Challenging the Place through Participation: Reflections from Working with Visually Impaired Persons

Extended Abstract

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ABSTRACT

We report on two ongoing research projects concerned respectively with the development of a rural stay and an art exhibition. Our approach is inspired by participatory design and the specific stakes of expanding the range of accessible activities for visually impaired persons. The observation and analysis of the interaction and disruption that comes from making the participation of visually impaired persons possible unfolds important aspects to take into account when designing accessible user experience as well as give incentive to the visited place to improve their accessibility for all. We would like to share on-going reflection on methods and participation as well as learning from our projects.

KEYWORDS

Accessibility, participation, visual impairment, outdoor, leisure

1 INTRODUCTION

Expanding the range of accessible activities for visually impaired persons (VIP) is an important challenge for society as well as for research. Exclusion and lack of accessibility are as much the result of diminished individual ability than the result of the material and social environment [11]. Given the diversity and complexity of understanding the specific needs regarding visual impairment as well as the contrasted adoption of assistive technologies [1,13], participatory design appears as a promising approach [8,12] to overcome the challenge of designing accessible for all user experience.

Several research works focus on adapting existing participatory techniques for the blind or visually impaired persons [2,3,7,10] especially in the framework of participatory prototyping workshops. Our experience on research projects involving VIP invite us to think this adaptation only scratch the surface of the issue of engaging participation of people with special needs, and that participatory design in its essence can be pushed further.

We report here on two ongoing research projects aimed at developing accessible activities for VIP. The SEEIT project is aimed at designing an inclusive journey that offers to VIP leisure activities at a rural stay for 3 to 4 days. The SmartArt project proposes to develop access to art through the design of an exhibition that can be experienced without the need of sight.

In the making of these projects, we observed that the very participation and practical condition of the project put the setting of participation (here, a rural stay, a city tour, a museum) to the test by requesting to work on, and accommodate, the participation for VIP. Actually, the place of participation is of special interest: making possible the participation of VIP in places where they wouldn't have come outside the research project opens to a rich and dense experience for design. By place we mean, as much the space and physical environment than the people and social world it locally support. The observation and analysis of the interaction and disruption coming from the participation unfolds important aspects to take into account when designing for an accessible user experience and questioning how to give incentive to the visited places (rural stay and museum) to improve their accessibility for all.

On the occasion of the workshop we would like to share on-going reflection on methods and participation from our projects.

2 PARTICIPATORY DESIGN AND VISUAL IMPAIREMENT

Enabling the inclusion of impaired people in participatory design projects is a current and timely research question [12] which challenges the democratic stance of this field of research as well as the way of doing research and design. Recent work has been conducted on the adaptation of existing participatory design techniques and toolkits for the specific needs of visually impaired persons. For instance, [3] reports on the adaptation of a participatory workshop setup for doing prototyping with visually impaired children. Based on a similar concern, [2] develop a participatory approach for the design of interactive maps with blind persons. [10] detail their adaptation of a cultural probes approach for the design of an accessible exhibition, especially through the use of clay as a mode of expression. [7]

report on the development of a paper prototyping technique accessible to blind persons.

All these projects share an orientation towards adapting participatory techniques. But also, all of them highlight or underline the work the researchers have conducted in order to adapt their own setting (ie, research lab, University) to welcome the participants. For instance, they describe how to accompany or explain to the participants the way to come to the place and joining the PD event, or the way to arrange the place furniture to prevent banging on them and allow ease of movements. Apart from highlighting the remaining work at improving building and research facilities access for all, we consider that this work of enabling participation is a key asset of design projects and that as much as the artifact to be prototyped or evaluated. Especially by the effects it has on raising awareness of accessibility issues and triggering potential improvements. In other words, such unproblematic (in other contexts) aspects of participation as attending to a PD event become practical problems to be dealt with in the context of visually impaired persons participation and provide valuable resources for the project. As such, in our view, they are to be acknowledged as meaningful "events" by project stakeholders and to be taken into account for the design.

3 TWO PROJECTS CASES

The two projects we build upon are both action-research projects initiated by a regional association, *Lire Aussi* (which can be translated, "Reading too"), dedicated to improve information accessibility, mainly in the domain of civil and cultural content, to VIP. The research and design partners have got in touch through the region *Champagne Ardenne* research and innovation services to provide their specific expertise to the needs identified by the association.

The association came to us with two project ideas: the need to develop accessible rural stay interesting and accessible to VIP, and improving the access to art exhibitions contents without the need of sight. After successful evaluation by the region authorities, the projects have started at the end of 2015 and the beginning of 2017, respectively.

The two projects share a same focus and methodological challenges as they aim to offer VIP to go to places they would not have usually traveled without their involvement in the research projects, namely a rural area and a museum. In these projects, technology use and design are viewed as one of the means to improve the accessibility of these places unfamiliar to VIP and challenged us at a wider level in our design of activities. In our perspective, designing activities concerns as much the artifact to design (that could ease access for all) than provoking development and change for all stakeholders. On this latter aspect, running the project is as important as its outcomes in terms of technology (prototypes, application).

3.1 A Rural Stay

Access to outdoor leisure and country is a revitalizing experience that raises a lot of accessibility issues for visually impaired persons [4]. The *SEEIT* project is aimed at developing a 3 to 4 days long stay at Grandham, a village of about 50 inhabitants in the former *Champagne Ardenne* region in France (now part of the *Grand Est* region). The village already benefits from a 3 bed-rooms shelter facility labeled as accessible to visually impaired persons in 2014 by an independent organism. The project has been initiated by *Lire Aussi* and gathers researchers in Informatics, in Sociology, in Object and Sound design, as well as several Grandham inhabitants, with a strong involvement of the mayor. Through this project the aims for *Lire Aussi* and Grandham is to develop an accessible rural stay offer for VIP the association can run several time a year in order to sustain its own activity and make profitable the village financial investment on the shelter. We initiated contact with visually impaired and blind persons through a local service, the *SAVS Michel Fandre*, an organization dedicated to provide help to VIP daily life in the city of *Reims*. Six visually impaired persons have shown interest for the SEEIT project and accepted to participate and possibly try the journey.

I order to design the rural stay we directed our work first at defining and creating the activities that will be offered to the VIP and, on second hand to the practical conditions for the stay (transportation, foods, and sleep organization). Several workshops have been conducted at Grandham with the designers but also with the inhabitants in order to develop a better understanding of the site, the village, and of the possibilities to develop stimulating and accessible activities. Several activities were listed: walks in and outside the village, getting to know local history - strongly marked by WW2 -, following hunters in the woodland, fishing, trying different assistive devices and mainstream technologies.

The VIP who joined the project have been interviewed about their daily life, their relationship with assistive technologies and their expectations about an enjoyable rural stay. They also have accepted to come to Grandham a first time for one day in order to discover the village, the rural stay, and work with us on the future activities to ensure at the village. This on-site visit had an important impact on the way we pursued the project, we will thus account the way their participation challenged the place.

Grandham has no public transport infrastructure and the nearest train station is at about 40 minutes by car. This configuration raises a first issue for a visually impaired person to be able to come to the place. The six VIP participants came with the support of the SAVS vehicle and two guides. This arrangement highlights the difficulties of enabling VIP participation on site without the support of an association. It also challenged the initial project view of developing a journey available also to individuals or groups of "independent" VIP. This experience led the project partners to look for a wider range of ways to access the site (ie, taxi companies, arrangements with nearby authorities to expand public transport offer).

Once arrived, we have begun with a visit of the shelter that left mainly a positive impression to the participants with its accessible kitchen and bathroom. The easiness to understand the organization of the rooms was emphasized by the blind participants, as well as the contrasted wall colors and possibilities for modulating light intensity by those with partial

sight impairment. Despite the accessibility label, the participants pointed out several issues especially in view of feeling relaxed on a leisure time. The choice of some of furniture with sharp angles and the presence of a coffee table in the living room discouraged moving without the use of the cane. For the participants, a safe and relaxing place (their home, for instance) should allow them to move without the need of an assistive device. These observations asked for further work in adapting the shelter for the project. A similar issue was faced walking the 15 meters path that separate the shelter from the parking and the adjacent building used as meeting place for the SEEIT journey activities. The borders of the path were not sufficiently sensitive for the cane to be comfortably used without the support of a sighted person. The borders had to be reinforced in order to allow autonomous circulation when coming or leaving the shelter. We would like to highlight that more than noticing problems in situation and treating them, this approach has contributed to sensitize the Grandham participants to accessibility issues and developed a more proactive position from them to improve the condition for welcoming visually impaired persons.

A walk in Grandham and the country side area has also been organized with the participants to make them discover and collect their first impressions of the place as well as our initial ideas for outdoor activities. In contrast with the urban environment the VIP participants are familiar with, Grandham has been felt as quiet and safe. The sound of a car arriving can be heard miles away. The village plan organization was easy to learn following the village main street. However the experience was very different when leaving the street for the multiple countryside paths that allows enjoying the local nature. A lot of sighted members of the project were presents during the walk and despite the walking being enjoyable this configuration alerts us about the very limited paths that were actually feasible with safety without the support of a sighted guide for each VIP. Contrary to the project stakeholders' expectations, this limited the area for autonomous activities during the stay in the village to the main street and the area nearby the shelter. This observation completely refocused the scope of the activities to offer during the stay. The VIP participants had also the opportunities to express their reluctance about taking part to hunting or fishing that were initially thought as possibly interesting given the local resources.

3.2 An Art Exhibition

The aim of the SmartArt project is to reduce inequalities by allowing access to art and culture for visually impaired people. The main objective of the project is to co-design an art exhibition adapted to visually impaired people needs without excluding sighted people from the picture.

As in the SmartArt project there are no actual practices to observe (visually impaired people usually do not go to museums, and the social innovation of the project is precisely to reverse that situation) and what we will be designing (i.e. the actual content of the exhibition) is not known beforehand, participatory workshops of different natures (from focus groups, to tactile workshops, to the walking visits described in the rest of this section) constitute the principal means to gain insight into "needs" - both from a pragmatic and a research perspective.

In particular, as visiting an exhibition is an itinerant, living and fluctuating experience, in line with Korn [6] proposition we extended the usage of walkshops as a complement to traditional workshops and prototype field studies. During walkshops, users would move in the context of the application domain while at the same time walking is used as a stimulating activity:" the physical walk allows the mental walk, stimulating the thought and making possible the contact of the body, as element of measure, with the space" [9]. The act of walking makes a better involvement with territory possible, as well as allowing a more comprehensive perception of space's multiple dimensions and how users inhabit it.

We invited thus the members of the visually impaired people association participating in this research (the same of the SEEIT project, the *SAVS*), to a guided tour in the authors' town: the tour was composed of the old medieval town followed by a tools' museum. The research objective was to gain insight about how visually impaired people walk and move around as a group, what kind of cooperation will be put in place with sighted people, how the verbal explanations of the guide are perceived, what aspects are considered interesting (architectural description, historical context etc.) and this in an indoor at outdoor setting. The relationship between visually impaired and sighted persons was of particular interest, also in the light of what emerged in the previous project: in several interviews VIP participants highlighted the need for autonomy but, as seen, the leisure activities proposed did not allow for total autonomy.

To the walkshop participated a group of 16 people, composed of blind (3 people), visually impaired, and sighted people. The path used during the visit was planned to be easily accessible by foot for everyone. For this reason, two researchers followed the path proposed by the guide before the official visiting day, and suggested changes after discussion with a member of the SAVS association in order to make the walk more accessible for all. From a content point of view the city tour was planned so that the guide descriptions would not only be focused on what could be seen, but also on the historical, architectural and cultural richness of the city.

The walkshop was held during holidays, which implied a strong presence of tourists exploring the city. As the group was quite large its appropriation of the public space during the guided tour of the city implied surrounding the guide (as it often happens during guided tours) obliging tourists to create paths to avoid the group. In avoidance movements tourists' glance was oriented primarily to the evident signs of the handicap (for example the white stick some of the participants were using) indicating their blind condition. As a consequence, the avoidance movement created by the tourists was larger than expected. While in the normal public space situation travellers going in different directions share the weight of not bumping into each other and not get hurt, in this particular situation the sighted tourists charged themselves of the avoidance movement

creating circles larger than expected. As said, the main aim of the SmartArt project is to create an exhibition able to involve at the same time VIP and sighted people. Understanding which spatial configuration is spontaneously created and if the museum that will held the exhibition should impose paths or change its own configuration is thus of vital importance.

During the visit (in both cases, the outdoor visit of the city and the indoor visit of the museum) we could observe the formation of binomials sighted-blind while the other visually impaired persons walked autonomously with or without the white cane. In the case of the binomial, the sighted person described pragmatically what she was seeing, while the guide's explanations were more on the historical or artistic context. This complementarity, the participants explained in an *a parte* interview, was very appreciated.

As for the guide, which wasn't used to visit the city with blind people, on more than one occasion she didn't dare to accelerate the visit rhythm, even when the people left back were simply 'taking their time'. A behavior she will not have applied to other kind of city visits. In addition, she relied on verbal clues to show participants objects and parts of the city. Being the space exploration body based and centered, in several cases, the usage of the phrase like 'if you look up' implied the whole group moving his head to look up (even the blind people) while for other non-body based verbal clues (such as, 'as you can see here') the language simply left behind the blind participants.
Interesting enough, the guided tour of the city was considered more pleasant than the one of the museum. One of the reasons declared by the participants was the fear of inadvertently touching an object and making it fall, fears they didn't have during the city visit. Again this commentary is very important for the actual exhibition creation, as the proposed path and the museum configuration should be created to let the participants freely explore the environment.

4 ON GOING REFLECTIONS

As ongoing research projects, the SEEIT and SmartArt projects involve a continuous reflection on the on-going experience, this paper is an occasion to discuss early thoughts and questions.

From the beginning of these projects, we have been interested in engaging visually impaired and blind persons participation among the different stakeholders in order to develop an accessible and stimulating user experience. However we also faced methodological challenges in organizing the kind of *third space* [8] needed for a participatory project. As presented earlier, involving VIP in PD is a current research issue. The existing work on adapting PD techniques inspired us but was also insufficient for our aim to offer VIP easiness to move inside an unfamiliar space and make these places welcoming for them. The field of participatory design shows recent concerns about field techniques involving movement and place exploration, especially walking techniques [5,6]. However, as far as we know, these researches are focused on understanding the spaces participants already know and live and not at organizing encounters between one group of unfamiliar participants and a rich local setting participants would be interested to discover, element that also needs to be studied, understood and listened to. Thus, in these two projects we needed to develop means of co-experiencing the space together with VIP and local staff.in order to make a welcoming place..

In future work, we are interested to further and deepen the conceptual and methodological issues that arise at this level for project that aims at expanding the range of accessible activities to VIP. From our first observation and analysis, the practical organization of visually impaired persons participation bring a rich experience to inform the design activity but also to develop the accessibility of the places where the participation is held.

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