Teenagers' Attitudes and Design Values around Identity Management

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Abstract

Technologies and public policies in relation to identity management (IDM) are changing rapidly and our understanding of public attitudes to such change is not well developed. In this paper we consider attitudes to new and near-future IDM technologies in groups of vulnerable teenagers. This paper describes how we engaged with these groups, giving examples of our use of 'design provocations' that took the form of film, artifacts and props. These provocations were generally successful in prompting discussion through focus group and workshop formats and in seeding the elicitation of design values in this space.

Author Keywords

Identity management; public engagement; scenarios; technology acceptance.

ACM Classification Keywords

H.1.2 User/Machine Systems, Human factors; J.4 SOCIAL AND BEHAVIORAL SCIENCES, Psychology; K.4.1 Public Policy Issues

General Terms

Human Factors

Introduction

Improving our understanding of public attitudes towards identity management technologies is crucial, as negative public responses can sometimes culminate in a reversal of policy, with examples including the abolition of the UK National Identity Card programme [22] or civil protest in response to full-body scan technologies [21]. Such examples illustrate the need to develop a more considered and participative approach to science and technology innovation that takes account of the values and beliefs held by different publics. While a number of participatory design approaches have been developed in this space in recent years, few have given explicit recognition to the voice of teenagers, yet this group in particular are relatively vulnerable when we consider issues of identity threat and yet at the same time they are also likely to be more accepting of technological change in this space.

This work takes place within the tradition of value-sensitive design (VSD) - a variant of participatory design in which the focus is explicitly on participant values as a means to help people articulate 'what they think of as important in life' and to lift the designer outside of the immediate context for development [7, 11]. Typically, VSD takes a broader perspective, recognising that new technologies can have a transformative effect on society and can be with us for some time. In this and other spheres, there has been careful consideration around the most successful types of value-elicitation practice [16] and researchers have concluded firstly that a process of *envisionment* is essential and secondly, envisionment prompts that employ images and/or a strong narrative style will help respondents articulate a broader range of values [11]. To this end, a number of new value-elicitation approaches have been developed that use various kinds of design provocations to stimulate discussion. Such provocations can purposely probe the values of users by explicitly violating their expectations – such as a device designed for older bank account holders that permanently destroys a paper cheque, thereby violating the assumption that its paper-based longevity was its most valuable security feature [19]. Provocative design will typically offer users the chance to explore 1) unusual appropriations of a design, and 2) the potential for dark uses of a design.

Theatre, film and video have been used as design provocations that can elicit broader, more value-laden requirements from participants in workshops [3, 9, 10] and that can be used to effectively to capture the views of extraordinary and heterogeneous user groups such as older adults [12] or disenfranchised and oppressed communities [2]. Film can be used to present intricate details as well as experiences of and reactions to technologies rather than literal accounts of functionality and usability. Examples include documentaries that detail and document the lives of ordinary people [14], films that explicitly offer alternative experiences [10] or films that obscure the technology but foreground user response to the technology [3]. These films can then be used to provoke further dialogue and discussion with participants, or presented to designers, technologists and service providers to provider fuller presentations of potential users lives [20].

In this paper we describe a set of such design provocations in the form of filmed scenarios, artifacts and props that captured potential IDM technologies of the future. We presented these provocations to groups of vulnerable teenagers aged 16-24 in order to better

understand their desires and taboos in the IDM space. The teenagers were recruited from the local Youth Work Trust, a group dedicated to develop the personal, social and political awareness of young people.

It is important to note that groups like this are not particularly easy to access, and more importantly, they may not easily engage with academic research. Even if these groups are approached, they may be perceived as difficult to communicate with, and could possibly benefit from icebreaker tasks in discussion sessions to reap most from the experience. Focus groups were planned around provocations which would be both interesting and stimulating for the group.

Methodology

The use of filmed scenarios and other forms of provocation in participatory design is well established [3] and can facilitate reasoning and understanding about different realities [13]. Utilising these principles, focus groups were designed with a combination of video clips, artefacts and tasks to complete which covered a core set of scenarios previously identified [18].

Recruitment & Participants

Teenagers were recruited via contacts at the Newcastle Youth Work group, and were encouraged to take part after the researcher visited them at one of their regular meetings. A flyer was also produced to inform the teenagers about the project and how to get involved. A youth group coordinator accompanied participants to take part in a focus group (Fig. 1).

Figure 1. A youth focus group

Materials

The provocations used in the focus groups varied greatly. Some were filmed scenarios based on short YouTube video clips which summarised IDM issues we were interested in. Others were physical artefacts used to engage participants and provide a 'hands on' experience of IDM technologies. Examples of the materials are discussed below.

PsychicID Card

An interactive 'psychicID' card was developed, based on a theoretical paper [1], which enables information to be disclosed during authentication for various services e.g. access to a nightclub, visiting the doctor, going to the bank. The card was programmed for various scenarios, displaying information such as NHS numbers or passport information (Fig. 2).

The aim of the PsychicID card is to reveal only the necessary information in the appropriate situation, yet provide a single card for all IDM circumstances.

Figure 2. The ever-changing 'psychic ID' card

Recognizr: Augmented ID

The Recognizr, developed by Swedish company TAT [17], visualizes the digital identities of people in real life. Using a mobile device with face recognition software it enables the user to discover selected information about the people around them. All users control their own augmented appearance by selecting the content and social network links they want show to others (Fig. 3).

Figure 3. Profile settings on the Recognizr App

Odour Recognition Task

It has been suggested that people can be identified by their unique body odour [15]. This odour is said to be unaffected by things like dietary habits or washing patterns. In order to explore this idea in focus groups, participants were presented with a mannequin (Fig. 4) and asked to think about where they thought an acceptable place to scan somebody to detect their odour would be. Stickers were placed on the mannequin with either positive or negative comments about scanning, depending on context.

Figure 4. Our mannequin with potential 'smelling' areas

Discussion

Talking to participants during and after focus groups, it was apparent that the use of these techniques to help them understand hypothetical concepts was beneficial. These initial focus groups have taught us that using these techniques encourages debate, and a clearer understanding of the concepts that we ask participants to consider. This way of engaging with teenagers develops excitement and interest about research, and participation was often described as enjoyable rather than a chore. Importantly, we recognize that it is vital to include young people in our research, as they are often a target audience for those technologies which may in the future become commonplace. Rudimentary analysis of discussions suggest that participants were able to articulate a set of concerns around the technologies, that spanned usability, civic engagement and responsibility, data security and vulnerability. They were also able to describe the potential delights of 'cool' designs and unexpected discoveries.

This work will be extended in the future to include intergeneration focus groups with teenagers and older adults, aiming to uncover similarities and possible differences in their perceptions of our scenarios. We also plan to encourage other vulnerable groups such as the homeless or refugees to become involved. For example, technologies such as the mobile app. 'Refugee Finder' [23] which has been designed to locate people in an emergency could be utilised.

Acknowledgements

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