A Research on User Experience of Older Social Software

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Abstract. Purpose: Taking the elderly as the research object, this paper puts an emphasis on the inner needs of the elderly in an important position, and prevents the designer from subjectively replacing the user's expectations with his or her own ideas. Method: This paper proposes two kinds of research methods: interactive experience design method and implicit knowledge explicit design method. It analyzes the user experience process of senior social software, and studies the user expectations and design elements of senior social software use. Conclusion: The deeper exploration and summary of the needs of the elderly will have a certain reference value for the development of social software for the elderly.

Keywords: User experience design · The elderly · Social software Explicit design method

1 Preface

Since China entered an aging society in 1999, the aging population has accelerated its development. The elderly population has a large base, growing rapidly and increasingly showing a trend of aging and empty nesting. The number of disabled and semi-disabled elderly people in need of care has increased dramatically. The sixth national census shows that the population aged 60 and above in China has reached 178 million, accounting for 13.26% of the total population [1]. Caring for the elderly becomes the responsibility of everyone. With the increasing number of elderly people, the psychological and physical needs of the elderly need our attention. It is easy for senior citizens to feel lonely after they retire from the original interpersonal circle. A large number of old people has retired syndrome, which means that the elderly cannot adapt to new social roles, living environment and lifestyle after retirement. The anxiety, sorrow, fear, and other negative emotions emerged from the change, and therefore they need people's attention. Good interpersonal relationships can solve the loneliness of the elderly, add life joys and create a good family atmosphere. In recent years, with the rapid development of science and technology, old age groups have begun to enter the era of smart phones, and become part of the world's network [2]. Therefore, the design of social software for older groups is worth considering.

C. Stephanidis (Ed.): HCII Posters 2018, CCIS 851, pp. 154–160, 2018.
https://doi.org/10.1007/978-3-319-92279-9_21

2 An Analysis of the Status Quo of the Elderly User Experience Research

The user experience is from the user's point of view, so that the product meets the needs of people and reflects the human will. The user experience includes all aspects of people's interaction with products, programs, and systems. Based on this, Peter Morville proposed the user experience element honeycomb model (see Fig. 1). As early as in the 1940s, the human-computer interaction field has emerged a user experience research based on "usability" and "user-centered design" [3] was concerned with people's psychology and attitude and occupies the modern design. The study of user experience is conducive to the realization of the "people-oriented" concept, which helps to develop and design products in the right direction.

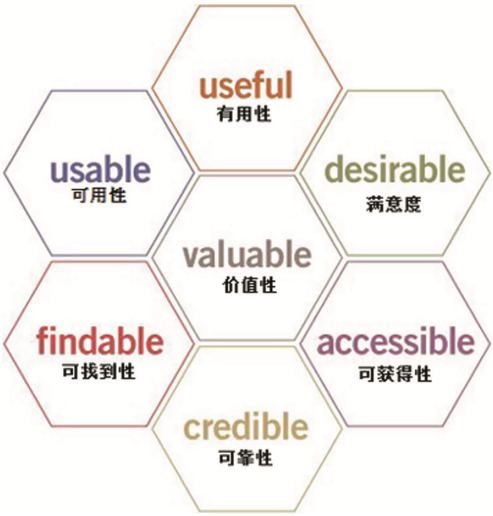

Fig. 1. Hive diagram of user experience elements

With the increasing attention to aging, research on product design for the elderly has become more and more widespread. The study of the user experience of older people in the country is relatively systematic and mature. For instance, Seyago and Blat [4] used ethnographic methods to study the obstacles and problems encountered by 388 senior citizens in Spain who used the Internet to communicate with their loved ones, and summarized the psychological and physical barriers that seniors face when using modern technology. The research results and theories have laid a favorable foundation for the study of the psychological expectations and user experience of the elderly on the use of social software. Zheng [6] studied the product design based on the physiological decline of the elderly. They analyzed and summarized the performance of the three major physical declines of the elderly and their product design strategies, and proposed the design concept of barrier-free products for the elderly and encouraged design. The division

adopted a variety of solutions to solve the operational problems in the daily life of the elderly.

In China, great progress has been made in the research and design of user experience for the elderly. For example, Siu et al. [5] from the Hong Kong Polytechnic University used the elderly as the research center in the study of visual concept design of the elderly, and used the expectations and needs of the elderly as the basis for visualizing images, encouraging future investigation and research to focus on end users. To be secondary users, based on the product's practicality and effectiveness indicators in the selection of research objects.

Nowadays social software on the market such as WeChat, qq, and Weibo are mostly designed for young people. The positioning of design also tends to young people. There is very few social software designed and developed specifically for the target group of senior citizens. Therefore, researchers and developers are in the early stages. The research should focus on the needs of the elderly so that social software that meets the user experience of the elderly can be designed.

3 Research Methods

Taking into account the physiological and psychological characteristics of the elderly, social software design should focus on a good user experience, including the ease of operation, the user interface of the pleasant and emotional care of elderly people's physical and mental health. For this reason, it is very important for the collection of user information data in the pre-study period. Designers only really understand the needs of the end user, and the designed product can be accepted by a wide range of users, allowing users to have a good user experience. The expectation can be designed to allow users to understand how the product works and receive corresponding feedback in a metaphorical way, avoiding the older people's feelings of rejection due to inconvenient use of the product.

3.1 Interactive Experience Design Method

According to Bernd H. Schmitt's five interactive experience systems (sensory, emotional, reflective, behavioral, and related) at Cornell University, the designer should develop the psychology of the elderly into the product. The communication between people and products is an interactive process, aiming at achieving the availability of products and excellent user experience [7]. It provides a systematic design method for products and enables products to communicate and interact with users.

Nowadays, older people are using smart phones more and more frequently, which facilitate their use of social software. Whether they are outside or not at home, they can open social software to chat with family members and friends. When seniors are retired at home and alone, the social software can meet their needs to make friends regularly. When the children are unable to stay with the elderly while they are at work, the elderly can video chat with children through social software.

3.2 The Explicit Design Method of Tacit Knowledge [8]

The explicit design of tacit knowledge is generally a study of users and requirements, and the design content is provided to the user in a certain visual form or other manner, and the user experience continuously improves the experience content and form. Since there are always differences in knowledge and cognition between users and designers, designers need to make users understand how products work and receive corresponding feedback information in a metaphorical way [9]. Therefore, designers need to From the perspective of user experience, the user's psychological and behavioral patterns [10] were studied, and an interface system that conforms to the user's use is developed. The explicit design model of tacit knowledge for user experience is shown in Fig. 2. The Principle of Humanization.

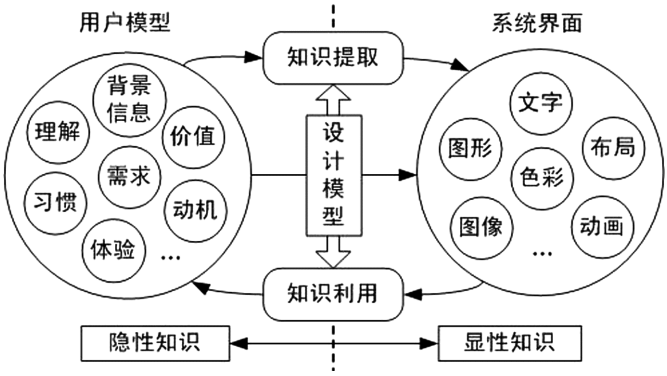

Fig. 2. Explicit knowledge design model of user experience

4 Analysis of Senior Social Software

With the development of information technology, smart phones have become more and more important in people's lives. They have become our most common electronic devices and tools with multiple functions, bringing great convenience to our lives while also changing our lifestyle. The unprecedented strength and portability of smartphones has attracted the attention and recognition of consumers and society, and this concern and recognition continues to grow. Since the popularity of smart phones among the elderly, the number of elderly people using social software has also gradually increased. When the elderly retires at home and the family members work outside, the elderly need to take care of their own lives. Since there is more time alone, coupled with the degradation of physical and psychological functions, the elderly are prone to loneliness. At this time, the elderly need to transfer their sense of loneliness through some things, thus improving their sense of well-being. Social software helps establish connections between old people and their friends and transfers social dynamics and news to the elderly. This not only reduces loneliness, but also ensures that the elderly do not derail from the outside world.

4.1 Analysis of Interaction Design Elements in Social Software

The core of designing social software for the elderly is to obtain a good product experience under the premise of barrier-free use. The achievement of this goal requires designers to fully consider the psychological needs and physiological characteristics of the elderly, in order to obtain a more perfect user experience. Paying attention to the elderly and "designing for users" is the performance of good communication between the designer and the end user in the interactive experience, and is also an important prerequisite for good software design.

When designing social software for the elderly, functional ease of use and interface simplicity are the main features of this group of users. "Laoyoubang (rd1860.com)" is a social welfare network platform established by the team of Professor Zuo Meiyun of Renmin University of China. It aims to provide a space for senior citizens to communicate and share, and promote the communication environment between young people and senior citizens. This platform has the following main features: It is a software platform developed specifically for the exchanges between the elderly, the elderly and the young people; there is a large font and the page is relatively simple, suitable for the elderly to read; there is time to remind the device, and after surfing the Internet for over 30 min, it will remind the elderly to rest their eyes and activities on the platform. Its philosophy is "the elderly cannot leave the internet, but they cannot be obsessed with the internet"; they have the function of "friends and relatives" to meet the needs of the elderly and work in the field. Private communication between children; "Forum" function to meet the needs of elderly community activities to share experiences and send

Fig. 3. rd1860.com social networking interface for the elderly

notifications; the most prominent is that "memoire" function is also available to satisfy users, this history can be chosen in the system to be left to oneself, left to the family or left to society. The interface of the old social networking platform rd1860.com is shown in Fig. 3.

4.2 User Expected Explicit Design Analysis in Social Software

Through the use of social software for the elderly, we can find that the main needs of the elderly for social software can be included in the following two use states, namely, input and output. The so-called input means that the old person accepts information when used, and the output means that the old person sends information to the other party when it is used. These two usage states require design to incorporate the physical and psychological characteristics of the elderly and consider the requirements of the elderly on the interface display. For example, because the eyes are not good, the fingers of the elderly are not flexible, so the application of fonts and pictures should meet the needs of the elderly to be large enough and as clear as possible; taking into account the academic limitations of older people, the presentation of the software should be intuitive and not have too much professional vocabulary. At the same time, we must consider the operational capabilities of the elderly. The intelligence of the elderly is constantly decreasing. Even if they have the ability to learn, it is extremely difficult for them to use complicated software [11]. Therefore, the software used by the elderly should be as simple as possible to make it operable. In this way, it is necessary to consider easy-to-understand operation methods, consider the display and expression methods that are easy to distinguish, reduce the complexity of software operation, and reduce the amount of information and the strength of information; try to minimize the memory burden of the elderly.

Regardless of whether the researcher or the designer is considering the social media software interaction interface design research for the elderly, both the user's habits and physiological characteristics (user model) should be taken into consideration, and the layout of the product interface should be optimized so that "products meet human needs". A good product interface can bring good experiences and memories to the elderly, and avoid negative emotions such as anxiety and fear caused by adapting products.

5 Conclusion

Since the coming of the information age, various software and networks have flocked to provide a good digital environment for the integration of the elderly into the family and society. At the same time, technology also brings inconvenience to the elderly. In order to reduce the burden on the elderly when using software, user needs should be integrated into the product. In particular, the information interface and operation feedback should be fully considered. The cognitive ability, behavioral characteristics and psychological expectation of the elderly, the use of products can be more in line with

the people-oriented concept, thus promoting the stability and prosperity of a harmonious society.

At the same time, the development of the aging industry that comes into being with the increase in the living needs of the elderly will bring a new impact to the existing industries. How to design for the elderly is a topic worthy of exploration. This paper analyzes the user experience process of social software for the elderly, researches the user expectations and design elements for the use of social software for the elderly, and digs deeper into the needs of older users, providing a reference for the design of senior social software.

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