may feel pressure to provide socially desirable responses when interviewed in-person, which may limit the validity and reliability of the data collected (Larson, 2019). There is also interviewer bias since the in-person interviews

not fully represent the perspectives of the entire population (Groves, 2004). However, it is worth noting that the predominantly men composition of our sample and the lower internet usage among a minority reflect the characteristics of the population surveyed in our study. Our primary objective was to investigate and address the research questions within the specific context of this population as it naturally exists. It is crucial to emphasize that our research design prioritized maintaining the natural composition of the sample without altering its inherent characteristics. We intentionally refrained from actively seeking out additional women or individuals who are more connected to the internet with the aim of achieving a balanced representation. By conducting interviews with individuals who were already present and accessible within the study area, we aimed to capture this specific group's true dynamics and realities.

7. Conclusion

Our study aimed to comprehend the three main focuses (1) understanding ways of sending, receiving, and sharing information (SRSi) with the population surveyed, (2) polling the SRSi platforms that the population uses and the reasons behind the choices of using these platforms, and (3) capturing how the population perceives the impact of participatory heritage platforms on their heritage in danger, while giving insights about acceptability and usability aspects. The overview of the results allowed us to answer the three main focuses. The interpretation of the results in the discussion places them in the context of previous findings when it comes to information credibility and explains what they mean for future research. On the theoretical level, future work will include evaluating the views of SNS by users interested in heritage in Tunisia through an SNS case study and then evaluating the attributes of heritage considered by two different groups: the users of SNS and the inhabitants. The technological recommendations suggested for the development of P@trimonia include gender-inclusive design recommendations, the possibility to consult mediums that allow promoting intangible heritage and not only tangible heritage, cultural heritage awareness, connecting SNS and P@trimonia for more information related to heritage spreading, and guaranteeing a clear distinction between sources of information. Furthermore, it is important to consider the socio-economic reality of the context in which the platform will be used.

The authors would like to acknowledge the valuable support of Dr. Safa Achour and Dr. Hazar Souissi in organising the interviews. The authors would also like to express thanks to the interviewers Amal Malki, Amani Béjaoui Kharouni, Hadil Ben Belgacem, Hedi Amari, Ines Chebbi, Islem Werfelli, Mariem Chelbi, Maryem Ksouri, Mohamed Mourali, Oumaima Meliane, Oussama Baccouche, Rania Zairi, Shaima Kocht, Skander Sfaxi, Sohaib Tiss, Soumaya Larbi, Wafa Hammami, and Zeineb Nefati for their rigorous work, and to the *Association de la Sauvegarde de la Médina de Tunis* for welcoming them at their headquarters during the interviewing and transcription tasks days.

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