“Let’s take a selfie”: Design Considerations for Public Selfie Booths

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ABSTRACT

Selfies have become a global phenomenon that is omnipresent on social media networks. The practice of taking selfies in public spaces has been found to be engaging and allows for a variety of novel interactions. In this work, we propose a set of design considerations to further enhance selfie booths to increase the engagement they provide. These emerged through three iterations of a selfie booth.

CCS CONCEPTS

• **Human-centered computing → Human computer interaction (HCI)**.

KEYWORDS

selfies, selfie booths, public interactive displays, design considerations

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1 INTRODUCTION

Digital technologies are becoming increasingly compact, efficient, and cheaper, leading towards more opportunities for augmenting our everyday lives. When used within urban contexts they provide opportunities to encourage more open and inclusive participation amongst urban dwellers. Throughout the past decade, numerous studies have investigated the digital augmentation of urban environments to allow people to actively interact with forms of digital self-expression through urban media art [9] and digital placemaking interventions [5, 6]. Previous research indicated that the practice of taking a selfie is an effective method of engaging with people around localised topics [2, 4, 10]. Further work on selfie booths (SBs) [7], found that these specific types of interactive kiosks can stimulate engagement but highlighted the need for designers to consider the context in which they are situated and to allow people to view what others have shared, which have motivated the usage of stationary SBs. In this work, we present a series of best practices for designing engaging SBs that can be utilised by designers and researchers. To guide this, we discuss three of our own scenarios on SBs, described in Table 1.

Table 1: Description of our three selfie booth scenarios.

	Scenarios
SB1: Free Holding	This SB (Figure 1) was designed to be a fun and creative input channel to vote on community issues. We designed this as an open booth to allow passers-by to freely pickup an iPad and take a selfie with an answer to the posed question. The previously taken photos were then displayed in the app’s home screen.
SB2: Mounted Dual Screen	As shown in Figure 2, this scenario focused on a system that consisted of two stationary kiosks intended for outdoor use. A mounted iPad Air allowed users to answer questions by taking a selfie with prop cards. After taking the photo, it would be automatically synced to the touchscreen of the second kiosk. Users could then swipe horizontally on the photo area of the touchscreen to see previous taken selfies.
SB3: Adaptive	The third deployment (Figure 3) merged the two kiosks together from the previous scenario, thus creating a touchscreen SB. Based on the feedback received from the previous scenario, we made the SB adaptive, where it would adjust its interface based on the height of the user. Additionally, the selfies would be taken after a timer of 5 seconds, to allow users to properly pose for the selfie.

2 PRELIMINARY FINDINGS

We started the iterative design exploration with SB1. Overall, participants found this method an engaging way to interact and give

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Figure 1: Holding an iPad to take a selfie with an answer to vote on community issues.

an opinion on local issues. However, two participants had privacy concerns particularly to where the photo was going and were hoping that it would only be used to make actual improvements on the issue, "*I'd like my photo to not go anywhere but have the information go into some action*". In addition, we observed in this scenario that participants had difficulties taking selfies as holding the iPad and pressing the photo taking button was quite awkward. Such a setup also means that someone needs to be present the whole time to ensure equipment is not stolen and to provide assistance.

In response to the issues identified in the previous scenario, we implemented an architecturally designed SB (SB2) that avoided the need of users needing to hold a device. We found that the participants liked seeing their selfie on the touchscreen, with participants being observed to take photos of the result and others stating that it was great to have that "*personal touch of having your selfie there*". While most participants appreciated the SB, there were still concerns over where the selfies were going and what they were being used for, with one participants specifically asking the interviewer: "*What was the purpose of taking the selfie, where does my answer go, and what is the purpose?*". Another issue found with SB2 was that the interaction was still difficult, resulting in awkward poses due to the camera button on the iPad being too close to the camera lens, which meant those interacting frequently blocked the camera's vision with their arm. This prompted the researchers to at times intervene and assist participants with the selfie taking.

Based on the results found from studying SB1 and SB2, we explored the concept of combining both the SB and touchscreen together for SB3. As the screen was quite large (50 inches) and to make the system more accessible, the SB's interface could implicitly adapt based on the user's height [8]. We tested this system in a lab environment with 10 design experts, who we also refer to as participants, from both academia and industry. Participants were asked to evaluate the system while they were using it by thinking aloud.

Figure 2: The touchscreen (left) displaying selfies with the mounted iPad (right) allowing people to take selfies with prop cards, which are placed underneath the iPad.

One of the main problems participants experienced was with the camera position, as it was placed above the screen. This made it difficult for some participants to pose for selfies as they needed to look at the screen and not the camera. Three participants explicitly mentioned that this issue is common with webcams on laptops because the on-screen camera feed is far from the actual camera. However, one participant was concerned about their appearance in the selfie particularly if the camera was moved too low as they would have a "*double chin*".

For the SB3, we also implemented a timer to take selfies as we found participants that used SB2 were having difficulties posing while holding the prop cards. However, some participants found that the timer was too fast, as it took time to step back and get into position which the system did not account for.

3 DESIGN CONSIDERATIONS

In this work, we tested three SB prototypes in different settings and presented preliminary findings from the deployments. Our findings indicate that providing infrastructure for taking selfies in a public setting needs to be designed carefully, amongst others, in terms of privacy concerns and technical issues, such as camera positioning. Based on the lessons learnt from our experimental design cases, we formulate the following six design considerations for future work:

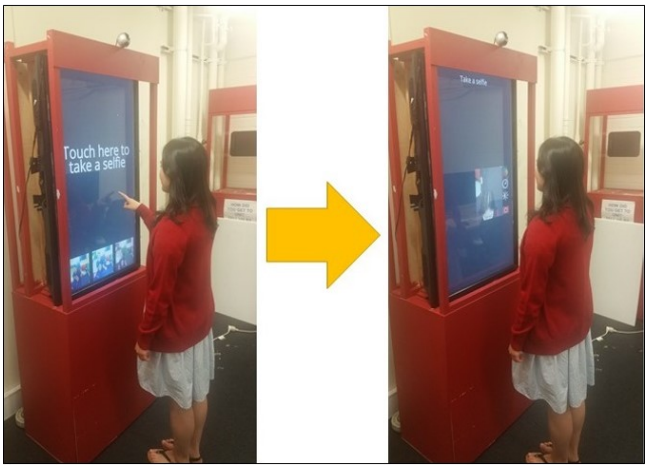

Figure 3: The touchscreen SB that was height-aware, where the interface would adjust based on touch input.

(1) Transparency - Trust and reassurance are important factors that can influence whether someone will interact with SBs. Therefore, designers of SBs need to ensure that it is clear about where selfies are stored and what they will be used for. This could be achieved through physical signage or on-screen information detailing how the data will be managed.

(2) Camera Position - The position of the camera is important to ensure that the photos are of good quality and making it easier for users to get in the frame. This could be made easier by making the camera automatically adjust based on the user's height. Another option is through guidance overlays, either printed on the ground or overlaid on the camera feed, such as making them stand within a box.

(3) Sharing - Providing easy access to the taken selfies is important. This can be achieved by printing the photos, displaying them on a large screen, or enabling users to share the photos in their social media networks or to send them to their email.

(4) Purpose - Our findings confirm results found in previous research [7]. It is important to provide clear instructions to users around the purpose of the SB (displayed on-screen or physically placed on the SB), to instruct either: (1) formal interactions - where people are asked questions and instructed to answer with a selfie; and (2) informal interactions - people can freely take selfies without an agenda.

(5) Selfie Taking - To ensure the desired selfie is taken, SBs need either a timer that can adapt to the person who is interacting. Alternatively, the system could can respond to gestures [1, 11] or voice commands, similar to what is found on smartphones [3], to trigger a selfie being taken.

(6) On-site Support Though the second prototype was intended for unguarded use, we experienced that absence of the research team led to decreased or incorrect usage. Future designs therefore have to consider how to better guide the user through the interaction possibilities.

4 CONCLUSION AND FUTURE WORK

We presented and evaluated three SB iterations that focused on engaging participants around specific topics by answering with a selfie. Based on the preliminary findings and our experiences designing these systems, we propose six factors to be considered during the design phase of SBs. We therefore consider our design considerations as a starting point for other designers and researchers to refer to when developing and ideating SB's for public interaction. Future work should further explore privacy and accessibility factors; ensure the interface is thematically aligned to the context of its deployment location; and ensure that the SBs are universally designed to facilitate participation across social, physical and cultural divides.

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