Designing Poker Time: Older People as Fixpartners in a Co-design Process

Linna Hu and Hua Dong[(✉)]

College of Design and Innovation, Tongji University, Shanghai, China
hulinna25657@126.com, donghua@tongji.edu.cn

Abstract. An effective way to involve older people in design is to include them as equally important partners in co-design practices. This paper illustrates how students applied design knowledge and interaction skills to collaborate with older people to fix their real life problem. It was found that many older people have specific needs of communication, which depend heavily on their lifestyle and preferences. The design solution tackled the entertainment and communication issues for an old couple, through creating a better experience of their everyday poker time. Older people played an active role in the project and contributed positively to the final solution. It concludes that working with older people as design partners could lead to better products that are more appropriate for them.

Keywords: Older people · Co-design · Fixpert

1 Introduction

An effective way to involve older people in design is to include them as equally important partners in the co-design process (Newell et al. 2007). 'Fixperts' projects adopt such a practice. 'Fixperts' (www.fixperts.org) is a social project and an open knowledge-sharing platform, which promotes creative and social values through design. Designers and users work together to identify a problem, explore possible solutions and finally make prototypes, thus solving a practical everyday problem by the use of imagination and design skills. In the postgraduate course 'User Research and Design Innovation' at Tongji University, the Fixperts format were adopted as the assignment. 21 master students were divided into 10 groups of 2 or 3 students as Fixperts. Each group needed to find a person aged over 60 to be the design partner (the Fix partner) who would actively engage in the whole project process. Upon completion of the course, the students were required to deliver a final design (Dong and Vanns 2009), typically a product, and a mini film recording the design process.

1.1 People Involved in Fixperts

This paper will illustrate a Fixperts case study on how postgraduate students (Fixperts) applied design and communication skills to collaborate with older people (Fixpartners) and eventually solve real life problems for older people through design.

Fixperts and Film Makers (Students). Fixperts are those who are ready to apply their academically trained design skills and knowledge to make and improve things, say design learners or designers. A Film Maker is also a storyteller as he/she captures the whole story and translates the conversations between Fixperts and Fixpartners into a mini documentary film to share the journey with others and showcase the inspiring results.

Fixpartner (Older People). Fixpartners are someone with a fixing challenge, who is happy to invite a Fixpert to help fix problems.

1.2   Fixpartners

The Fixpartners of this project are an old couple, Mr. and Mrs. LI, who have known each other for over 60 years. Their profile is summarized in Table 1.

Table 1. Profile of fixpartners

Introduction	LI Shuzhi (Grandpa)	YUAN Lili (Granny)
Age	83	82
Birthplace	Nantong, Jiangsu	Shanghai
Personality	Intelligent, hard-working, tenacious	Passionate, humorous, optimistic
Occupation	Chinese Medicine Pharmacist	Electric Welder in Shipyard
Hobby	Dance, Watching TV	Music, Mahjong
Life Habit	Seldom go out except daily shopping	Keep Indoors, Love Cleanliness
Condition	Senile Chronic Bronchitis Minor Impairment in Hearing Oxygen Therapy Twice a Day Medication and Spray Avoid Spicy and Salty Food No Strenuous Exercise	High Blood Pressure Vascular Occlusion A Big Surgery 3 Years Ago 5 Different Types of Medication Each Day Pay Attention to Rest and Diet

2   Design Process

The participants in the project included 2 industrial design master students (known as Fixperts and also Film Makers) and 2 older people, the Fixpartners. To identify a problem in older people's life and explore possible solutions that are appropriate for them, the design process was conducted with a user-centered method, and followed 5 stages, i.e. discover, define, design, develop and deliver. The project used these stages as a way to equip both Fixperts and Fixpartners with guidance to refine the final solution. At the beginning of the design process, it was important to discover the needs and wants of the Fixpartners as much as possible. The second part of the process involved in-depth interviews and discussions to support defining an everyday problem that Fixpartners meet. The analysis of issues and needs were then presented, and followed by the initial

design, feedback from the Fixpartners, iterative design improvement, and the final solution. The development session finished with presentation where participants delivered their work. The whole process was video recorded.

2.1   Initial Visit and Observation

Fixpartners introduced their daily life routine and basic information regarding the relevant activities including their typical day, bathing, health management, meal preparation, home maintenance, activities, hobbies, communication in community and within family. Fixperts acted as listeners and observers, making efforts to find potential problems to allow later analysis of issues and needs. The initial visit involved the following 6 parts (Lindsay et al. 2010):

1. Information Gathering
2. Scenario Discussion
3. Issue Identification
4. Analysis of Needs and Requirements
5. Envisioning
6. Idea Generation

2.2   Discovering

Fixpartners were asked to verbalize their concerns about their daily life and perform some activities, such as doing laundry and playing a card game, so that Fixperts could find emotional and functional issues as well as physical ones. Some of the everyday life issues were identified, including:

- Fixpartner's hands tremble a lot, especially when holding something
- Having difficulties in hanging out the clothes
- Inconvenience in taking medicine
- Often forgetting to bring Seniors Travel Cards when going out
- Difficulties in storing poker cards and coins

The Fixperts and Fixpartners brainstormed together to answer how to change the situations outlined, which is the most productive part of the discovering process.

2.3   Defining

Fixpartners play Paodekuai, a type of Chinese poker game, from 2 pm to 4 pm every afternoon. This poker game, serving as a means to train older people's memory and logical inference, is also a somewhat competitive indoor entertainment that involves money in order to create a feeling of achievement for Fixpartners. It was found that Mr. LI puts the coins in a wooden small drawer while Mrs. LI puts her money in a leather purse. The process of playing poker was divided successively into 5 steps, i.e. taking cards out, shuffling, dealing cards, playing, and paying, as shown in Fig. 1.

Based on the observation, it was found that the couple did not talk to each other while playing cards, and the two hours of poker time was strangely quiet.

Fig. 1. The process of playing poker

Through deep interviews, it was realized that the Fixpartners were interested to talk about their past but there was no such effective props in the poker game to provoke conversations about their shared memory. A crucial feature of older people was that they have to deal with various aging challenges that life brings (Sustar et al. 2013) and thus would lack opportunities to have focused discussion on a specific topic. In addition, the accelerating pace of work and modern lifestyle leave young people with little time for spending with older relatives (Waterworth and Waterworth 2006). It is essential to facilitate communication between the two generations, for family connection is known to be vital for emotional as well as physical and psychological health for older people (Waterworth and Waterworth 2006).

In summary, the Fixpartners' emotional needs of playing poker cards are:

- To elicit conversation
- To experience much happiness in displaying the memories of the past
- To share and enjoy memories of past decades in an instant, easy, vibrant and amusing way
- To tell stories to younger people and spend some quality time together

And their functional needs include:

- To make cards easier to find and to take out
- Better to place two packs of cards and coins together
- Ingenious, simple and convenient to use
- To be able to store a certain number of coins

2.4   Design

Spending time with the old couple and participating in their daily activities in a real setting provided the students with many clues on which to make design decisions. Older people's confidence in their ability to use new products can be fragile due partly to their unfamiliarity and potential fear of new things (Newell et al. 2007). If the Fixperts tried

to change something completely, they would face considerable opposition from the Fixpartners.

To meet the Fixpartners' emotional needs, many well-conceived ideas were produced, one of which was eventually accepted by the old couple with satisfaction, that is, the Conversation-Trigger-Cards (Fig. 2).

Fig. 2. Conversation trigger card

The Conversation-Trigger-Cards aimed to trigger intimate conversation regarding everyday life, career, likes and dislikes, historical events, and old stories. The items presented on the poker cards were grouped into 4 categories:

– Hearts: Career and Hobby
– Diamonds: Story, History and Experience
– Clubs: Life and City Memory
– Spades: Old Items and Culture

Furthermore, a Storage Case was designed to better integrate poker cards with coins. The first prototype was produced as quickly as possible in order to get something tangible and low-cost to facilitate discussions with the old couple and get their feedback (Waterworth and Waterworth 2006). The iterative development of different prototypes was

conducted with a user-centered approach. Throughout the development Fixperts tested diverse mocks-ups and prototypes with Fixpartners so as to obtain feedback for the next development process. A wide range of possible forms of Storage Case (Fig. 3) was presented to the Fixpartners.
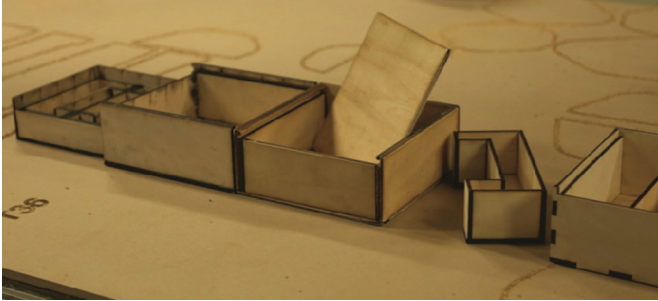

Fig. 3. The iterative development of prototypes

2.5   Development

It is advised that both the Fixperts and Fixpartners should be involved in concept development and prototype stage of the design process, so that both sides can positively affect early design decisions (Newell et al. 2007). The best method was the in-home interview, demonstrating prototypes in Fixpartners' home and offering detailed instruction for them to test (Bagnall et al. 2006). The Fixperts visited Fixpartners' home for the second time with the prototype of the Conversation-Trigger-Cards and the Storage Case. During the visit, Fixpartners were asked to try out the sample cards and later examine the usability of the Storage Case. The old couple became excited, and gave a lot of feedback on prototypes. The evaluation (Fig. 4) was effective in eliciting more stories about how an old item was used in home, how people thought about a famous historical event, who influenced their life attitude and lifestyle, and the sharing of a range of good and bad experiences (Fig. 5).

Fig. 4. The evaluation of the conversation-trigger-cards

Fig. 5. The sharing of past stories

Fixpartners offered more items that could be added to the cards, explaining the information through language and drawings, which contributed a lot to completing the Conversation-Trigger-Cards. The items include but were not limited to:

1. Influential People in their lives
2. Traditional Custom and Food
3. Classic Films and Songs
4. Old Games
5. Old Fashions
6. Old Brands

As for the Storage Case, the Fixpartners provided suggestions on aesthetics and the size of the Storage Case, and expressed their material preferences. They preferred wood rather than plastic or metal. The feedback helped the redesign of the prototype.

The development stage played a crucial role in the design process, as it addressed the difficulty of presenting intangible concepts in design through the use of sketches, prototypes and mock-up for working with Fixpartners, which stimulated creative thinking and user-centered innovation. This session also allowed Fixperts to observe the difference between what Fixpartners said and what actually happened. Tied to this is the generation of many constructive suggestions from both Fixperts and Fixpartners to improve the design in every aspect.

2.6   Delivering

Concerns about interrupting each other led Fixperts to the idea of triggering conversation that Fixpartners both interested in, as an appealing way of inviting communication. The inconvenience of placing coins sparked creativity of integrating the poker box with the coins container. The design was named Poker Time. It consisted of Conversation-Trigger-Cards and a Storage Case (Fig. 6).

Fig. 6. Prototype of poker time (final version)

A major challenge of this project was to design and develop a systematic product for the Fixpartners that was convenient and intuitive to use for fulfilling their daily activities (Waterworth and Waterworth 2006). Consequently, the Storage Case was made out of 4 parts, i.e. 2 coins containers inside, a box cover and a wooden box. The 2 coins containers where Fixpartners put their coins could be taken out while playing poker, served as the moneybox. The 2 packs of Conversation-Trigger-Cards could be placed in the middle of the Storage Case. It is important that the Conversation-Trigger-Card and the Storage Case complement each other and fit together seamlessly.

The Conversation-Trigger-Cards were designed to encourage communication in a form that Fixpartners would find easy to assimilate and act upon. It is thus suggested that the size of each card is 57 mm * 87 mm, the same as the size of a normal poker card on market. The reverse side of cards, which was inspired from dragon and phoenix in Chinese art, the symbol of love and good marriage, was selected by Fixpartners, from the 8 designers offered by the design students. In the testing session, the Fixpartners enjoyed the new cards and the Storage Case with delight and appreciation (Fig. 7).
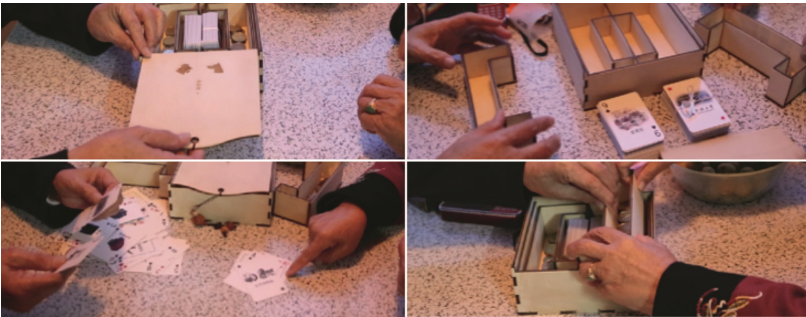

Fig. 7. Fixpartners' using the new design solution

The Poker Time is a customized product for the Fixpartner, with aesthetics and full functionality, solving the communication and storage problem in playing poker. The design is based on a great deal of user research and prototype making as well as aesthetics consideration.

3   Discussion

The discovery stage of the design process ensured that Fixpartners' needs and requirements were explored extensively early in the design cycle (Newell et al. 2007), and that Fixperts became more aware of the issues which they were supposed to address, that is, the communication and storage issues in their daily poker time. The final version of the prototype was given to Fixpartners as a gift. Overall the Conversation-Trigger-Cards were found to be a very useful way for provoking discussions on the topics shown on the cards which the Fixpartner find interesting and enjoyable, and the feedback gained from them was sufficient to ascertain the usefulness of the Storage Case.

The Fixperts project is more like a process rather than a service. The final result at first is likely to be a temporary solution, but in the long term the process might be a part of a better and bigger solution for others and probably even lead to production of the product. The Fixperts project has proved to positively influence the students' creative capability and their user research skills.

Older people as Fixpartners should be seen as an equally important part of the team rather than just subjects of experimentation (Newell et al. 2007), because while Fixperts contribute knowledge in design field, Fixpartners contribute their life experience and an understanding of what would be appropriate for other peers. The voices of users must be heard in the design process, but this brings significant challenges to designers faced with older users. Therefore, cooperation with older people has to be done with much more care and patience, even within limited time and resources.

4   Conclusions

This case study has demonstrated the value of gaining a comprehensive understanding of older people's daily life. While the original intention was to design an entertainment product that older people could benefit from, the result was that they needed a more attractive and appropriate way of communication when they play poker cards every day. In addition, older people and younger people can be better connected to each other by the use of the design, as the older people can tell the stories triggered by the cards while they play the game.

A large proportion of older people have specific needs of communication, which depend heavily on their lifestyle and preference. The phenomenon of aging population is creating expanding markets for products that can be used by older people with a broader range of needs and wants (Newell and Gregor 2002). It is believed that design coupled with the needs of older people could stimulate better design methods and lead to better products for everyone (Newell and Gregor 2002).

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