Computer Mediated Communication of Older People

Zaphiris, P. and Pfeil, U. (2009) Computer Mediated Communication of Older People. Paper presented at the workshop "Age matters: Bridging the generation gap through technology mediated interaction", at the Conference on Human Factors in Computing Systems (Boston, USA, April 5-9, 2009). CHI 2009.

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Abstract

In this paper we describe work we have been engaged with for a number of years now in investigating Computer Mediated Communication of older people

Keywords

Guides, instructions, author's kit, conference publications

ACM Classification Keywords

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

Introduction

More and more people aged 60+ are using the internet. In recent years, older people's activities online have expanded from information retrieval to include social and communicative activities as well. Many older people use online communities on a regular basis, often to find information and support concerning a specific health problem. The increasing amount of social activities on the internet poses new challenges for Inclusive Design researchers. Ensuring access to information on the internet is no longer sufficient, as social aspects of activities on the internet have to be considered, too [4]. These include taking into account how older people communicate with each other, how they exchange

information and support, and how they form relationships and groups online. Our work investigates the use of online social settings by older people. In particular, we are interested in differences in group buidling and social interactions between older people and teenagers. Another focus is on online social support as exchanged between older people in online support communities. We have conducted numerous studies in these two areas and we highlight some of them below.

Differences between older people and teenagers

A profound part of our work not only deals with the content that is exchanged in online settings, but also how older people develop relationships in these settings. In an initial analysis, we compared the social network of two online communities - one for teenagers and one for older people. This helped us to establish a better understanding of similarities and differences in the ways of interaction among the participants of these two online communities. A series of analytical and statistical techniques, like Social Network Analysis (SNA), were used in order to get a better understanding of the two online communities. The analysis showed that the social network of the online community for teenagers is more highly connected, has more messages sent and received and has a higher reciprocity. On the other hand, the online community for older people has more central dominant people who tend to make the rest of the network dependent on them for communication [8]. In a follow-up study, we further deepend the analysis of age-differences of user behaviour by investigating teenagers and older people's use and social capital in the social network site MySpace. Our findings show a social capital divide. Teenagers have larger networks of friends compared to

older users of MySpace. On the other hand, we found that the majority of teenage users' friends are in their own age range (age +/- 2 years), whilst older people's networks of friends tend to have a more diverse age distribution. In addition, our results show that teenagers tend to make more use of different media (e.g. video, music) within MySpace and use more self references and negative emotions when describing themselves on their profile compared to older people [1].

Analysis of online social support for older people

Online support communities offer a place for people who experience a similar life situation to come together to share information and to support each other. Up to now research has mainly investigated online support communities for mainstream users. Little is known about how people with disabilities and older people interact and socialise in these settings. The aim of our research activities is to fill this current gap and investigate the exchange of support in online support communities for older people.

Aspects of supportive communication

In order to understand the nature of online social support for older people, we investigated the content of an online support community for older people (SeniorNet). Qualitative content analysis of 400 messages from a discussion board about depression was used to determine how social support is expressed and facilitated in online communication. Special emphasis was placed on determining the components of online social support. Based on our analysis, we developed a code scheme that can be used to analyse online supportive communication among older people.

This investigation identified different components of social support as well as their frequency and prevalence in supportive communication. In particular, we distinguish between the following aspects [2]: (a) Self-disclosure: Text units in which people talk about themselves. This can be done in several ways (e.g. emotional, medical, narrative). (b) Community building: Text units that include people's opinion about the online support community and meta-information about the activity within the online support community. (c) Light support: Encouraging and uplifting text units. They are usually written in a generic way and can be aimed at individual members or the whole online support community. (d) Deep support: Supporting text units that are often emotional and customised towards the unique situation of the person that the message is written to. (e) Factual information: Text units that include factual questions and information about the topic of discussion. (f) Off-topic: Text units that are not related to the topic of the online support community. (g) Technical issues: Text units that ask technical questions about the use of the online support community and suggestions on how to solve them By investigating the components of social support and highlighting the differences and similarities between online and offline support, we further clarified the phenomenon and its occurrence online. Our code scheme and its relation to social support go beyond existing research and provide a framework for analysing the nature and degree of social support within an online community [2].

Interaction patterns of supportive conversation

In addition to the analysis of the content that older people exchange in an online support community, we also investigated the interaction patterns and how the exchange of supportive content builds up to a conversation. We analysed a data-set of messages posted over the period of six years in an online support community for older people using our code scheme. We studied the content and sequences of messages within this data-set and linked our findings to the level of activity of the online support community over time. Our findings showed how certain sequences of messages within the online community are related to the level of activity thus providing valuable insight into the role of message-sequences in sustaining online support communities for older people. For example, we showed that the mutual exchange of personal information and receiving support after talking about personal problems are basic components for the sustainability of the online community, whereas conversations that go off the topic of the online community seem to be related to a decrease in the level of activity [6].

The development of social networks

In order to investigate the development of older people's relationships within an online support community, we analysed the communication patterns and relationships between members of an online support discussion board. In addition to looking at the structure of the exchanged messages within the discussion board as a whole, we also investigated associations between the communication content and the social network patterns. Our findings show distinct differences between the social network patterns of emotional and factual communications. For example, members are more connected and closer to each other in the social sub-networks that are based on emotional communication compared to factual communication. Additionally our results show that the type of

supportive communication (e.g. posting different kinds of support) is linked to the social network structure within the discussion board [5].

Older people's perception of online support

After investigating older people's behaviour in online support communities, we also investigated older adults' needs and preferences concerning online social support. We focused our analysis on the seven different aspects of online support already mentioned above: Self disclosure, Community building, Light support, Deep support, Factual Information, Off topic, and Technical issues. For each aspect we were interested in how older adults perceive this aspect of support, what they think are the similarities and differences of this aspect of support in online settings vs offline settings, and what they perceive are the advantages and disadvantages of communicating this aspect of support online. We did this by conducting detailed interviews with three groups of older adults (31 people in total) with different levels of expertise in using the internet and online communication (older adults who do not use the internet, older adults who use only email, and older adults who participate in online support communities). Interviews were transcribed verbatim and analyzed. Our findings describe older adults' perception of different aspects of support and identify their motivation for turning to online support and the reasons for any reluctance to do so. Thus, our findings give insight into how online support communities could best be utilized to improve older people's experience with online support [7].

References

[1]   Pfeil, U., Arjan, R., Zaphiris, P. (in press) Age differences in online social networking - A study of user profiles and the social capital divide among teenagers and older users in MySpace. Computers In Human Behaviour Journal.

[2]   Pfeil, U. and Zaphiris, P. (2007). Patterns of empathy in online communication. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (San Jose, California, USA, April 28 - May 03, 2007). CHI '07. ACM Press, New York, NY, pp. 919-928.

[3]   Pfeil, U. & Zaphiris, P. (2009) Theories and Methods for studying Online Communities for people with disabilities and older people. The Universal Access Handbook which will be published by Taylor and Francis in the series "Human Factors and Ergonomics" in January 2009.

[4]   Pfeil, U. and Zaphiris, P. (in press). Theories and Methods for studying Online Communities for people with disabilities and older people". The Universal Access Handbook. C. Stephanidis (Ed). Mahwah, NJ: Erlbaum.

[5]   Pfeil, U. and Zaphiris, P. (under review). Investigating social network patterns within an empathic online community for older people. Submitted to: Interacting with Computers (IwC).

[6]   Pfeil, U., Zaphiris, P., and Wilson, S. (under review-a). The role of message sequences in the sustainability of an online support community for older people. Submitted to: CHI Conference on Human Factors in Computing Systems (Boston, USA).

[7]   Pfeil, U., Zaphiris, P., and Wilson, S. (under review-b). Older People's Perceptions and Experiences of Online Social Support. Submitted to: Computers in Human Behavior

[8]   Zaphiris, P., and Sarwar, R. (2006) Trends, Similarities and Differences in the Usage of Teen and Senior Public Online Newsgroups. ACM Transactions on Computer-Human Interaction (TOCHI), 13(3), 2006, 403-422. ACM Press.