A Design Thinking Based Proposal for Self-guided Adaptative Visits to Cultural Facilities

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Abstract. *Nowadays, with all the advances in technology, access to information should be universal. But this is far from being true, especially if we focus on the access to cultural information. People with complex communication needs, low education levels, migrants, or not familiar with the culture of reference find problems accessing this kind of information to the point of not considering cultural resources a leisure alternative. In the Erasmus+ KA204 Allure project, one of its intellectual outputs was to find a solution to this problem. Through a Design Thinking process carried out by people working in cultural entities in a real museum with visitors, we found three solutions to improve accessibility to cultural events. In this paper we will explain all this process and detail the solution selected, an app for self-guided tours to museums with the ability to be adapted to the communication needs or cognitive or education level of the visitor.*

Keywords. Cultural events, accessibility, design thinking, app development, self-guided tour

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1 Introduction

It is a reality that many adult audiences do not use cultural resources due to different accessibility issues. Some of them suffer physical or psychological barriers which exclude them from participating. Others do not find cultural events appealing as they are not designed having them as a target audience.

The Allure project, in which this research is framed, works in pursuing universal cultural access for all, so all adults can learn within cultural activities by having accessible information and resources available.

One of the intended intellectual outputs of this project was to present a solution to improve non-formal and informal education for adults in cultural activities. This solution was not closed fully at the proposal of the project; instead a Design Thinking [1-3] process was scheduled to effectively come up with an appropriate solution.

The Allure project (2020-1-ES01-KA204-082720)[1], a KA204 - Strategic Partnerships for Adult Education action, is co-funded by the Erasmus+ Programme of the European Union. It includes the following partners:

Regional Ministry of Culture, Education Vocational Studies and University, Galicia (Spain) - Coordinator

- University of Vigo, Galicia (Spain)
- Workshops of Lublin, Małopolska (Poland)
- Business Association of Portugal (Portugal)
- Icelandic Textile Centre, Blönduós (Iceland)

Section 2 explains the design thinking process followed for this intellectual output. In Section 3 we show the solution that will be implemented, and finally Section 4 will briefly present the main conclusions.

2 Design Thinking Process

More than 25 years ago, Design Thinking emerged and, since then, it has developed as a worthy human-centered design methodology, with main applications in industrial design and marketing. Its main characteristic is that it allows the designer to come up with solutions adapted to people's demands in a structured way, creating more opportunities to offer the best user experience. Under these basic lines, the most common scheme presents Design Thinking as a five-step procedure consisting of the following stages: Empathy, Definition, Ideation, Prototyping, and Testing.

Within the frame of the Allure project, this process took place during 2 days in December 2022. The experience was conducted by 12 people divided in 3 groups, all of them delegates from the partner institutions of the project and with a wide experience in cultural events, supervised by two experts in the methodology. The challenge was to improve the experience of adults when visiting museums. It was done in Museu Serralves[2], a world-class Contemporary Art Museum, in Porto (Portugal).

[1] https://allureculture.eu/en

[2] https://www.serralves.pt/en/

During the empathy phase, the three teams went into the Museu Serralves to interact with actual visitors making interviews and taking notes of their reactions. In the definition phase, using different active techniques, the attendants moved from the data gathered to insights on the visitors (using participant boards and affinity maps), expressed as "Points of View" (PoV) for their projects. Each of the teams defined their PoV:

1. A person (no matter age) needs to enjoy positive experiences in museums to develop motivations to come back, because previous experiences were not enjoyable or did not exist at all.
2. A Brazilian trans-gender person, with certain political concerns, needs to feel included because of perceived lack of representation.
3. A non-regular or first-time guest needs to be guided by other visitors to get an emotional connection through the museum space because they get lost easily and it turns to be a bit confusing. The museum experience is constructed for more experienced users.

These PoVs seem to be reasonably inspiring for developing solutions: the involved people deserve good proposals for visiting museums. Next, in the ideation phase, keeping their PoV in mind, each of the teams performed a guided brainstorming process to generate valid ideas for the defined situations, then they organised these ideas and, finally, they selected one or more to be implemented.

Going into the prototyping phase, the teams created a prototype on their selected ideas, something tangible and manipulable, to be presented to actual users to check the validity of the proposal. The prototypes could be described as:

1. A smartphone application that helps the visitors navigate their way within the museum and to find specific artistic works, providing a description of them in real time.
2. Another smartphone application linked to a short initial survey that selects the visitor profile and then provides visiting routes tailored for this profile, with specific points of interest, artworks explanations and itineraries. Thus, people from different groups should feel more included in the museum experience: it is the case of trans-gender people, but it could be elderly, migrants, colour-blind people, children, and so on.
3. A stop spot, consisting on a bench to rest with technological support (a tactile screen with information regarding the actual room, its art pieces, the location within the museum, the proposed routes for visiting, and so on). On the back side, children will find activities related to the exhibition (paints, games, etc.) to improve their experiences when visiting the museum. Besides, users can ask for explanations from other expert visitors: art lovers, people without strong knowledge of arts, looking for comments adapted to their interests or understandings, etc.

Figure 1 presents the different prototypes proposed during this phase.

The final testing phase would be ideally done coming back to the museum and looking for feedback from other visitors once they receive and manipulate the different prototypes. Due to time restrictions, this part was made amongst participants themselves.

(a) Prototype 1

(b) Prototype 2

(c) Prototype 3

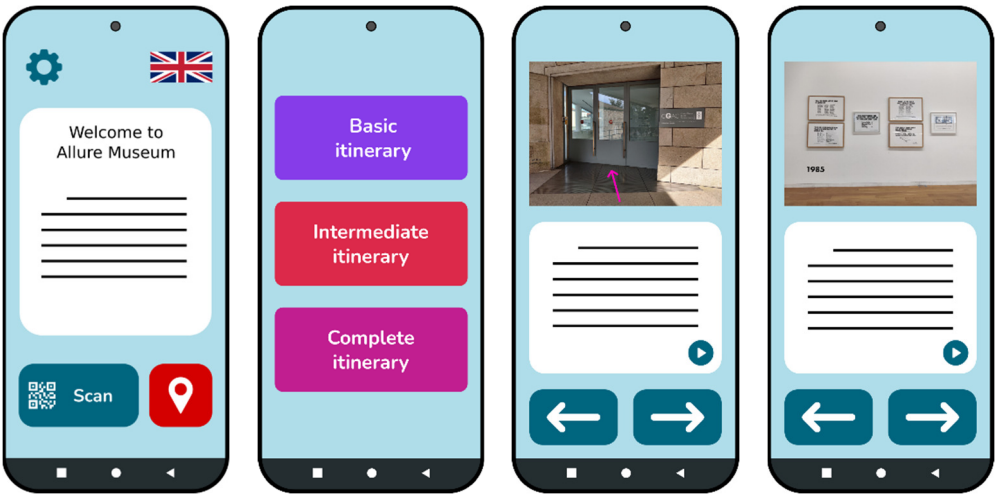
Figure 1. Prototypes proposed during the design thinking phase.

3 Solution Selected

The solution selected is a mixture of the first and second prototypes. It consist of two components:

1. A desktop application to be used by museums where cultural managers can insert all the information, with the ability to create different routes with different levels of detail in the information given for different groups of people depending on their communication needs, education levels, etc. This application and the information that it contains will be available in different languages.
2. A smartphone application, also available in different languages, where the visitors can download the information and different itineraries available for the museum they are currently visiting. The users will select the itinerary they want to follow according to their needs and preferences.

In Figure 2 we present how the application would look using images captured from a real museum, the Centro Galego de Arte Contemporánea[3] in Santiago de Compostela (Spain).



(a) Main screen (b) Itinerary selection (c) Route screen (d) Display screen

Figure 2. Allure Museum Mock ups.

[3] https://cgac.xunta.gal/en

Figure 2a displays the main screen, which contains basic information about the functionality of the application and the access to the different screens of personalization. In order to download the itineraries, the users may choose between scanning a code available at the entrance of the museum or the automatic detection using devices' location service. Figure 2b shows a sample of how the selection of itineraries would look like. The quantity and representation of the itineraries may vary depending on the museums or exhibitions.

Figures 2c and Figure 2d make up the basic app functionality. The route screens guide users through the different spaces of the museum, combining a visual representation with a descriptive text defined by the museum. The display screens show the different pieces of artwork along with the description considered appropriate for the itinerary selected by the museum. Descriptive texts can be played with a text-to-speech tool. The final route screen will guide the user back to the initial spot of the itinerary.

4 Conclusions

We have designed a solution to improve the experience of visiting a museum for adult people, including those with complex communication needs, low education levels, migrants, or not familiar with the reference culture. The solution was selected after a Design Thinking process in a real museum, the Museu Serralves, with real visitors, which demonstrates the need for this type of solution.

As future lines, we plan to finish the proposed solution and test it in a museum with real users. This will give us more ideas to improve before launching a version to the market.

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References

[1] P. Rowe, "Design Thinking," Cambridge, MA: MIT Press, 1987.

[2] K. Dorst, "The core of 'Design Thinking' and its application," Design Studies, vol. 32, no. 6, pp. 521-532, 2011, DOI: 10.1016/j.destud.2011.07.006.

[3] T. Brown, "Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation," New York: Harper Collins, 2009.