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Involving the Museum Visitor Community in Designing Exhibits

1st Author	2nd Author	3rd Author
1st author's affiliation	2nd author's affiliation	3rd author's affiliation
1st line of address	1st line of address	1st line of address
2nd line of address	2nd line of address	2nd line of address
Telephone number, incl. country code	Telephone number, incl. country code	Telephone number, incl. country code
1st author's E-mail address	2nd E-mail	3rd E-mail

ABSTRACT

Museum and other cultural heritage practice increasingly recognizes the value and importance of involving local communities in the design and delivery of the cultural services they access. Commonly, where exhibits are concerned, museums and other organisations will make use of expert panels drawn from particular demographics to evaluate exhibits in structured moderated sessions. This paper considers how the design and evaluation might be done in a more integrated participatory fashion and presents some experiences of protoyping sessions conducted on the museum floor. Our findings lead us to argue for more consideration of the value of co-design workshops on the museum of gallery floor with visitors.

Categories and Subject Descriptors

D.3.3 [**Programming Languages**]: Language Constructs and Features – abstract data types, polymorphism, control structures. This is just an example, please use the correct category and subject descriptors for your submission. The ACM Computing Classification Scheme: http://www.acm.org/class/1998/

General Terms

Your general terms must be any of the following 16 designated terms: Algorithms, Management, Measurement, Documentation, Performance, Design, Economics, Reliability, Experimentation, Security, Human Factors, Standardization, Languages, Theory, Legal Aspects, Verification.

Keywords

Keywords are your own designated keywords.

1. INTRODUCTION

In common with many other sectors designing interactive devices, designing technology for cultural heritage often involves the adoption of a user centred design approach with a goal to include the different perspectives of the potential audience [7]. Bitgood states *"visitor input is of critical importance to the development of interactive exhibits"* [1, p.115]. Adopting such an approach can assist if the aim is to ensure that the viewpoint of the museum doesn't dominate when the end user is the public [8]. The public's viewpoint and ideas hold in some respects as much value and merit as the experts (curators/historians) in a subject area.

Apart from this benefit, user centred design can also be seen as a positive and another way museums can serve a community by creating engaging activities in which the public can take part in.

There are various ways cultural heritage organisations engage with communities such as educational workshops, events, evaluations and design workshops. The latter two are the least adopted possibly due to limited resources or out of house design and development. On the other hand, it is becoming more common practice for cultural heritage organisation to involve communities in these activities. For example, the Exploratorium has been highly acknowledge for involving the museum visitors in testing out prototoypes during the design process on the gallery floor [2]. Additionally, there are many studies that involve visitors in evalutaions [3,9,4,5] .

There are also projects that have involved designing exhibits with members of a communitiy which have adopted a strong particpatory design approach, often working with the same group at different stages of the design process [9]. These panels are mainly recruited from schools [9]. Recruiting participants from the museum floor for co-design sessions may give a very different context than participants recruited as part of a school activity.

Although these are established ways of engaging communities in developing and design interactive exhibits, there is gap in research documenting members of the public during their visit being involved in co-design workshops directly from the museum or gallery floor. Recruiting particiapnts during their museum or gallery visit has previously been associated with evluations rather than for co-design sessions. This is an area our study explores.

2. Background to study

Unlike many museums of its size, The Riverside Museum in Glasogw, has a distinct feeling of being rooted in its community and this localism is reflected in the geographic profile of its visitors. In 2012 35% of the visitors were drawn from the immediate local area with a further 39% arriving from elsewhere Scotland [6]. The museum's collection is centred largely around the heavy industries in which people in the locality worked. Many of these industries were located within walking distance of the museum, and were operational within living memory, with some continuing to provide employment to this day. Many items on display were either made nearby or have been donated to the collection by locals or their relatives. A substantial proportion of the museum's exhibits incorporate audio, video and textual oral history generated by the community and visitors have the opportunity to interact with volunteer guides, many of whom worked in these industries and are largely drawn from the immediate locality.

We were tasked with designing a new digital interactive exhibit for the museum with an industrial heritage theme linked to conflict in the first world war. One of the museum's key requirements for the exhibit was that it should encourage social participation and interaction. We felt it made sense to incorporate this notion in our approach to the design process also. We adopted a participatory design approach to generate ideas for the exhibit, choosing to do this "live" in the museum with participants recruited spontaneously. It is on this method that we report in this paper.

3. Current Approach

The museum has identified 5 different audiences to consider while designing and creating exhibits. These audience groups are: children under five years, teenagers, school groups aged 5-14 years, families and those with sensory impairments. For each audience type the museum works with a specialist panel drawn from the demographic to aid in designing for vistiors . According to Taxen for cultural heritage organisations who do adopted a type of participatory design approach, using dedicated panels recruited from schools is a standard approach [9]. It means the museum is able to gather an understanding of how a particular audience might react to an exhibit and also means that the local community is actively involved in shaping the museum. We observed, from the participant perspective the teen panel were proud of being involved in deciding what happens in the museum. A limitation of such design sessions is that these groups, when designing interactive exhibits often devise designs that are little more than slight variations on games that they are already familiar with. Additionally, arranging these sessions and participants can require a lot of resources.

Every time a session is run with a panel the same people are invited to be part of the panel. Although this builds up a strong relationship where participants for example gain an understanding of how to help the museum, feel confident that they have some impact on the decisions in the museum and are more likely to be completely open with their thoughts, there may still be limitations to what will come of these sessions. While there is surely great value in carrying out these sessions both in terms of enabling the community to be actively involved in shaping the cultural heritage sector and for the curators to gain insights and understanding of how to design exhibits to suit the needs and desires of the target audiences, it is worth considering whether co-designing exhibits with local communities might be curated in other ways and if doing so will yield any new or different outcomes.

3.1 Proposed Approach

As previously discussed, audience panel sessions require a significant amount of organisation, can sometimes result in designs lacking novelty that are highly similar to familiar games and or an end interaction that doesn't compliment the story around

the artefact. We explored using a new approach involving the visitor community in the design of new interactive exhibits. In previous panel workshops, the museum presents the story of the exhibit to the audience panel along with the related artefacts and asks them to come up with ideas for an interactive exhibit. In most cases the groups come up with ideas that emulate existing popular games, introducing the gaming element even when this has not been suggested in any way by the context of or other materials in the session. Our approach was instead to present a semi-developed prototype with the intention of giving participants a concrete start point to build on beyond just the story and artefacts that allows them to explore possibilities beyond our own ideas as designers but that keeps the scope of the ideas within that acceptable to the museum

The second element of the approach that we explored was in holding the co-design session on the museum floor or gallery space and inviting visitors spontaneously to participate in designing with us. Normally, participants for co-design sessions have been pre-selected and come to the museum or gallery specifically for the session. Inviting museum visitors that happen to be there is hoped to capture a more diverse audience and potentially a demographic that would normally not participate in formal design workshops or focus groups with the cultural heritage sector.

This could impact the relationship between cultural heritage organisations and their local communities in 2 ways. Firstly, to involve a more diverse demographic audience than would normally take part design workshops in the museum and secondly to more opening publicise to visitors that they can influence what happens in their local museum. Additionally, we anticipated the sessions with museum visitors on the floor to yield valuable and possibly different insights from the session with panel participants.

A third strategy we adopted was to work with the education team to plan how to run the co-design session with museum visitors on the floor. The education team are highly experienced in working with visitors and running workshops on a busy museum or gallery as they run daily workshops. Using the education teams experience in planning the sessions means we can understand where might be best to position to the workshop in relation to traffic flow and the artefacts of interest, how to reduce the risk of being overwhelmed if there are too many participants and what tactics to use to get children talking about what they think or are doing.

Taken together, these strategies could reveal a different approach to the design of interactive museum exhibits with communities.

4. Study Procedure

4.1 Setting up in the space

Before running the formal co-design sessions with the public we set up tables with supporting materials, stationery and "installed" the prototype in the space shown in figure 1. We already had some ideas about how to coordinate the sessions but this evolved during the set up as we began to understand better the space and how people moved through it and near it. Doing the set up also made us think more about how best to refer to the topically related artefacts near the space and to carry out some pilot sessions with visitors who approached us while we were setting up. This allowed us time to try out and tweak how we would use the space, supporting materials (including related artefacts) and

the structure of the sessions before delving straight into the first formal session. Although this stage of the study may seem insignificant at this point, in the observations section of the paper we will explain why and how it came to be of importance.

Figure 1. Workshop Set up

4.2 Final Set up

The final set up involved 2 tables with 2 seats on either side of the tables. A researcher would sit on either side of the table alongside participants. Between the participants was the prototype with some stationery equipment for them to use such as post its, pencils, markers, blue tac and some pre-cut panels (shown in figure 2) that they could use to create or re-design with. Finally we used an information board to present what the study was about and information on the story the proposed design related to.

Figure 2. Pre-cut panels for adding or alter the prototype

4.3 Formal Procedure

Once the workshop resources were set up we followed a set of semi-structured steps for each session which were:

Step 1) participants for the co-design workshop we recruited by researchers inviting them to take part in the session or by visitors approaching the workshop area and inquiring about it, which lead to them taking part. We tried to recruit teenagers and older children as the target audience for the exhibit in question was teenagers. Next, a researcher explained the purpose of the workshop which was 'to get the visitors to help design an interactive exhibit', what they will do during the session, how long it would take and requested their consent to audio record and take photographs.

Step 2) Once they were sitting down at the prototype we explained that it was a model of the larger exhibit. They were asked to imagine they had just walked up to the exhibit and they could do whatever they liked with it.

Step 3) Finally, we allowed the participants time to explore the exhibit together and do what they like, shown in figure 3.

Figure 3. First participant group. Image shows how people worked together to explore exhibit and discuss what they could do with it.

Step 4) start to discuss what they think of the exhibit, what they liked, disliked and most importantly what they would change.

Step 5) participants were then encouraged to re-design it by physically altering or adding their own drawings to the prototype using the provided stationary (post it's, pencils, markers, bluetac, images). While people were doing this, the researchers discussed with the participants what it was they were doing and what they were thinking.

Step 6) de-brief the participants letting them know how helpful their ideas have been, thanking them and finally offering an information sheet to take home and museum pencil as a gift.

Table 1. Table of participant groups, including their gender, age and where they were from

Group Number	Participant Gender	Age	From
1	Male Male	10 15	Scotland
2	Female Female	40 11	Germany
3	Female	65	England
4	Male Male	13 9	Scotland
5	Male Male	13 18	England
6	Female Female	12 10	Scotland
7	Female Female	35 9	Scotland

5. Observations

Here we reflect on the observations we made during the session and relate back to the 3 novel approaches we adopted in the study. The observations we describe are based on our experiences while carrying out these workshops.

While the workshop and prototype was still being set up in the space visitors would approach us wanting to take part in the workshop or find out what we were doing. This enabled us to run pilot sessions of the workshop and also get visitors to help us finish setting up the prototype. We noticed during these pre-study encounters with visitors, they were keen to jump into making something with us as we were making the final parts of the prototype. On reflection we find this quiet interesting as it seemed they had no barrier to starting to create straight away once we were also creating alongside them. This could be a method to investigate further to encourage co-creation with participants.

We noticed most visitors who approached us at the table had an expectation of making or doing something. Even before they knew who we were or what we're doing they saw things and want to do an activity. This is something that we were able to take advantage of and made it easier to recruit people when they approached us. Aside from the participants that approached us, it was extremely easy to recruit people when we approached them.

We observed that the prototype itself drew people over to the table, wondering what it was. Essentially it attracted people and made it easier for us to recruit people once they were already intrigued as to what it was and what we were doing.

Being in the space located beside the artefacts related to the proposed interactive exhibit made it very easy for us and the participants to referring to them when discussing what the exhibit could be like or what the story was about. It also allowed them to consider the space that's currently there too and work ideas into that space.

In some ways, the sessions sat between co-design sessions and co-evaluation sessions. Where participants were asked both to try out a mock prototype, to evaluate what was in front of them but also to make changes to the prototype, re-designing it in any way they wanted to. Getting them to re-design and change the prototype was a very effective way of understanding what elements people did and didn't valued about the design and the story.

During the re-design task often people weren't sure what to do or how to change the prototype. To encourage or try to spark creativity we started to adopt a tactic of asking them to imagine they have been given this as a school project to design an interactive exhibit for the museum, what would they do. After suggesting this perspective, participants seems to find it easier to start changing the prototype and creating new ideas. Once people started drawing or making notes to add to the prototype it became a gateway to getting them to talk more about what they wanted to change.

6. Outcomes for Designing the Exhibit

In terms of how the co-design sessions resulted in outcomes to help guide the design of the exhibit, they produced a number of insights not just through what people said or created but in how they interacted with the prototype and what they did together with the prototype. These insights of behaviours and design ideas were then used in the project for creative inspiration and as a guide in developing the exhibit.

We observed people playing with exhibit and testing what the other person thought about what they could see by re-orientating pieces of the exhibit to show them. They also were using pieces of the exhibit to visually compare what the artefacts in question looked like. Children created a game with each other physically using the prototype which meant we could observe what they did and then also inquire what they meant to do, what they liked and disliked about this.

7. Discussion and Conclusion

This research discussed a different approach for involving visitors in designing interactive exhibits in a museum . The study adopted 3 main tactics to involve visitors in the design process which are 1) to present participants with a semi-developed idea in the form of a physical prototype rather than only the raw story and artefacts to start creating ideas from, 2) holding the co-design session in the main museum gallery space that visitors walk through and recruit visitors passing by as participants and 3) to adopt tactics from how the museum educational team run workshops on the floor. Finally, the work reflects on the outcomes of this approach and how it could be utilised for future work. The key points of interest we found using this approach were:

- there was low time investment required to organise participants as it was extremely easy to recruit participants on the museum floor

- we captured a diverse demographic

- a diverse range of ideas and behaviours emerged. Facilitating separately groups meant we didn't have single ideas dominating which can happen in focus group scenarios [7]

- it was possible to combine co-evaluation with co-design sessions within the same groups

- getting participants to retain or eliminate features of the prototype enabled researchers to understand what the participants do and don't value about the exhibit without directly asking that question

This research highlights a potential way for cultural heritage organisations to engage with the public during the design process.

Running co-design workshops on the gallery floor could require less organisational resources and include participants that might not typically take part in pre-organised formal workshops. This could be a useful way to reach a wider audience and engaging with members of the public who might never put themselves forward for the advertised co-design workshops.

8. ACKNOWLEDGMENTS

9. REFERENCES

[1] Bitgood, S. 2014. Engaging the visitor: designing exhibits that work. Edinburgh: MuseuemsEtc.

[2] Caulton, T. (1998) Hands-on Exhibitions: Managing Interactive Museums and Science Centres, Routledge, London

[3] Ciolfi, L. & McLoughlin, M. 2012. Designing for meaningful visitor engagement at a living history museum. NORDICHI 2012. Copenhagen, DK.

[4] Hindmarsh, J., Heath, C., vom Lehn, D. & Cleverly, J. 2002. CSCW '02, New Orleans, Louisiana, USA.

[5] Hornecker, E. & Stifter, M. 2006. Learning from interactive installations about interaction design for public settings. OZCHI '06, P. 135-142.

[6] Scotinform. 2012. Riverside Museum - 2012 Visitor Survey, Final Research Results, October 2012. https://www.glasgowlife.org.uk/museums/riverside/about/the building/downloads/Documents/Riverside%20Museum%20 Visitor%20Survey%202012_FINAL%20report.pdf

[7] Sharp, H., Rogers, Y. & Preece, J. 2007. Interaction Design: Beyond Human-Computer Interaction. 2nd Edition. John Wiley & Sons.

[8] Simon, N. 2010. The Participatory Museum. Santa Cruz, California.

[9] Taxén, G. 2004. Introducing Participatory Design in Museums. Participatory Design Conference 2004. Toronto, Canada.