

Purposeful Social Media as Support Platform

Communication Frameworks for Older Adults Requiring Care

C. Norval, J. L. Arnott, N. A. Hine, V. L. Hanson

School of Computing

University of Dundee

Dundee, Scotland, DD1 4HN

{ chrisnorval, jarnott, nhine, vlh }@computing.dundee.ac.uk

Abstract—Despite more and more people adopting Social Networking Sites (SNSs) such as Facebook, adults over 65 years of age still make up a relatively small percentage of those numbers. A perceived lack of purpose is suggested as one of the key issues surrounding the lack of interest of older adults, yet with health benefits associated with usage, such as increased social capital and community belonging, there is a unique opportunity present to develop social media that help carers stay in touch with patients and provide support when needed while providing these benefits. Technology can send information to carers, so an easy and secure framework for communication could provide significant emotional support for those who require it. Current work in the field suggests that such a platform could be designed and implemented to complement existing telecare systems.

Keywords—Social networking sites; telecare; older adults; social media; privacy

I. INTRODUCTION

At the end of 2010, a statistics website (socialbakers.com) which tracks the user numbers of Facebook, currently the most popular Social Networking Site (SNS), reported that Facebook ended the year with 585 million active users and demonstrated that adults over 65 were the fastest growing demographic group of that social network. That group still makes up just 2% of Facebook users, however, compared with 32% of the users being between the ages of 18 and 24[1]. Studies have found that participation on other social networks is also low, with approximately 10% of Americans over 65 using any form of SNS[2][3]. This paper argues however that online social networks could provide an effective platform for support between older adults and their carers, including the building of communities of older people with similar care needs.

Studies that have investigated the low participation on SNSs for over-65s find a perceived lack of purpose as one of the main reasons, with privacy and security concerns as others[4][5]. Creating a new platform with a clear purpose and with privacy and security issues addressed may therefore play a part in helping older adults adopt the use of this technology. This could help them stay socially-connected in times of emotional pressure and help carers by providing vital information relevant to the patient, such as tracking recovery progress and discussing the use of medication. We outline areas for consideration for the implementation of such a system,

providing a framework for support, and helping people to live at home for longer.

II. SOCIAL NETWORKING SITES – BENEFITS AND USES

Studies have investigated the health benefits of SNS use and have found that greater use is associated with increased social capital and reduced loneliness, as well as improved psychological well-being[6][7]. In particular, these studies highlight the effectiveness of this technology for staying in contact with people after a life transition, such as retirement or moving home. Kanayama found that social media played an important role in the lives of a group of older Japanese people who used a social website to share stories, make new friends and reciprocate emotional support[8]. Kanayama also shows the importance of social support not just for people living with a condition, but also for those who look after a partner or family member as a carer, who may feel overwhelmed by the change in situation. The website was a place where the users could voice their opinions and be free from revealing their restricted mobility or other potentially embarrassing issues, but as inspiring as some of the stories may be, the site was still restricted to those who were competent enough on computers and the internet to find it.

Social media have been seen in recent years to be more than just outlets to voice musings and thoughts of low importance, but as sources of vital information in times where other sources may be damaged or obstructed. Hurricane Katrina and the Haitian earthquake are examples which indicate that social media, for example Twitter, can play an important role in times of need.

III. SNSs AND TELECARE TECHNOLOGY

Some papers have suggested the use of social media alongside telecare systems, although these generally do not focus on the support and community aspect of SNSs, or the health benefits associated with use of such technologies [9][10]. The idea presented by these two papers suggest interesting ways in which the patient can input information, such as mood and behaviour, and this can be tracked by a carer who may be tracking and caring for several patients at the same time.

Support: RCUK Digital Economy Research Hub EP/G066019/1 "SiDE: Social Inclusion through the Digital Economy", Scottish Funding Council Technologies for

With the reduced cost of cellular communications, tablet PCs (which may be helpful for those who are not technologically confident) and readily available wireless internet connections, Web 2.0 (e.g. SNS) applications have potential to support telecare. While papers [9] and [10] suggest an effective and affordable framework for telecare, the social aspect of SNSs could also be utilised more fully, where benefits such as increased social capital and improved self esteem could arise.

Further suggestions have been made that emphasise the potential of social media. Dhillion, Lutteroth and Wünsch argue that previous papers on the topic did not address the social and psychological needs of the patient, while outlining a framework that takes emotional support into account[11]. Facebook Connect is also suggested as a potential platform to leverage social features from, however many papers cite privacy concerns and the negative media coverage[12] as a reason for not adopting SNSs[4][5]. It therefore may be wise to seek alternatives to Facebook integration, despite the features and support of its API. While Dhillion, Lutteroth and Wünsch provide a well thought-out framework, with areas for consideration such as support and aid in rehabilitation, it is worth further consideration that more needs to be done in discovering the design barriers of SNSs and older adults. For example, in a paper by Gibson *et al.* the word “friend” is highlighted as being a poor choice of terminology for older adults[4], although it may seem to be perfectly acceptable to younger people.

IV. DEDICATED PLATFORMS OR APIS

It may initially seem to be an attractive proposition to use an established SNS such as Facebook as the basis for such a framework for telecare, but it is worth looking into this point in more detail. It is possible to utilise the networks of existing SNSs quite quickly and easily through use of their own Application Programming Interface (API) tools. Facebook and Twitter both support this functionality through the “Facebook Connect” and “Sign In With Twitter” tools for developers of websites, however there are a number of advantages and disadvantages that need to be investigated further before a conclusion can be made on building on the API of a “parent” SNS.

Some of the advantages of the API route include:

- **Access to existing networks of millions of people.** Since so many people use SNSs already, a patient’s family and friends may already be members of the site, with previous experience of the functionality. This would ease issues with adoption of a person’s existing social network, and ensure that an extensive user base exists for new users.
- **Extensive list of existing functionality,** with further facilities possibly being made available in the future. Using the API would mean that creating a network for support would be very quick and easy, with improvements likely to appear in the future.

Some of the disadvantages include:

- **Very little control would exist** over the SNS functionality and user policies. If the parent SNS decided that all accounts were to be made public, for example, then that would happen completely outside the developer’s control. Also if something was to change in the privacy policy, that change would be instantly passed on to the users of the support network, without them being able to refuse.
- **Trust problems are still present.** With research showing a lack of trust for these websites within the over-65 age category [4][5], using the API will not help these concerns. Essentially users of the support network would have to sign up to the parent SNS and privacy issues may continue to be a large deterrent.
- **Development and Research could be limited** by the use of an API. While certain usage data would be available, such as number of users, etc., it would not be possible to try new methods of communication that aren’t supported by the parent site, such as localised messaging, and measure the success of such functionality amongst older adults.

The issue of whether to build dedicated platforms or use existing APIs is open to further debate. Further advantages and disadvantages may be identified, however for a support SNS with sensitive data, a dedicated platform is heavily suggested.

V. AREAS FOR CONSIDERATION

With clearly defined purpose, social functionality built directly into telecare systems might help increase adoption numbers compared with some of the more mainstream systems used by younger adults; however it must be made clear to potential users that the levels of privacy are completely different. While many of the mainstream SNSs encourage openness and sharing, a network offering comprehensive privacy and anonymous support communities is more likely to give older adults the reassurance they need to approach the concept of an SNS without the stigma that currently exists.

Research on enhancing home-based care through better understanding of activity in the dwelling, such that care can be tailored better to changing user needs and circumstances, has investigated how to visualise and present to stakeholders, such as residents and carers, information about changing domestic activity[13][14]. The dialogue of care between older adults and their carers is an important part of the care process; social media of appropriate design could offer a framework within which that dialogue could occur, as long as requirements of privacy, security and anonymity are met.

Papers have used methods of measuring social capital based on scales put forward by Williams[15], and life satisfaction based on scales developed by Diener, Emmons, Larsen and Griffin[16]. These scales could be used to measure the social capital and life satisfaction of participants before and during

the adoption of such a system to assess the impact of online social engagement on adults over 65.

Previous studies of SNSs and psychological benefits include a wide range of participants, usually with an average age of around 20-30, so it is impossible to conclude that these findings are truly representative of older adults. There is a lack of research on the benefits of SNS usage specifically for this age group. More investigations are therefore required to discover if these benefits extend to users over 65, and if so, to what extent.

VI. CONCLUSION

With tablet computers and internet access becoming increasingly accessible and affordable, SNS functionality integrated with telecare is an attractive proposition. Findings linking SNS usage to psychological benefits, such as increased social capital, reduced loneliness and improved well-being, indicate the need for this technology to be available to all, yet the design, purpose and negative media coverage of such existing online social networks could be seen as a barrier to older users that must be resolved.

The development of a system to integrate social functionality within telecare may provide the emotional support for older adults requiring care which is often overlooked with the implementation of a telecare system. While it is beneficial to allow older adults to remain in their own homes for as long as possible, and remote assistance allows carers to help more individuals for longer, social interaction is an important part of any person's day-to-day activities. A social telecare system could potentially provide advantages of both telecare and traditional care, ensuring that care professionals can quickly get the information required wherever they are, and the adults themselves have means of communication.

Implementing social functionality within telecare may also give the opportunity to avoid potential misconceptions that SNSs are inherently dangerous through careful consideration of design based on the views of older adults. With focus and clear purpose, a privacy-enhanced SNS enabled for anonymous communities may provide a platform for emotional and informational support to those who need it, while the flexibility of technology allows for "Web 2.0" customisation, such as providing simple access to local news and health information. Such a service may give older adults a safe and easy approach to social networking sites providing care and emotional benefits without the negative implications that this technology

tends to be associated with, providing richer access to information, communication and support.

REFERENCES

- [1] Socialbakers, "Facebook in 2010: 7.9 new account registrations per second," 2011, Available at: <http://www.socialbakers.com/blog/109-facebook-in-2010-7-9-new-account-registrations-per-second/> [Accessed March 9, 2011].
- [2] M. Madden, Older adults and social media. Pew Internet & American Life Project, Washington, D.C., 2010.
- [3] K. Purcell, Trends in teen communication and social media use. Pew Internet & American Life Project, Washington, D.C., 2011.
- [4] L. Gibson, W. Moncur, P. Forbes, et al., "Designing social networking sites for older adults," Proc. 24th BCS Conference on Human-computer Interaction, BCS, UK, 2010.
- [5] V. Lehtinen, J. Näsänen and R. Sarvas, "A little silly and empty-headed: older adults' understandings of social networking sites," Proc. 23rd BCS Conference on Human-computer Interaction, BCS, UK, pp. 45-54, 2009.
- [6] M. Burke, C. Marlow and T. Lento, "Social network activity and social well-being," Proc. 28th International Conf. on Human Factors in Computing Systems (CHI 2010), ACM, New York, pp. 1909-1912, 2010.
- [7] N. B. Ellison, C. Steinfield and C. Lampe, "The benefits of Facebook "friends": Social capital and college students' use of online social network sites," Journal of Computer-Mediated Communication, 12(4), pp. 1143-1168, Blackwell Publishing Ltd, 2007.
- [8] T. Kanayama, "Ethnographic Research on the Experience of Japanese Elderly People Online," New Media & Society, 5(2), pp. 267-288, 2003.
- [9] M. Weitzel, A. Smith, D. Lee, S. D. Deugd and S. Helal, "Participatory medicine: Leveraging social networks in telehealth solutions," Control, pp. 40-47, 2009.
- [10] M. Weitzel, A. Smith, S. D. Deugd and R. Yates, "A Web 2.0 model for patient-centered health informatics applications," Computer, 43(7), pp. 43-50, 2010.
- [11] J. S. Dhillon, C. Lutteroth and B. C. Wünsche, "Leveraging Web 2.0 and consumer devices for improving elderlies' health," Australasian Workshop on Health Informatics and Knowledge Management (HIKM201), Perth, Australia, 2011.
- [12] d. boyd, "Facebook's privacy trainwreck: Exposure, invasion, and social convergence," Convergence: The International Jour. of Research into New Media Technologies, 14(1), pp. 13-20. University of Bedfordshire, 2008.
- [13] N. M. Gil, N. A. Hine, J. L. Arnott, et al, "Data visualisation and data mining technology for supporting care for older people," Proc 9th International ACM SIGACCESS Conf. on Computers and Accessibility (ASSETS 2007), ACM, New York, pp. 139-146, 2007.
- [14] N. M. Gil, N. A. Hine and J. L. Arnott, "Stakeholder involvement in the design and development of a domestic well-being indicator system," Proc 10th International ACM SIGACCESS Conf. on Computers and Accessibility (ASSETS 2008), ACM, New York, 267-268, 2008.
- [15] D. Williams, "On and off the 'net: Scales for social capital in an online era", JCMC, 11(2), article 11, 2006.
- [16] E. Diener, R. Emmons, R. J. Larsen and S. Griffin, "The satisfaction with life scale", Journal of Personality Assessment, 49(1), 71-75, 1985.