Chapter 8

ICT-Enabled Communication Tools for the Elderly: A Proximity-Based Social Communication Tool

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ABSTRACT

Elderly population is growing all over the globe. Social life (social contact, social support, social participation) and communication are important factors for ageing well. Research has shown the potential benefit of ICT-enabled communication tools and social networks for the elderly. The number of elderly people appearing on social networks is increasing. However, not all the available tools are effective for the elderly users. In this chapter, authors propose a communication model for the elderly. Focusing mainly on the locality of the users, a social communication tool for the elderly is proposed which is built around six main features: proximity, proactivity, less content more contact, visual map-based interface, gamification of support, and personal assistant.

INTRODUCTION

ICT and Communication

The term communication derives from the Latin verb *communicare* that originally means “to share”, that is, sharing thoughts, opinions, experiences, feelings, and emotions with others. Communication is not simply talking; it necessarily concerns an interpersonal relation and exchange. Inter-personal communication involves two or more persons and is always based on a relation in which interlocutors influence each other, even if they do not notice that consciously. Inter-personal communication can be categorized...
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into: verbal, non-verbal, and para-verbal communication. Verbal communication indicates what you say/write and concerns the usage of language (either spoken or written) and depends on syntactic and grammatical rules. Non-verbal communication concerns other channels of communication like facial expression, look, gestures, body posture, gait, and clothing. Para-verbal communication indicates how you say/write. It mainly concerns voice (tone, volume, rhythm) and includes pause, laughter, silence and other vocal expressions.

Information and communication technology has enabled some new forms of human communication and has changed the previous ones in different ways. ICT-enabled communication has had its own evolution from the early days up to now. The evolutionary path of inter-personal communication starts with simple one-to-one text-based messaging systems, gets richer with one-to-many messaging as well as going towards multimedia messages comprising images, voice, and video, and finally peaks with complex social communities with high dynamics and complex social interactions and functionalities.

Elderly Population and the Need of Communication

According to demographic studies, elderly population is growing all over the globe. This demographic shift is a by-product of lower fertility and better health conditions leading to lower mortality among older persons. The number of older persons aged 60 or over is projected to be 2 billion in 2050, three times the number in 2000, comprising 22 percent of the world population (UN, 2010). The United Nations report (WHO, 2002) characterizes population ageing as unprecedented, pervasive, profound, and enduring. It is believed that population ageing will have significant socio-economic consequences for which a preparation is needed (UN, 1999). The WHO Active Ageing framework (WHO, 2002) considers health, safety, independence, mobility, and participation as the five higher level needs of the older persons for a higher quality of life. The important role ICT can play in this context is widely recognized (Malanowski, Ozcivelek, & Cabrera, 2008). For instance, AAL (Ambient Assisted Living) is a joint European project focused on the usage of ICT to help older persons in ageing well and is supported by the biggest EU Research and Innovation program, Horizon 2020.

All the above mentioned higher level needs of the ageing population could be addressed and partly satisfied with communication tools. Tele-medicine could provide the elderly with always-at-hand health-related services. It concerns providing health care by exchanging medical information at distance. Existence of an available channel to communicate emergency situations like a fall contributes to safety satisfaction. Independence of the person could be respected by asking for support only when needed through communication channels. Impaired mobility could be compensated by effective communication tools which do not require the physical presence of the person. Finally, participation could be fostered in social networks and virtual communities.

The important role of communication can be considered, for example, in the way isolation affects the well-being of the elderly people. There are several risk factors for isolation. Some of them are loss of loved persons, difficulties in communication (e.g., due to hearing loss), access to means of transportation, disability and illness, loss of functional activities and physical capacities, professional and social loss (earnings, activities, role in the society, etc.) and the gradual loss of independence. Evidence shows that isolation is associated with depression and low morale. ICT-enabled communication could be helpful in reducing the perception of isolation, and consequently in reducing the effects derived from depression and low morale. The state of depression consists of a pessimistic vision of life and oneself, loss of interest in normal life activities, weight loss, sleep disturbances, and loss of memory. All these elements are
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