

Desiring to be in Touch in a Changing Communications Landscape: Attitudes of Older Adults

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ABSTRACT

This paper offers an exploration of the attitudes of older adults to keeping in touch with people who are important to them. We present findings from three focus groups with people from 55 to 81 years of age. Themes emerging from the findings suggest that older adults view the act of keeping in touch as being worthy of time and dedication, but also as being something that needs to be carefully managed within the context of daily life. Communication is seen as a means through which skill should be demonstrated and personality expressed, and is understood in a very different context to the lightweight interaction that is increasingly afforded by new technologies. The themes that emerged are used to elicit a number of design implications and to promote some illustrative design concepts for new communication devices.

Author Keywords

Old age, elder, senior, intergenerational, communication, intimacy, connectedness, heavyweight, slow messaging, effort, reflection, asymmetry, distance.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

This paper offers an exploration of the attitudes of older adults to keeping in touch with those people who are important to them. Much of the research on older generations is geared towards helping the maintenance of autonomy in later life, creating roles within local communities, or addressing issues of cognitive and physical decline. However, a noteworthy portion of the field is dedicated to either stimulating the development of new

relationships or supporting existing ties. This area ranges widely in the approaches adopted when designing for older adults. Communication may be lightweight or concentrated, it can consist of images or the written word, and it might aim to support intergenerational contact or to catalyse interactions amongst peers. Surprisingly though, little of it is based on an examination of how older adults themselves feel about communication.

In this paper, we are interested in the attitudes of older adults towards communication with family and friends, and their views on how contact with those groups should be maintained. Thus instead of characterising older adults as a group who are, for example, prone to cognitive or physical decline, we will consider them as a heterogeneous group who, nevertheless, may share some common values. It goes without saying that their experience of communication technologies differs vastly to that of younger generations; the idea of updating a twitter feed may be as alien to many older people as the possibility of sending a telegram is to a teenager. Older adults may also share broadly similar living circumstances, such as being retired, or having children that have moved away from home, although evidently these factors will vary across individuals. However, such issues are worth considering, as they have ramifications for the amount of time that can be devoted to sustaining relationships, for the nature of the relationships that need to be sustained, and for the likelihood of having access to technical equipment for these purposes.

We feel that by considering these issues, a greater understanding of how to design for older adults might be reached. This paper presents findings from three focus groups held with people ranging from 55 to 81 years in age. While this is a small-scale study, the results are nevertheless interesting and clear enough to be worth presenting. Themes that emerge from the discussions suggest that older adults view the act of keeping in touch as something that is worthy of time and dedication, and which requires a level of intensity that contrasts starkly with the lightweight tools that are increasingly adopted by younger generations. We use these themes to draw a number of design implications before suggesting some illustrative

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design concepts. The paper concludes with a discussion of how attempts to design for older adults might usefully proceed.

RELATED WORK

There has been a good deal of research in the field of Human-Computer Interaction (HCI) on how we might sustain close relationships with others. Work has included explorations of how we might link family members who live separately, couples in long-distance relationships, and friends who find themselves at different universities. Efforts have gone into exploring how feelings of connectedness and intimacy might be maintained through the development of new technologies, or how links across generations, either between older adults and their now adult children, or amongst grandparents and their grandchildren, might be supported. Research in both of these fields will now be considered.

Much of the HCI research related to relationships and communication is focused on maintaining feelings of connectedness and allowing for the expression of intimacy at a distance. Vetere et al. [33] draw a distinction between using technology to mediate intimacy and using it simply for the expression of emotion (e.g. by using emoticons). They suggest that intimate acts are “ephemeral and transient yet ubiquitous and crucial” (p. 472), with the type of contact that supports intimacy being low in informational content, yet laden with emotional significance. Means of mediating intimacy are tied up with assumptions about commitment, mutuality and reciprocity, and need to strike a delicate balance across the parties involved.

Drawing on these ideas, it is no surprise that technologies designed to mediate personal relationships are often lightweight. They afford a type of contact that is sufficiently vague to be interpreted as a show of tenderness, while precluding the communication of specifics. For example, following their own argument Vetere et al. propose a concept called *i.Fuzz*, which permits pre-recorded messages to be placed in different locations so that they might be serendipitously discovered. Other examples include Kaye’s [17] virtual intimate objects, Murphy’s ear warmer (cited in [12]), the Bed [10], and Lovers’ Cups [5].

Other researchers have linked homes as opposed to people in their endeavours to support feelings of connectedness. These efforts have been aimed at families [e.g. 30] and people away from home [26] as well as at couples [e.g. 14]. In some cases these devices support explicit communication, while in others the aim is simply to provide a sense of presence in absence. An example of such a prototype that has been tested with families and older adults is Miyajima et al.’s FamilyPlanter [21], a plant that incorporates fibre optics, which rotate when a paired plant in another home detects movement. The aim here is to allow for *tsunagari-kan*, or a sense of closeness, between distant family members.

In efforts such as this one, where places are linked rather than people, the dynamics of the connection are somewhat different to those described by Vetere et al. [33]. Notions of mutuality and reciprocity are altered, and especially so when linking across generations. We [20] have previously argued that in family relationships asymmetry is the norm, with older adults giving more and their children and grandchildren appreciating the benefits of being on the receiving end. Indeed, this is reflected in Miyajima et al.’s findings, in which grandparents took more interest in the FamilyPlanter than their adult children. Similar findings are reported by Plaisant et al. [24], who deployed shared family calendars with the hope of affording symmetry, but who report that asymmetrical interactions were the result.

Some researchers have taken into account the asymmetries of family life when designing to provide ties across homes. Davis et al. [7] explored how an extremely flexible connection between households might be utilised by allowing for the exchange of objects between grandparents and grandchildren. They used a “magic box” as a cultural probe [cf. 13] which was transported from house to house each night by the “magic box fairy”. They found that while exchanges were reciprocal, they were not symmetrical, in that the grandparents put in more effort and frequently created activities for their grandchildren to complete. This idea of grandparents structuring the interaction is reflected in the Virtual Box [6], a game of virtual hide-and-seek created by the same research group, while other possibilities for the digital exchange of various media are expressed in Peek-A-Drawer [28] and ScanBoard [16].

Research on older adults has also taken the approach of encouraging the maintenance of a broader circle of contacts, or encouraging the development of new friendships. One notable example of the former is a display, trialled by Morris [22], that depicts one’s social network in the form of a solar system. Here, the person in question is depicted as a sun in the centre of the solar system, surrounded by stars representing their friends. The distance between the sun and stars is influenced by how recently contact occurred between the two. The display was found to act as a catalyst, motivating older adults to contact friends who they were losing touch with. In an alternative approach, Keyani et al. [18] have explored the idea of encouraging new contacts through DanceAlong, an augmented dancing environment in which people dance to well known film clips. Here the aim is to break down existing cliques at social gatherings.

The research described above touches on ways of linking people and places, on notions of reciprocity and asymmetry, and on ways of supporting friendship in later life. However, very little of it has considered the ways in which older adults actually feel about communication. One qualitative study that has explored this topic is reported by Dickinson and Hill [8]. They found that older adults cite the telephone as their preferred means of contact because of its richness and ease of use. This is supplemented by email, found to be

appreciated for its informality and capacity for breaching time zones. While Dickinson and Hill touch on the values that their participants found in these various communication media, they do not elaborate on them. They also do not consider lightweight modes of communication, which, as the above review demonstrates, are often considered an appropriate means of expressing intimacy and connecting people. It is in this context that we wish to explore further who older adults would like to feel connected to, how they currently go about sustaining contact with important others, and what the notion of being in touch means to them.

THE FOCUS GROUPS

We were interested to explore the attitudes of older adults towards various ways of keeping in touch with important others. We did this by holding three focus groups with 18 adults, aged from 55 to 81 years. We aimed to explore how our participants felt about different communication media, including non-technical channels such as letter writing, and traditional mechanisms such as the telephone. We also wanted to see how they would react to novel, lightweight designs, and demonstrated some prototypes developed in our research lab to support contact amongst families. We did not place restrictions on who our participants might discuss wanting to keep in touch with, however much of the conversation centred on family.

Participants

The sample was enlisted by a recruitment agency against specific criteria designed to deliver a spectrum of older adults by age, gender, income and distribution of family. The sample was drawn from within and around Cambridge, a city in the south-east of the UK, with each focus group consisting of some participants living in the city and some living on its outskirts or in nearby villages. The participants were all in fairly good health, although some, particularly in the oldest group, were living in sheltered accommodation.

The three focus groups each represented a different age range. Group A comprised of three females and three males aged 55-64, Group B incorporated four females and two males aged 65-74, and Group C consisted of three females and three males in the age range of 75-84.

The oldest group had the least experience of technology. While for Groups A and B, five of the six participants had access to both mobile phones and email, in Group C this was true for only three of the participants.

While we did not specifically recruit for participants with family abroad, all three groups had members with family that were scattered geographically. In Group A, three of the participants had at least some family living abroad, and in Groups B and C this was true for two participants in each group. Only two participants (in Groups A and C) described themselves as having family living exclusively locally.

Procedure

Each focus group lasted for approximately 90 minutes. The aims of the session were described as allowing us to understand how the participants kept in touch with important others, so that we might think about how to design new technologies for people like them. As such, the approach we took was to encourage our participants to create their own directions within the discussion, enabling an exploration of how they experienced communication, as well as what they felt it could be like with new systems and devices. To facilitate this open approach, the focus groups began with a 30 minute discussion, loosely structured around a number of prompts on topics such as the types of communication media that were normally used, triggers for making contact, and whether there were people who the participants would like more, or less, contact with.

We then demonstrated three working prototypes of situated devices that might be used by families to keep in touch with one another. None of these were developed with older adults in mind, or to support communication across distributed homes. They were shown to elicit reflection, rather than to test the device concepts, indeed we emphasised that we were not interested in whether the participants would use the devices in their current form, but focused on whether points within them might inspire new possibilities. The first of these was HomeNote [27], an electronic kitchen notice board that can display scribbled notes and receive text messages. We used this prototype to explore the idea of connecting homes using situated displays, and of sending short scribbled notes to others.

The second device was Epigraph, depicted in Figure 1. This has a screen that is divided into a number of channels, one representing each family member. Channels can be updated via email, text or picture message, allowing family members to have a remote presence within the home. We used this device to explore attitudes towards the use of photos as a means of messaging, and reactions to having these photos constantly displayed in the home.

The final device was the Whereabouts Clock [3], which uses data derived from mobile phones to provide information on the broad location of family members (e.g. whether they are at home, at work or at school). This device was used to explore attitudes towards tapping into

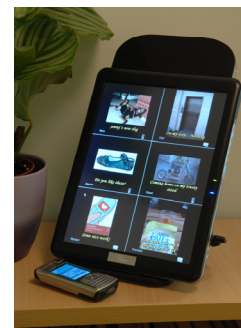


Figure 1. Epigraph.

information that is automatically generated, rather than specifically communicated, and whether this would support the feeling of being in touch with someone.

At the end of the session participants were thanked and given £30 worth of vouchers for taking part.

FINDINGS

The focus groups were audio recorded and transcribed. The resulting data set was analysed using procedures based on those described by Strauss and Corbin [29] for the development of grounded theories. The central premise here is that theory is derived from data, rather than being influenced by preconceived notions held by researchers. While the development of a theory is not our aim here, the same procedures assist in the interpretation of data without the imposition of a predetermined framework. Thus the data was explored to identify the central ideas within it, following which relationships between and within these central ideas were examined. The transcripts were analysed in an iterative manner until it seemed that no further ideas were emerging from them. The themes reported here are the major ones to transpire from the analysis. Many of these themes spanned the three age ranges, although there were also some clear differences between the groups. These will be examined first.

Generation Differences and Cohort Effects

The differences between the three groups can be attributed to both experience and circumstance. Some of the participants in the youngest group were still in employment, and most had parents that were still alive. This was not the case for any of the participants in the oldest group, and has clear implications not only for notions of communicating with family but also for experience of various communication media. Many of the participants who used email had first been exposed to it in a working environment, while some participants who were long-retired had never used it. The oldest participants were also less likely to be exposed to social networking sites such as Facebook, unlike the youngest, who talked of being drawn in to using such sites as a way of staying in touch with their children. The youngest group in particular had been exposed to a range of communication media, but tended to dip into, rather than avidly adopt, new possibilities:

"We're of an age where we sit in the middle of all forms of technology, we can dabble with perhaps texting, you know at the peripherals, we still do letters up to a point, but I think we only send letters to certain people" (DA, male, Group A).

In particular, members of this group talked of tailoring their choice of communication media for the different generations that they were in touch with; something that was not mentioned by either of the other two groups:

"We're using methods of communication that are appropriate for the people we're sending them to [...] if you

have a friend who you know has an email address but hardly ever looks at it you'll ring them up or send them a letter, but if I'm communicating with my daughter it's often by text or I'll email" (TR, female, Group A).

The older two groups talked more about a problem that did not seem to be experienced by the youngest group; that of communicating with grandchildren. Many of the participants in the youngest group did not have grandchildren, or if they did, they were too young to manage remote communication. In contrast, the oldest participants had the opposite problem: the grandchildren were perfectly capable of using communication media to overcome distance, but nevertheless contact was being lost:

"I do try and keep in touch with his wife but the son is in his second year of university now so I don't, I lose sort of touch with him [...] I do talk occasionally to the little girl, well little girl, she's 16" (PM, female, Group C).

For most of the participants, direct contact with their grandchildren was a rarity, and when it was achieved it came about through communication with their adult children. Grandchildren were seen as too busy for contact, and this was true for both young children and teenagers:

"The eldest is three, and three and a half, and so occasionally when I ring they want to talk to me, but mostly he's too busy [laughter]" (SU, female, Group B).

Even when put in a position where communication is made easy, it was not necessarily easy for grandparents to communicate with their grandchildren. However, occasionally ways of overcoming this were discovered:

"My daughter's daughter, I found in order to have a conversation with her I had to tune into her particular interests, for example at Christmas I said to her, now come I said I know nothing about pop music, now what were the twelve best pieces of last year, and of course to my astonishment she went immediately to her Mac, and you know she's got a thousand or more pop songs or whatever on there [...] but as a result of that I was able to talk to her for about three quarters of an hour you see [...] that's one of the longest conversations I've had with her" (ED, male, Group C).

Despite these differences, the three groups also shared a number of attitudes to the notion of keeping in touch and how this might be achieved. While the youngest group were experienced in a greater variety of communication tools, the values they found in these new communication media were also expressed by the older participants about more traditional forms. These attitudes will now be considered.

Attitudes to Keeping in Touch

The older adults that participated shared a number of attitudes towards the notion of keeping in touch. One of these was the importance of communication being personalised, something which could be reflected in both writing and through voice:

"Hearing someone's voice is important, so I might email a friend briefly, but if I really want to communicate with them, I'll telephone, and it's a bit like handwriting, when you take a letter and it's handwritten it's very personal, and someone's voice is personal" (DI, female, Group A).

Communication that was perceived in this way was particularly valued, and contrasted with round-robin letters and email forwards, which were deemed by the majority of participants to be annoying. In fact the value of a personal touch was so important that HomeNote was the best received of our prototypes in every focus group, largely because it encompassed the idea of being able to transmit handwritten notes, which were thought of as more personal and 'human', a more direct mode of being in touch.

The importance of handwriting in expressing oneself was also expressed by one of Dickinson and Hill's [8] participants, but in this prior study, letter writing was widely reported to be too formal and difficult. In contrast, our participants viewed communication as worthy of effort:

"You appreciate letters so much more than email simply because actually someone's put more effort into it, they've actually written it, or they've bought the card or the writing paper, they've written it, they've posted it [...] it may be an old-fashioned thing but it's got quality and standards" (AN, male, Group A).

These points of difference may in part reflect the fact that Dickinson and Hill's focus groups involved "older old" participants, who cited reasons such as manual dexterity impairments as a barrier to letter writing. However, a difference in attitudes is also evident. The formality of letter writing was not an issue for our participants, who seemed to enjoy the fact that letter writing is a skill to be nurtured, and on which reputations can be forged:

"I have a reputation for writing funny letters, so they look forward to them, it's pure and simple, just day to day bits and I see if I can get a laugh out of them" (MO, male, Group C).

Part of this willingness to devote time to communication reflected a sense that participants built communication into their daily lives. As a group who were largely retired, they nevertheless claimed to be busier than ever (see also [32]), and it seemed that they created activities around which their daily routines could be organised. Thus communication became an important part of the day, or as the participant quoted above described it, *"part of the busyness of it"*.

Closely related to this is the idea that some communication media allow time to reflect before responding, whereas others seem to discourage this:

"If you get a handwritten letter you're not necessarily expected to sit down immediately and send it back by return, whereas in email there's an expectation to immediately respond as soon as it comes up on the screen, there's an expectation on you as a person who receives it,

oh and a text as well, requires a more immediate response" (TR, female, Group A).

The way in which letter writing affords reflection has been reported before, in contrast to the telephone, which can fail to allow time to think [8]. In our own findings, participants seemed ready to devote time to telephone conversations in much the same way as they might set time aside for letter writing, and talked about sitting down with a cup of tea in preparation for making a phone call. Also reported by [8], our participants felt that there was a sense in which the telephone allowed a real connection to be made:

"I think what I like about the phone which you don't get with any kind of written word is the little asides, you know that little throwaway remark which tells you quite a lot about how that child has grown up suddenly" (ER, female, Group B).

In contrast, the lack of real contact afforded by the devices that we demonstrated, and particularly by the Whereabouts Clock, led to their being rebuffed. One participant said of the automatic nature of interacting through such devices:

"You wouldn't need a brain would you, I mean you're losing your brain" (AN, male, Group A).

It seemed that, other than HomeNote and its support for handwritten messages, the devices we demonstrated simply served to exasperate our participants. They could not see how they might put something of themselves into the types of communication that such devices afford, either through effort, expressiveness, or even the dedication of time.

Managing Availability

While the above suggests that participants were keen to put time into the activities of keeping in touch, they were at the same time careful in managing their own schedules and respectful of the time available to others. They did not appreciate the possibilities offered by technologies such as mobile phones, and found it difficult to understand the attitudes of younger generations to these:

"It's a sort of mad modern mania that you need to be in touch all the time, I think you know why do we need all this communication for God's sake" (PL, male, Group C).

For some of the sample, the perception of mobile phones as intrusive led them to resist owning one, and for some participants, this opposition extended to computers:

"I don't think I should get a mobile phone, I've got a life at the moment" (LY, female, Group B).

Again, this reflects the idea that older adults have busy lives that need to be organised, and further ties in with findings reported by Turner et al. [32], in which older adults felt that they did not have the time to learn to use new technologies. Indeed, our participants discussed strategies for managing their time, and used communication technologies in such a way as to control their availability to others. Many of the participants who owned mobile phones had them for

emergencies and tended to leave them turned off; few were used for chatting or texting. Other ways of managing contact included using answer machines:

"I won't answer the phone while I'm eating, if they want me they can ring again or I'll ring them back, but if you've got an answer phone it solves everything doesn't it" (PL, male, Group C).

Additionally, participants spoke of tailoring their choice of communication media to manage their "emotions":

"Sometimes I actually want to communicate some information to someone but I don't feel like talking to them, I'm busy and I want to communicate that information I'll send an email, another time I might [...] phone them because I would like a chat" (DI, female, Group A).

This consciousness of possible limitations on availability also meant that they were anxious not to intrude on others:

"You're aware of your own time, your own time is precious so you should be aware that everyone else's is" (AG, female, Group B).

This unwillingness to impose on others was in part tied up with the concept of growing older, and also appeared to be linked to family roles. The participants did not want to appear dependent on their adult children (see also [20]):

"You don't want to be a nuisance do you, people of our age can often be a burden or a nuisance" (RO, male, Group B);

"I tend [...] not to make as much contact with my daughter because I know she's busy and I don't want her to think 'Oh God it's my mother again'" (GW, female, Group B).

However, because of this awareness of intruding on others, clashes could result if the participants felt their own time to be intruded on. While they were adept at managing contact directed towards themselves, they could become irritated by contact directed towards others around them:

"One of the things my son and I fall out is if he comes for a meal at night he gets four bloody emails in the middle of the meal, because his friends are constantly in touch you see, I threw his phone into the garden one time I was so angry" (MO, male, Group C).

This attitude towards control over one's time meant that our participants tended to react unfavourably to the lightweight devices demonstrated during the focus groups. Epigraph was felt to be "too ephemeral"; the sense of not being able to manage incoming contact and the possibility that it might be missed was seen as a negative attribute. The Whereabouts Clock received an even poorer reception, with participants claiming to have no interest in the whereabouts of family members, and being strongly resistant to having their own location tracked:

"I don't need it and I want my own space; I don't want them checking up on me so I won't check up on them" (GW, female, Group B).

These findings are in stark contrast to those reported by Hindus et al. [16], in which women with younger children were interested in receiving presence information (although not producing it), and for whom the ephemeral nature of a shared whiteboard afforded playfulness and informality.

Values Inherent in Making Contact

A number of values held by the participants regarding staying in touch were apparent in the group discussions. Some of these reflected the merits of traditional means of communication, but others implied that worth could also be found in newer forms of staying in touch. Even lightweight ways of making contact were occasionally seen to offer benefits. In fact many of the older adults, while speaking enthusiastically about letters and the telephone, recognised the usefulness of email. This is not so surprising; emails are in some respects similar to letters; indeed some of the participants felt that they were writing a letter when sending an email. But the ease of email resulted in them doing more of it – or sending more of them – than with letters:

"Whatever we say about how good letters were and everything, I actually think email, even if it's not the same, it's actually made me communicate with so many more people, it's actually increased how much I communicate" (DI, female, Group A).

A second value associated with email, and also noted by [8], was the ease with which content could breach long distances and time zones in ways that letters and phone calls did not. 11 of our 18 participants had friends or family living abroad. For some, who had not been exposed to email through work, this had been a motivating factor in adopting new technologies, and for a minority, their families had been instrumental in this process:

"Well my son's in Japan [...] and we're very much in contact he emails me at least three times a week, phones me as well, and at the weekend we have iChat [...] It was his insistence that I went on broadband for a start, I hadn't intended to do it at all but he said, 'No no you must' [...] it's absolutely delightful, last weekend I was one side of the table and all the members of the family were on the other side, and we talked [online] for an hour, you know it was extraordinary, inspected all the Christmas presents, had long discussions with everybody" (ED, male, Group C).

For those who did not have access to such technology, the group discussions seemed to provoke a sense of regret that contact was now so difficult, or motivated participants to find out more:

"My son in Cambodia, his wife is expecting their first child, so [...] I'm going to want all this technology so I can see, so I can see his little baby" (AG, female, Group B).

This leads to a further value associated with more recent developments in technology; the ability to gain insights that might not otherwise be easily obtained. Unlike email and its links to letter writing, social networking sites have no

analogous form of communication for our participants. Even so, sites such as Facebook did appeal:

"I find out quite a lot about what [my son's] doing through Facebook [...] he lives abroad, it's given me an idea, I mean from the photographs, of the friends he's making, what he's doing, lots of photographs of social activities and places he goes to" (DI, female, Group A).

Given the usefulness, expressed here, of being able to access what might be called the 'digital identity' of a loved one, it is surprising that the potential for this was not also seen in Epigraph. Instead it seemed that the division of the Epigraph screen into sections, each one representing a family member, had the effect of weakening perceived links with any one person and diluting any connection. Here the human touch seemed to be lost at the expense of many, superficial, touches.

The Importance of Reciprocity

A final value expressed by the participants was the importance of being able to reciprocate. Underlying the largely negative reactions to the devices that we demonstrated was a sense that being able to respond to any form of contact is essential. As one participant noted:

"Nearly all of these things are based on the fact you're going to have either a mobile phone with a camera, or you have got a digital camera which you know how to use [...] a lot of people don't have that [...] you're always going to be just a receiver, you're never going to be the giver, so it's got more ramifications than just sitting looking thinking, 'Ooh that's nice' [...] because you want to give back again" (CL, female, Group A).

While participants could easily understand how they might reply with a scribble through a device such as HomeNote, a failure to reach a similar understanding with Epigraph led them to reject it as a communication device.

DESIGN IMPLICATIONS

The focus group findings outlined above can be used to draw a number of implications regarding how communication technologies might be designed to support the requirements of older adults. As already noted, the purpose of this paper is not to explore the needs of older adults as a group suffering cognitive or physical decline, but is instead to focus on their attitudes to keeping in touch.

First and foremost it seems to be the case that, for older adults, contact should *allow for a level of intimacy that is personalised*. Most of the sample expressed a dislike to round robin letters and felt that there was more value in communications that allow for a real connection to be made, even if these communications are infrequent. Personalisation might be expressed through the tone of someone's voice or obtained through the recognition of a loved one's handwriting; there is a feeling that these simple touches give a level of expression that is lost in texting and even in email.

Secondly, it was apparent that our participants were willing to put effort into their communication practices to achieve the degree of personalisation that they desire. In contrast to the lightweight ways of keeping in touch adopted by younger generations, older adults would be better served by technologies that *allow for a more focused, intense means of communication*. They are prepared to devote time to talking on the phone, and write letters that demand thoughtfulness and skill. Because of this willingness to work at keeping in touch, they expressed a desire for communication media that *allow time to reflect* before a response is required.

Despite this willingness to devote time to communicating, our participants also expressed the notion of contact as occasionally disruptive. The third design implication therefore relates to time, seen as a valuable resource that needs to be managed. The business of keeping in touch is part of the busyness of everyday life, therefore *while time is dedicated to contact, this contact should be non-intrusive*. It was also notable that family members were often felt to be too busy to make proper contact. Somewhat paradoxically then, our sample seemed to wish for less intrusive technologies, and tools to allow them to reach their busy family members, but not those that support lightweight contact alone.

Equally paradoxically, the older adults valued *ease* when making contact (see also [8]). Email in particular was heralded as offering some of the advantages of letter writing while allowing for a straightforward means of sending a message. This inconsistency might be at least partly resolved by recognising that communication media which support simplicity and immediacy are particularly valuable for keeping in touch with peripheral contacts, while more effort is put into communicating with family and close friends. It is likely that older adults, like most people, make a distinction between how much contact they need with groups that have previously been referred to by Neustaedter et al. [23] as 'intimate' and 'extended' socials.

The fifth and final implication relates to designing to *support reciprocity*. While older adults appreciate the potential for new technologies to offer insights into the lives of their loved ones, they want to be able to give something back in return.

DESIGN CONCEPTS

Two design brainstorming sessions were held with eight members of our research team, including three designers and the first author, who had moderated the focus groups. The main themes arising from the focus groups, and the design implications derived from these, were presented at the outset of the first session, and were used as a source of inspiration for the brainstorm that followed. In the second session, the large number of ideas generated in the first were evaluated against the design implications, before a smaller selection of the ideas were refined. Two of the resulting concepts are presented here as a means of

illustrating some of our findings and highlighting the questions that they raise. As such, points relating to the design implications are italicised.

ShoddyPop

The importance of having time to reflect before responding in asynchronous communication inspired the first design concept. The participants saw both positive and negative aspects to email. They enjoyed the ease of sending messages, especially to people overseas. They also felt that the composition of emails allows for a degree of *reflection* because of the possibility of re-reading and changing what has been written. However, they felt that the speed with which emails could be delivered meant that they also demanded a quick response. This pressure was seen as detrimental to communication, because it discouraged the reflection that was so highly valued. ShoddyPop is an email server that is rather unreliable (somewhat like the post). *Ease* of sending is preserved, and senders can be sure that their message will be delivered, but the delivery time is subject to variation. This means that recipients and senders cannot rely on the time of delivery to drive the tempo of a response, allowing the recipient to take their time before replying, or even to craft their reply over a number of days. This element of ambiguity, normally absent in email, means that ShoddyPop is inherently *non-intrusive*; users can check their email when convenient, and should feel less pressure to respond. When they do *reciprocate*, they can dedicate as much time and thought to their reply as they wish.

While the idea behind ShoddyPop is playful, it does resonate with other ideas in the literature. The social aspects of introducing ambiguity into communication have previously been considered by [1]. Furthermore, other researchers have explored ways in which more thoughtful communication might be encouraged. The Iso-phone [2] requires participants to immerse themselves in a water tank while wearing a dedicated headset that cuts out peripheral sensory stimulation. The hope here is to heighten the focus and purity of a conversation, allowing for a richer experience. ShoddyPop also echoes ideas presented by King and Forlizzi [19] about the virtues of slow messaging, in terms of allowing for effort and reflection. The concept exemplifies the notion that, while email is ideal within a working environment, the speed with which messages are delivered places demands on its users, which may not always be optimal for personal usage.

PersonCards

The design concept presented above emphasises the ‘heavyweight’ nature of communications preferred by older adults; it caters for reflection and for the dedication of time and effort. In contrast, younger generations are rapidly adopting lightweight communication tools, such as text and instant messaging [cf. 15]. Thus, some way of breaching the gap between lightweight and heavyweight media seems a relevant design goal, also supported by the notion that family relationships are asymmetrical [cf. 20].

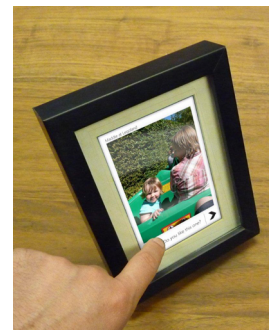


Figure 2. A PersonCard.

PersonCards, like Epigraph, allows for lightweight information such as picture messages to be sent to a frame and displayed within an older adult’s home. However, there are important distinctions to be made when comparing these two concepts. First, a PersonCard is dedicated to one person only. It thus honours them in the same way that a picture frame might, and is indicative of a direct connection between say, a son and his parents. Second, PersonCards supports the notion of *reciprocity* for those who are not familiar with or desirous of digital cameras and mobile phones. Content can be sent to a PersonCard from any channel (e.g. SMS, MMS, twitter), so as to reflect the multiuse of media by younger generations. Recipients can then scribble on the screen, so as to send back handwritten messages. The choice of supporting the transmission of handwriting means that a more *personal* form of contact is supported and, importantly, one that is *easy* to produce. The device could even incorporate a small camera, so that pictures could be taken and delivered instantly to the sender without the need to incorporate other technologies. Finally, to avoid seeming too fleeting and to allow control over what is displayed in the home, the image (or message) to be displayed can be selected, as shown in Figure 2.

Like ShoddyPop, PersonCards reflects ideas that can already be found in the literature relating to sending images to a situated display [e.g. 31]. Moreover, in a similar concept described by Evjemo et al. [11], a situated display is proposed as a way of supporting conversation between grandparents and grandchildren by providing some context for the discussion (see also [25]). Our focus group findings have also illustrated how technology can be used to ground conversation, and it is possible that PersonCards could be used in a similar way, to trigger and support occasional, but more heavyweight, forms of contact.

It is worth noting that, while we have attempted to produce some imaginative concepts to illustrate the design implications presented here, the reality is that most of the values expressed could be catered for using existing technology. Indeed, the majority of our participants were not resistant to new technologies, as long as these were seen to offer something worthwhile. The descriptions of video chats that some of our participants recounted appeared to enchant those who had never used a webcam, and it seems

that if barriers to the uptake of such technologies were removed, they might be adopted more keenly. Barriers evident within the discussions resonate with those discussed by [32]; while our participants were keen to spend time interacting with others, they were also busy and felt the adoption or use of some new technologies to be time-consuming. A lack of exposure to new technologies as well as difficulties in understanding how they work may be related to these views. As one of our participants said:

"I think with certain people our age and older you're definitely going to meet resistance because no matter how simple you make it, to them it's not simple, especially if it's your first point of entry into anything beyond a normal telephone [...] I know a lot of seventy, eighty year-olds who are really very computer-literate and they love them, and emailing, but there's an awful lot more who don't" (AD, Male, Group A).

With this in mind it seems that efforts to make existing communication technologies easier to interact with [cf. 9, 34] are important. Also relevant are attempts to understand the difficulties that older adults experience when trying to adopt them [32]. It may be that the key to supporting older adults in their efforts to communicate lies not only in creating new technologies, but in improving awareness, understanding and the ease of use of existing possibilities.

CONCLUSION

This paper has explored the attitudes of older people to various means of keeping in touch, with the aim of understanding where they find value and how this might be supported. First and foremost, it is apparent that the value placed on keeping in touch is very high indeed. Older adults seek to communicate with a level of dedication that cannot be supported through lightweight contact alone. They want to feel that real contact has been made with someone, that a level of intimacy has been reached, and that they have put something of themselves into the act, or indeed the art, of communication.

These findings reflect suggestions that we have previously made [20] for technology to be used to strengthen meaningful relationships in later life, as opposed to being developed to foster new friendships. These arguments follow Carstensen et al.'s [4] proposals that older people, being aware that their time is relatively limited, are more motivated to spend it on relationships that are emotionally rewarding and of significance to them, and less motivated to acquire new knowledge about the social world by meeting new people. This is reflected in our sample's wish to dedicate time to creating thoughtful and reflective communications, and in their desire to breach distances to retain contact with loved ones. Participants also discussed using simpler communication tools to manage contact with a wider circle of friends, with whom it might otherwise be lost. It seems then, that time and energy are directed at a subset of one's social network, with those at the periphery receiving contact that is less focused and less personal.

Despite this dedication, older adults carefully manage their efforts to keep in touch with others. They do not wish to become burdensome or intrusive, but important also is that they do not want others to intrude on them. In their view there is a time for communication and a time not to communicate; they are careful not to infringe on others, and would like to be treated with the same degree of consideration. This attitude offers a clear contrast to that of younger generations, who do not seem to be 'timeframed' in this manner. For teenagers and young adults, communication is constant, peripheral, and transient, pervading but always short-lived. The opinions expressed by our older adults hinted that this immediacy might, in many cases, be of negative value to them. It discourages the possibility of ruminating before sending a reply and it limits self-reflection. This was even felt to be the case for email, which, while asynchronous, was felt to create unwelcome obligations to respond quickly.

This brings us to a final point: the importance of being able to respond. We [20], and others [7, 8], have noted the asymmetrical nature of family relationships, and have argued that older people derive a strong sense of self-worth from their capacity to reciprocate, and even to give more than they receive. It seems essential that designs for older adults permit a meaningful response to be made. While they delight in gaining insights into the lives of their families, they value even more the ability to give something back.

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