

The Limits of Web 2.0 – Lessons from Designing Tools for Social Interaction for Older People

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Abstract

This paper describes a project exploring the potential of social networking for elders carried out in partnership between the Intel Digital Health Group in Ireland, and TheAlloy, a product and interaction design consultancy based in the UK. Initial research, focused on mobility schemes for older people in rural Ireland, identified social activity outside the home as key to positive ageing experiences. We sought to translate these insights into tools that would link older people to places, providers of services and others in their community. Our work was influenced not only by the research we conducted, but also by our use of the many social networking tools that collectively constitute Web 2.0. Our design ideas encoded concepts that are essentially 'youthful' into tools aimed at an older population. This paper argues that whilst the spirit and intent of Web 2.0 is about social connection and collaboration, we need to attend to how its concepts encode ways of thinking about social relationships that may be unfamiliar to older populations. In this context accessibility is about more than usability, it also refers to the conceptual resonance a technology might have with the life experiences of an older person and the potential design risk associated with generational assumptions.

Keywords

Ageing, mobility, design, Web 2.0, social networking.

Introduction

In many respects the personal computer is, as anthropologist Anthony Cohen once pointed out, the most inaptly named technology [1]: from the outset computer use focused on highly social practices such as communication by email. In recent years this sociality has been extended through the development of highly popular social networking sites and platforms. The term Web 2.0 expresses a shift to the web as “an information ecology ...organised around friends” [2]. From a technical perspective Web 2.0 offers different forms of real time interactions, user generated content and software that allows simultaneous development collaboration, and offers socially oriented experiences on platforms that are in perpetual beta (ibid).

As the web develops to offer social experiences, the recognition grows that in an ageing world, reduced social networks, loneliness, isolation and social exclusion are a reality for

significant numbers of older people. Equally, computer literacy is unevenly distributed in this large cohort. If our ambition is to use the potential of technology to reduce the risks inherent in ageing in contemporary society, Web 2.0 offers some productive avenues. However, design for social interaction needs to take account of the social practices and conceptual frameworks of older people. We need to avoid the trap of a youthful ethnocentrism which assumes that what makes sense for one generation of social networking software users will translate to all older users.

Mobility, Sociality and Networks

Ethnographic research conducted by the research team into ageing and health in seven European countries identified the importance of transportation and mobility to successful ageing: the ability to run errands and remain free of dependence from friends, neighbours and family create a strong sense of autonomy. Furthermore, a body of international research links mobility to independence, strength of social networks, physical and cognitive health.

The complex relationship between health, sociality, independence and mobility are key themes in literature on older people. In terms of health impacts, commentators point to the demonstrable links between transportation and access to healthcare [3]. Lack of transportation has negative impacts on health outcomes for older people since the maintenance of close relationships, and engaging in meaningful activity outside of the home, are recognised as an integral aspect of successful ageing. Mobility allows people to maintain and strengthen their social networks, and studies have shown that perceived social support to be the strongest predictor of physical and psychological wellbeing [4].

In order to understand better the impacts and outcomes of such mobility, the research team collaborated with the Rural Transport Programme in Ireland. This government funded programme has overseen the development of 34 local projects which provide transport services in rural areas, with a view to addressing the issue of social exclusion which is caused by lack of access to transport. Although all services are available to the general public, older people benefit greatly. Internal RTP figures show that 60-70% of all users are over the age of 66. Fieldwork was conducted with five projects over five weeks, focusing on passengers, drivers, back office staff and the variety of locations to which buses travel.

Research Findings and Implications for Design

The principal findings of the research and their implications which were drawn out in the design phase of the project were as follows:

- Ageing in place is about ageing in the wider community and depends not just on being able to travel, but also knowing about what is going on and who else is going.
- Transportation is a platform that links people to people, places and resources. It is important to make explicit how transport connects people.
- Providers of services to older people benefit when people can reach services more easily: economic incentives can create momentum in a system.

- Socially isolated people often need encouragement to attend services or events – they will join a bus service to partake in an activity with others but not on their own.

The research on mobility had identified its importance to older people seeking to age in place. Equally, it had highlighted the space for tools that would help to connect people, their friends, service providers and those running transportation services. In that context the collaborative and participatory ethic of Web 2.0 seemed an appropriate way of framing our design response.

Design Response

These research findings articulate some of the factors affecting the ability to maintain social networks in later life. Those that have little or no social network are seen as being socially excluded. Age Concern [5] identify social exclusion as: feeling detached from society, trapped at home, cut off from friends, lonely & isolated, and struggling to cope. The core objective of the design response was to develop ideas that could challenge this exclusion, and consequently encourage social *inclusion*.

The resultant design brief identified a set of technology tools for creating a social and collaborative environment for older people. The vision was to develop an ‘architecture of participation’ and inclusion for older people. Early ideation and prototypes proposed ideas about sociality, communication, contacts and relationships. As the design process progressed the concept began to encode particular types of interactivity between these elements, and between users, that expressed Web 2.0 type characteristics.

There is no commonly agreed definition of Web 2.0, but it generally refers to a form of design for the internet which is focused on sociality and collaboration where the user is regarded as an active participant. Web 2.0 has been described as, “the philosophy of mutually maximizing collective intelligence and added value for each participant by formalized and dynamic information sharing and creation” [6].

From a design perspective Web 2.0 provides more interactivity, faster feedback, pageless designs, in-context controls, personalization, and access to social networks [7]. Many Web 2.0 platforms incorporate information from different sources – ‘mashing up’ different content to create a socially meaningful, architecture of collaborative participation. It is most associated with social networking platforms such as Facebook where users create artefacts of experience that enshrine particular ways of thinking about relationships or friends. However, these social networking concepts are likely to be novel to a segment of the population for whom computers are unfamiliar. Two critical questions arise; 1) When designing for older users, what issues of understanding and accessibility emerge when creating technologies for social interaction?; and 2) What are the limits of Web 2.0 for an older, non PC literate user base?

Who we are designing for

There are issues with the perceived needs of older people. Between the ages of 60 and 90 there is a vast range of cognitive and physical ability, interests and attitudes to life. The older we get however, the more likely we are to be excluded, with women at 85+ six

times more likely to be excluded [8]. This means that as our ability to use technology to access information and services declines, our need for access to the sort of information and sociality that the web can provide increases. Studies have shown that older adults are keen to interact with websites. However, they encounter a wide range of problems when doing so. The main issues are presented by: navigation difficulties, hand movement problems, comprehending and conceptualisation difficulties [9]. Confusion is compounded by ever changing terminology and the ever growing range of devices, peripherals and accessories available. People are aware of the benefits of technology, but are “put off by the complexity of product on offer” [10]. For the purposes of this project, we considered the user to be between 60 and 90 years old, with negligible exposure to computers. We focused on computer experience rather than age as the primary consideration.

Features & Functions

Having identified from our research a set of needs to be addressed, and having characterised the user group, the focus turned to working through what a social inclusion tool for older users might actually deliver. In the early stages of development a significant number of features were considered that might encourage sociality and tackle social exclusion.

The early prototypes featured four concepts that are often found on social networking or Web 2.0 platforms:

1. *Populating maps with people, places of interest and services.* Google Maps is a classic exemplar of a Web 2.0 site where individuals can contribute by uploading content relevant to specific areas on a map.

The proximity and associated access to people, services and events are key to people participating in them. Maps were therefore seen as a logical step in placing the user at the centre of a visual arrangement providing an overview of what is out there and where it is. Maps are an entity that most people understand but issues arose when considering how users would navigate around them.

2. *Contact list with the ability to interact with and create actions relative to those contacts.* The Facebook model. Users can interact with their ‘friends’ through a wide range of networks, connections and groups.

The key issue this feature exposed was one of terminology. The term ‘contact list’ is essentially one associated with ICT. Traditionally, people have ‘address books’. However, being able to identify the type of contact and some contextual information associated with each one (e.g. photo, when last contact was made, relationship to user, emergency and most frequent contacts) was seen as vitally important in providing the sort of rich information that would be of much greater value than the traditional address book. Before these more complex concepts could be considered we faced challenges with terminology and data entry. It became clear that it was essential to consider the accessibility of every aspect of a task.

3. *Identification of and communication with 'friends' with the same interests and aspirations.* Typical examples include user forums and special interest groups – where the communication may combine both virtual and physical interaction.

Building on shared interests is a cornerstone of social interaction. Friendships can be built on the most simple basis: meeting up on the community bus, living on the same street, or enjoying a walk in the same park, as well as the more tangible synergies such as a shared interest in painting or gardening. Our challenge was greatest when considering the user who does not have any particular interests or who is completely alienated from existing social networks.

4. *Identify the profile of the user so that services and events can be tailored to their particular interests.* A technique used extensively by social networking sites as well as retail sites such as Amazon, where recommendations are pushed according to previous purchases or selected preferences.

User profiles are used in a myriad of ways; they can be explicit, where we present a crafted signature of ourselves and our interests (Facebook); or they can be inferred by our actions or activities (Amazon). Effective profiling is one means of receiving information we want and avoiding the kind that we don't. We envisaged a 'soft push' of information that would be relevant and interesting to users. However, the standard method of profiling where the user enters a stream of information was seen as inappropriate for the non PC literate older user, requiring other methods of realising the information.

All of these features, whilst addressing some of the needs and issues identified in the research, contain an inherent tension. They attempt to stimulate and support sociality between older users but risk alienating them by being conceptually novel to this sector. Our argument is that these features do have relevance for older people, but that we need to consider carefully their appropriateness in the context of a user group new to computing.

Conclusions: The Web 2.0 trap

Much of what we envisaged in our design response, by accident and by design, embodied concepts and interactions implicit in many Web 2.0 platforms. The web is a social tool, and designing to encourage its use for a population in need of access to tools for social interactions is to be welcomed. However, design concepts for this older (or any other population) need to be usable and make conceptual sense. If, as Zajicek [11] suggests, we take a "holistic view of accessibility which address all aspects of the user's life" then usability and conceptual fit are as important as each other. In fact, they both depend on each other. An idea which has no conceptual resonance cannot be usable: "if you do not relate to that which is being provided then you could argue that it is not accessible to you".

At one stage in the concept research stage, the response from an older person was: *"It's been designed by a 30-year-old American"*. This comment inspired us to address the issues of functional benefit, conceptual understanding *and* usability. Conceptual understanding became the focal point for inclusion: if a basic concept could not be understood, then there would be no functional benefit and any attempt to develop a usability framework would be futile. Conversely, it was important not to defer too strongly to the lowest common denominator. It may take us a little time to get to grips with something, but the benefits may well outweigh the learning curve, and in time, a conceptual leap can diminish to a small step.

This paper argues that whilst some Web 2.0 concepts have little or no relevance, some might have extraordinary resonance for the older user. The inherent complexity of some of these concepts may present a significant barrier to many in the general population, not just older people. Their accessibility comes down to two key factors: how well they can be understood and how easy they are to use.

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