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Designing for Helpers: Identifying new design opportunities for digital volunteerism

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Abstract: With the advent of digital technology, many individuals completely or partially transition to digital platforms for volunteering. Many of these platforms do not take volunteer needs, values and experiences into account in design. Additionally, many online experiences are different to face-to-face ones as volunteers find it challenging to relate to the beneficiaries or to express/feel gratitude. In this paper, we used generative methods and tools in two codesign workshops with volunteers in an educational program involving both online and physical modules. Based on findings relevant to the mode of volunteering, people, self and future desires, we identified four areas of design opportunities to foster relatedness and gratitude in online volunteering and reduce disparities between online and physical volunteering experiences. We contribute new directions for improving the design of digital volunteering platforms through personalised solutions that support gratitude, social bonding, better communication of shared experiences and goals, and community building.

Keywords: prosocial; volunteering; generative tools; codesign

1. Introduction

“You have not lived today until you have done something for someone who can never repay you.” John Bunyan, *The Poetry of John Bunyan - Volume II*

People engage in prosocial activities from time to time – prosocial behaviours indicate activities such as helping, that make a difference in the lives of others or support a cause that one purports to cherish for one reason or the other (Eisenberg & Mussen, 1989). Digital technologies are then designed to facilitate ‘helping’ through digital activism, charity, advocacy, humanitarian assistance and such. There are a variety of motivations for prosocial behaviours which are shaped by a person’s needs and life experiences (Clary & Snyder, 1999). Incidentally, research also indicates that beneficence is important for a person’s health and wellbeing (Martela & Ryan, 2015). As a discipline that aims to provide solutions

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to human problems, design research can provide new avenues for motivating these digital ‘helpers’. Human-centred design can then realise the wellbeing benefits associated with digitally enhanced prosocial behaviour. In this paper, we explore new opportunities and design qualities through a case study and propose how those may be embedded in digital volunteering solutions.

1.1 Digital volunteerism

Digital volunteerism is technology-led volunteerism, which is increasingly popular due to availability of internet solutions. A report indicated 31% of Australian adults were involved in formal organisation-led volunteering in 2014, which is a drop from 34% in 2010. The Australian Bureau of Statistics suggested this may be due to the rise of informal volunteering aided by digital solutions (Australian Bureau of Statistics, 2017). Online digital platforms have transformed volunteerism (Liu, Harrison, Lai, Chikoto, & Jones-Lungo, 2016) in a range of contexts, such as natural disaster and crisis management (Cobb et al., 2014), collaborative online content creation on platforms such as Wikipedia (Kuznetsov, 2006), and hotlines which are considered ‘emotional band aids’ for individuals in distress (Gilat & Latzer, 2016). Organisations such as United Nations Volunteers have online platforms to help people volunteer their desired skills for various charitable projects all around the world (www.onlinevolunteering.org). These organisations are increasingly investing on improving the design of their digital products in order to enhance volunteer experience and engagement. ReachOut, a charitable organisation that helps distressed Australian youth, invests heavily in their online platforms to engage both volunteers and the young people in need of assistance (Naqshbandi et al., 2019).

Digital volunteering is consequently an important counterpart to physical volunteering in volunteer-involving organisations (VIOs), and is often used to improve overall efficiency of engaging volunteers (due to increased accessibility), as well as the delivered services (Amichai-Hamburger, 2008). The design of digital volunteering solutions, however, is predominantly focused on organisational objectives and values (Brudney, 2016). As a result, many experiences that we know are valued by volunteers, especially in physical volunteering, do not translate well in digital volunteering platforms (Liu et al., 2016).

In this paper, we investigate some specific experiences of digital and physical volunteers in a VIO in order to draw design recommendations for the digital volunteering platform. Thus, we further contribute to a volunteer-centric paradigm that has been previously investigated in a previous study on this digital volunteering platform (Naqshbandi et al., 2020). We use generative tools in codesign workshops to gain a deep understanding of volunteer experiences.

1.2 Generative tools and methods in Design

Sanders (2000) proposed that using generative tools for codesign is “a journey toward a future being made from the dreams of everyday people”. Generative tools are effective

for capturing in-depth insights into what the user ‘does’, ‘says’ and ‘makes’ in order to envision a future (Sanders & Stappers, 2012). ‘Do’ techniques mainly involve observation methods to investigate participants’ routine activities. ‘Say’ techniques include interviews and questionnaires while ‘Make’ techniques invite participants to perform creative activities that reveal connections and feelings as well as indicate desired situations and experiences. Making often requires designers to develop bespoke toolkits that are appropriate for the problem at hand, the context and participants involved. For example, Sanders & Stappers (2012) created a workbook probe followed by generative sessions where new parents created visual timelines to reflect on their childcare and relationship routines at home.

In the project presented in this paper, we developed generative tools based on our existing knowledge of volunteer experiences with a digital platform called Online Simulated Patient Interaction and Assessment (OSPPIA). We had previously conducted research on volunteer motivations of this platform through questionnaires, workshops and experiments (Naqshbandi et al., 2020). In this project, we aim to gain a better insight into qualities, needs and values that shape desired volunteer experiences and improve volunteer motivation for engagement with the task. This insight is then expected to inform the design of new product features on OSPPIA and similar platforms. Next, we introduce OSPPIA and share existing research on its user experience.

2. Background

Online Simulated Patient Interaction and Assessment (OSPPIA) is an online teleconferencing platform designed to support communication skills development of medical students at an Australian university. This platform allows medical students to conduct practice interviews with simulated patients (SPs) and receive feedback on these interactions. The simulated patients are volunteers who are recruited through online marketplaces like GoVolunteer, Seek volunteer. The volunteers play the role of a ‘patient’ based on a given script and then assess the performance of the medical student as a ‘doctor’. In addition to OSPPIA, there is a physical module of the same nature at the medical school on the university campus, where volunteers attend the simulated doctor-patient session in person. In the physical program, the medical students and SPs interact directly rather than through a teleconferencing platform. The online and campus sessions are similar in many ways, but a few differences exist. For instance, the online SPs’ training and informational needs are integrated into the OSPPIA platform whereas for the campus SPs, the organisation uses a combination of email, text messages, phone or postal service based on the preferences of the SPs.

2.1 OSPPIA sessions

Volunteer engagement with the OSPPIA program starts with registration on the website followed by an online training (using videos and text documents) on how to conduct the sessions. The volunteer then books appointments for interview sessions using the appointment-making process incorporated in the OSPPIA platform. The interview session

occurs at the later date and time appointed by the SP and as selected by the student and finally confirmed by the SP. During the session, which lasts approximately 15 minutes, the SP roleplays a given scenario, providing details of the patient's history. For example, a SP volunteer may play the role of an easily distracted patient, whom is vague in descriptions of their symptoms. The SP then adapts these behaviours based on how comfortable the student makes them feel during the session. The aim is to help medical students develop effective and respectful communication skills for patient interactions, whether in person or via telehealth technologies. During the session, the SP can use OSPIA features to provide feedback on the student performance in real-time as the interview progresses. A formal assessment follows at the end of the session. Students see the assessment outcome at the end of the session and the SP volunteer receives an acknowledgement email up to a week later. Figure 1 depicts the chronology of the various steps involved in an OSPIA session for an SP.

Figure 1 Steps (in chronological order) involved in an OSPIA session for an SP, starting with SP registration and progressing to student assessment by SP followed by the SP receiving an acknowledgement email

2.2 Prior related studies

In a previous study (Naqshbandi et al., 2020), we conducted a survey of 66 online and campus SPs. We found that campus SPs were significantly more engaged with the program and were more motivated compared to online SPs. The survey results were further expounded by the results from focus groups and interviews that were held with the campus and online SPs. Specifically, we found online SPs felt less connected to the overall OSPIA community and reported poor measures of relatedness, compared to campus SPs. Relatedness is one of the main psychological needs that impacts motivation (Ryan & Deci, 2017) and is defined as the need to feel meaningful social connections or being connected to others for a cause and through a task. The design of the tasks in online or physical environments can impact the sense of relatedness and other psychological needs in volunteers. We then conducted an experimental study on relatedness where we replaced the automated and generic acknowledgement email sent to SPs (via OSPIA), with a personalized gratitude message written by the medical students. We found that expression of gratitude significantly improved the sense of relatedness in online SPs. Thus, the previous OSPIA study focused on using gratitude as a mediator for improving relatedness.

In the study presented in this paper, we further explore the experience of relatedness and gratitude on OSPIA platform through generative tools. We aim to identify design qualities

that may inform future design features on OSPIA in order to foster relatedness and gratitude. Thus, we contribute further insight for designing similar digital volunteering solutions that cultivate such positive experiences.

3. Methods

In this study we invited online and campus SPs to share their experiences of relatedness and gratitude with us. We conducted two in-depth workshop sessions each with two participants in order to provide an intimate setting that enables meaningful discussions. The first workshop consisted of two online SPs and the second workshop consisted of two campus SPs. Participants had responded to an invitation sent to all registered volunteers of the online and campus programs. The study was approved by the ethics committee at an Australian university (ref HC16048).

The workshops were run as generative sessions. We created two activity worksheets that identified and marked all steps involved in a successful SP–student interview sessions. These steps are similar in the online and campus sessions. The worksheets facilitate conversations about volunteer experiences. At the beginning of the workshop, a moderator welcomed the participants and introduced the objectives and activities of the session. A short introduction of relatedness and gratitude was followed with specific examples from daily life. All participants gave written informed consent before activities began. Sessions were audio recorded and a research assistant took notes.

In workshop one with online SPs, participants were asked to think of an OSPIA session when they experienced a feeling of being close or connected with a medical student. Participants then used a ‘relatedness worksheet’ to indicate details of their experience step-by-step and in parallel with the OSPIA session timeline. As shown in Figure 2, the worksheet was a visual aid to help participants recall their experience. In addition to writing, participants used stickers (see Figure 4) provided to them to attribute emotions or feelings to each step. These stickers were conceptualised from our prior knowledge of the workflows and an understanding of the experiences of the SPs from the preceding studies mentioned in the previous section. A set of 40 stickers represented generic expressions of pleasure, displeasure, confusion, annoyance amongst others but also expressions that are symbolic of appreciation, community, helping and so on that are specific to the users of this platform and tailored to the context of this study. Next, participants completed a similar activity using a ‘gratitude worksheet’ to share their experience of a time they felt appreciated in relation to the OSPIA program (Figure 3). Each activity lasted about 15 minutes. After each activity, there was a discussion session where the participants recalled and elaborated on their experiences. In workshop two with the campus SPs, a similar method was followed. Figure 5 depicts the set up and progress of the workshops.

Figure 2 Worksheet for relatedness activity for participating SPs in which they were asked to express a story in text and emotionally expressive stickers about a time when they felt connected to a student

Figure 3 Worksheet for gratitude activity for participating SPs in which they were asked to express a story in text and emotionally expressive stickers about a time when they felt appreciated through gratitude shown by a student

Figure 4 Context-relevant stickers for emotional expressions used in the workshops by the SPs

Figure 5 Workshops in progress depicting how the SPs used the generative design tools to recall and express stories of relatedness and gratitude

4. Results

The workshops produced rich data based on the generative activities and discussions. Workshop one lasted for about 70 minutes and workshop two lasted for about 45 minutes. Figure 6 depicts the artefacts created during the workshops.

Figure 6 Collection of some artefacts produced during the workshops

Audio recordings were transcribed and thematically analysed, using the Grounded Theory method, which uses an inductive approach to coding and development of themes in analysing qualitative data (Strauss & Corbin, 1994). Accordingly, the qualitative data from the transcripts and artefacts was coded based on the ideas and concepts. The data was then categorised into broad themes which were used to gain further insights into the problem space. We combined the outcomes for gratitude and relatedness activities, as those experiences are inter-related as previously explained. We were interested in finding out the positive inter-personal experiences relevant to either, and identified five categories of themes, described as: System-centric to outline participant experiences with the OSPIA system; Program-centric to outline participant experiences in the campus program; People-centric to outline experiences with other individuals and groups of people involved in the volunteering experience; Volunteer-centric to outline personal volunteer experiences and motivations, and Future improvement category described the desired future of the programs. Details of each theme are discussed below. When quotes of participants are mentioned, we identify OSPIA participants by 'OP' and campus participants by 'CP'.

4.1 System-centric

Participants discussed features of the OSPIA design and their experiences with the platform. Participants expressed their emotional experiences such as appreciation and relief, and said they felt happy when students took appointments with them; "So, I was eager to get going and it was good to see some students were actually turning my things from green to other colour [referring to the visual design of the OSPIA feature for depicting appointment uptake]"-OP2.

A number of comments were related to the assessment tasks assigned to volunteers. They outlined their perception of the training sufficiency for assessing student. They suggested that the training did not prepare them completely as they felt too much pressure during the assessments, especially during the first few sessions. Additionally, they found the real-time feedback during the session interrupted their experience flow; "The main reason I hate it

is because I feel like they can see my hand. For the first many [sessions], there was no way I could think about clicking these [features] and concentrate on what they are asking me.”-OP1.

Finally, participants mentioned the awkward phase at the end of the interview session when they come out of the SP character; “Cause you don’t know whether you are supposed to be in a persona right now. For example, if you are in a doctor-patient [role] still or not. We could participate in something together, that would be nice.”-OP2

4.2 Program-centric

The campus SP participants discussed the opportunities they had for informal conversations with other SPs and program organisers. These were generally considered desirable; “[Organiser 1 name] would greet us at the door and [Organiser 2 name] [as well]. She would introduce the other SPs. We would have a bit of food and it would feel quite welcoming” -CP2. The conversations usually occurred sometime before or immediately after the interview with the students. In these conversations, SPs talked to their peers (other volunteers) and program organisers which they claimed helped them get to know more about the program. These opportunities were a way for the volunteers to build empathy with the students and rapport with the organisers through casual chit-chat; “Nearly all the time, most of the best part is like in the last minute when we’re waiting for the changeover and then there’s a conversation between the supervisor and yourself then you’ve got the opportunity for them to say ‘Do you feel that you’re getting anything out of this?’ and I’ll come back and say ‘Oh, yes!’, you know”.

4.3 People-centric

Both online SP participants mentioned their memorable experiences were associated with student’s verbal appreciation; “I had a young man [on] Monday. I was totally floored, he said you have been a great patient, you have been so good. Before the interaction was assessed.”-OP2. Both campus SP participants shared this sentiment. Additionally, the campus participants mentioned proud moments when the students performed well in their doctor persona; “I felt like I was contributing to the training.”-CP1.

All participants also recalled memorable experiences associated with the organisers and their expressions of gratitude; “[organiser] took us to the other end, sat down with us and thanked us, which was really nice.”-OP2. The campus participants in particular enjoyed the personal touch and feeling of recognition; “[Name] would greet us at the door [...] She would introduce the other SPs. We would have a bit of food and it would feel quite welcoming.”-CP2.

4.4 Volunteer-centric

The volunteers discussed their motivation for joining the program. Three out of four mentioned retirement and associated that with ‘feeling invisible’. They noted that volunteering allows them to feel ‘relevant’ as shown in the following statement.

A potential problem for people who retire, it is quite an interesting concept, and it is called invisibility. People talk about it, which is not noticed. How do you have a voice? How do you have anything? ...It is also to have a feeling of relevance and currency and these voluntary places, they help you to keep up with life and people. And I must say that I am very inspired by working with young people. -CP1

One participant was motivated by a prior bad experience with a doctor as a motivation; “I had seen two expert medicos who can’t string two words together, and interpersonal skills and other skills were lacking. Is this what’s coming out of university?” OP2.

Furthermore, two participants also discussed the notion of ‘giving back to community’ as their motivation; “Giving something back to the community and helping to be part of the student learning experience.”-CP2

4.5 Future improvements

Participants suggested a few opportunities for improving the inter-personal experiences and enhancing the feeling of relatedness. For instance, they suggested having optional time to hold informal, small conversations with the student before the session starts. This, they believed, would help improve their ‘bonding’ with the student. They also wanted to have reflection time towards the end of the session, which may give the opportunity to both parties to express gratitude. A similar suggestion was noted about the volunteer relationship with the organisers and having the opportunity to appreciate their efforts.

But also, I think both of us picked up that with the end of the session, a person comes sort of out of their mould. Says thanks for giving me your time, appreciate you being available and doing this for us. Even that means a lot, I think. I wonder if the technology could even build it! Usually it is [at the] end of the session that they press the button and you are cut. Maybe you could stop the interview part and there is a few seconds of slow wind down. - OP1

Moreover, the inter-personal relationships among volunteers, community building and peer feedback was mentioned.

I am doing the assessment; nobody is saying to me your assessments are crap or your assessments fine or whatever. It would be really nice to talk to like-minded people to see. I thought it would be nice to talk to socially, but also find out where they are coming from maybe. When you take on something like this, you know you are on your own, but I guess attending one of those things [community gatherings] you realise you are reinforcing the issues that you are having is same as the other people.- OP2

Finally, participants discussed their relationship with the program as a whole and expressed a desire for being regularly informed about the program. “I had no idea about the enormity of the program. I knew that obviously a lot of students doing undergrad for medicine at UNSW, but I did not know how many of us there were.”-OP2

5. Discussion

Relatedness has been linked to a range of benefits for the volunteers and the beneficiaries

in the literature. Relatedness is shown to be beneficial to the physical and psychological wellbeing of the volunteers, specifically with respect to depression and mortality risk (Ayalon, 2008; Musick & Wilson, 2003). This is mainly achieved through the social bonds and collective goals in the volunteering task (Creaven, Healy, & Howard, 2018). In academic environments, relatedness has been linked to improved learning outcomes (Beachboard, Beachboard, Li, & Adkison, 2011) and better learning experiences (Hung & Yuen, 2010) for students. In the context of experience design, Hassenzahl et al. (2013) described relatedness as one of the main user needs in order to generate positivity, meaning and happiness.

Gratitude is also shown to mediate social bonding and relationship maintenance (Gordon, Impett, Kogan, Oveis, & Keltner, 2012). It has been used as a design strategy to help beneficiaries to improve their sense of relatedness with volunteers (Naqshbandi et al., 2020; Grant & Gino, 2010). Gratitude is one of virtues discussed by Desmet and Pohlmeier (2013) in a positive design framework for improving human happiness and wellbeing.

In this study, using generative activities helped us explore what these abstract concepts may look and feel like to the users in online and physical volunteering. This allows us to identify ways of creating more consistency in the two forms of volunteering particularly in relation to the experience of relatedness and how gratitude can be used to foster relatedness. Our participants revealed their desires and values in relation to the mode of volunteering (system versus campus), people and self, and future opportunities. In an attempt to formalize those in a framework, we propose a number of design opportunities as follows.

5.1 Gestures and personalised reciprocation

Our participants highlighted how small gestures of reciprocation from medical students or program organizers brought about feelings of happiness, pride and at times relief. It was clear that the most memorable moments for the SPs included sentiments of empathy and acknowledgement from others. Undoubtedly, participants desired a recognition of both their individuality and efforts. Personal touch was a sentiment voiced frequently as an identifier of a memorable moment. This may be achieved in design in many ways, for instance through sending personal messages of gratitude, as shown in our previous study (Naqshbandi et al., 2020). In another example, Morales et al. designed an online platform that included gamified mechanisms initiated by the volunteer managers to recognise volunteers' efforts (Morales, Mick, Lyell, & Fielder, 2017).

The findings also suggest the value of a multi-perspective design approach that recognises the roles of all stakeholders involved and not just those of the volunteer and beneficiary. There were various instances where the SPs recalled how the input and efforts of others in the program were valuable to them, e.g. when the system failed due to a glitch, some SPs personally contacted the program IT support personnel while others contacted the program manager. A multi-perspective approach in a volunteer-centric design of a system could better recognise the roles of the volunteering program organisers, the beneficiaries, the designers of the system, among others, in shaping the experiences of volunteers.

5.2 Bonding through informal interactions

Our findings highlighted that volunteers value bonding with each other, with the students, and with the program organisers in many ways, for instance, through informal interactions before and after the interview sessions. Informal conversations are shown to form an important part of developing interpersonal rapport in daily interactions (Coupland, 2014). A possibility to support informal conversations through design, as suggested by our participants, is to slowly wind down the interview sessions to help the SP and medical student to come out of their doctor–patient personas, and engage in a system supported reflection of their performance together.

5.3 Shared goals

Our SP volunteers referred to the goals they shared with other SP volunteers. Supporting volunteers shared goals can be achieved in a number of ways in digital volunteering platforms, some of which are outlined below in a set of indicative design strategies.

Effective volunteer performance: Our findings suggest digital volunteers value efficacy of training, sufficiency of information to support the task at hand, uninterrupted flow of the task, and ability to receive effective and timely feedback about their own performance. While feedback on volunteer performance can be generated in a few ways, e.g. system-generated feedback, our findings suggest that peer-feedback is preferred by volunteers. This could help fulfil their desire for self-growth and improvement, it would also help to foster productive and task-based peer-associations among them.

Benefiting the beneficiary: One of the ways the SP participants in our study expressed their relatedness to the students was while discussing their concerns about the impact of their contribution on them. This was mainly due to their uncertainty about how effectively they were able to help the students. The volunteers wanted to receive feedback on the impact of their volunteering on the beneficiary. As such, our findings suggest that there is value in designing a volunteer-centric system that builds upon a sense of relatedness between the volunteer and beneficiary by generating feedback on the impact of volunteer's efforts on the beneficiary.

Benefiting the Community: Another goal of the SP volunteers is to benefit the medical community with their volunteering work. Our SPs participants valued their contributions as a way to 'give back' to the medical community by taking responsibility for creating empathetic and competent future doctors. A designed system can respond to and support this goal. An example that reflects this design strategy is an online citizen science project Notes from Nature (<https://www.zooniverse.org/organizations/md68135/notes-from-nature>) which provides feedback and narratives to volunteers on how their work contributed to creating new knowledge in the specific area of biodiversity and biocollections (Hill et al., 2012). Therefore, this design strategy concerns with the features of the digital volunteering platforms that support the 'act of giving back' as well as communicating how the efforts of the volunteers are making a difference in the community, i.e. 'the reach of the giving back'.

5.4 Community building

Apart from wanting to give back to the larger community, our participants discussed their desire for being part of a volunteer community, build social interactions and feel a sense of closeness to their volunteer peers. This was easy to achieve in face-to-face interactions in campus program but required facilitation by the system for online volunteers. Many online platforms for customer relationship maintenance use moderated forums or chatrooms for building such communities. Similar features can be considered for volunteering platforms as well. In building such online communities, it is important to set norms for inter-personal interactions and enable volunteers to build and express identities (Morse, Cerretani, Halai, Laing, & Perez, 2008).

One limitation of our study is that it did not directly involve the medical students in the workshops. Their perspectives were previously captured in related work on this project (Liu, Calvo, & Lim, 2016; Liu, Lim, Taylor, & Calvo, 2019). Future work will aim to engage medical students in co-creation workshops where volunteers and students can work together and exchange ideas.

Another limitation may have been the number of participants involved in each workshop. While we hoped to recruit more participants, at the time of writing the paper, we were able to organise only two workshops with two participants each. Our exploratory workshops in a previous study with SPs (Naqshbandi et al, 2020) allowed us to capture some experiences of SPs and with the study presented in this paper, we aimed to conduct more in-depth exploration of SP experiences using generative tools. This meant inviting fewer participants given that our participants are used to intimate and smaller sessions (though the OSPIA program).

6. Conclusion

In this paper, we used generative tools and methods in two co-design workshops to explore a number of volunteer-centric design opportunities for an existing education program called OSPIA. The design process specifically focused on how the volunteers experience relatedness and gratitude through their inter-personal interactions. We identified a number of design opportunities on different levels to improve volunteer experiences of relatedness and gratitude. Those are aimed to close the gap between the online and campus experience of the volunteers. The findings suggest the design should enable expression of gestures by all stakeholders (volunteers, students, organisers) and recognise volunteers work and efforts through personalised solutions. Additionally, we found that bonding through informal interaction, ability to better communicate feedback and information to support shared experiences and goals, and community building are important to volunteers. These should inform the design of similar volunteering platforms in the future, in order to respond to and enhance volunteers' experiences.

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