Concept Model of Communication Chair for Senior Citizen who is hard to move

DongHeon Lee, SukKyoung Kwon, SoYeon Lim, JiEun Choi, JaeGi Gyeon, JiHong Jung
Dept. of Interaction Design
Graduate School of Techno Design, Kookmin University 861-1, Chongnung-dong, Songbuk-gu, Seoul, Korea

Abstract: We concluded that senior citizen’s isolation problem can be solved through communication with others and society. And, we thought there are necessary to give the senior citizen, who couldn’t meet other people because of uncomfortable body condition, chance for communication. We have purpose to design product that senior citizen can meet others more easily and can use very conveniently. The chair, we are proposing, is a meeting space for various connected senior citizen as well easy and simple tool without any specific operation. Moreover, it is a space alike real life that can move here and there and can meet friends.

Key Word: Communication, Universal Design, Product Design

1. Background
In recent years the average lifetime of Human has been increasing rapidly because of an improvement of the life environment, medical care and health technique according to the economy growth. The senior citizen has also been increasing. In addition, the values and the lifestyle through the information technology are changing quickly and the position of the elderly gets low as information degree comes to be high. The aged society has various problems which must be solved. In modern society, one of the biggest problems about the elderly is the loneliness from the depersonalization. We try to solve their alienation and loneliness that cause from cutting of others and society.

2. Substance & Method
A main content of this research is to deduce the problem of senior citizen. We solve a problem in a view point of design with understanding about senior citizen.
- Understanding problem through research
Extracts problem of loneliness and needs that senior citizen felt through research on users and documents.
- Analyzing problem and extracting concept
Set detailed Target User from extracted problems and needs. Draw a solution through ideation based on Target User.
- Final solution
Final confirmation with consideration of suitability for solution and possibility of technique.

3. Research on User and Documents
To search more realistic solution of this assignment, we need proper understanding of the elderly. For this matter, research on users and documents was progressed. For research on users, target users were the elderly with age range of 70~75 in the elderly welfare center and general elderly welfare hall.
For research on documents, we were progression for point of views such as health, leisure and communication, economics etc. As analyzed the result of research,
3.1 Isolation Research
- The elderly, who is possible to move by them, tried to solve their loneliness through visit on welfare center or the elderly hall etc.
- Purpose of visit on welfare center is to meet others.
- When elderly has a problem on health, they more sensitive on loneliness and psychological isolation.
- For the case of the elderly who live alone, they trying to avoid eating and sleeping alone.
- When the elderly not in active for social life because of illness, they rather hope not getting worse than hope getting better.

3.2 Factor Research of regard for Control Environment
- They have an inconvenience of failing of eyesight and auditory senses.
- They have a refusal for control of difficult system.
- They have difficulty of complex.

3.3. Culture Research
The elderly hall, which is installed as Korean elderly culture, has been utilizing as a place for a meeting, communication and social meeting etc. Since the elderly can visit the elderly hall easily and make a friend with unknown person very naturally and smoothly, they prefer this place so much.
The Korean elderly culture like above, injected as element to design a solution for problems on isolation and loneliness. They tend to possess purses, handbags, glasses, watches, and cell phones; there are Golden Age Passport, ID, cash cards, and photos, etc, and they have their money in the pockets usually rather than in the purse.

3.4. Research Result
It is significant that we decide to suggest a system for senior citizen who is hard to move. We decided that the most effective result for elderly loneliness is making a connection between person and environment. The device for senior citizen can use without extra control as well. And if case that control that device happen, and we established principle to be simple.

4. Solving Process
As a result, we concluded that senior citizen who is hard to move meet variety people is the appropriate solution for solving their loneliness. Solution is proceeded through the simple process without outdoor action. We had brainstorming to specify the solution.
Consequently, it makes a virtual park or welfare facilities which can be understood each other with its voices. These functions support to concern with aged man and woman. It provides a space-sense through the power of voice in virtual space and it can be felt a mobile sense of location with sort of the power. Finally, we arranged the objects that could be used friendly in home by frequency and difficulty of use. And we could find the objects that are suitable as hardware terminal to solving this problem.

5. Solution
The upside's (Figure 1) is the concept model of the cyber space which is deduced for the solution of the problem. The square on the left side is the appearance of an old man, which eats by himself in the real world. The other picture on the right side is concept model which explains the system of the cyber space that the old man connects.

There are many groups for conversation in cyber space. And senior citizen can move easily in the cyber space by simple manipulation.

The space that senior citizen feels is to be arranged roundly. This is not different from the real park or lounge of welfare center. It just has the difference, which senior citizen can not see each other. The cyber space can give the sense that is similar to spatial sense in real space by sounds volume.

This is similar to chatting on the internet, but it is greatly simple in the situation of the connection and use. They can enjoy with other usual actions at the same time. Because It is communicated by sounds. In addition, it can be minimized the fatigue during the using time and it also can be escaped from spatial limitations by portability and comport.

5.1 Design Overview
Both sides at the back of the chair have input and output speaker and microphone are set up. The under chair has the sensor for pressure. In the case, the power is turned on. It can possible to connect by the situation which people just sit down.

The control panel is constructed by the dial which revolives to the right and left and the button which is connected to an emergency doctor.

5.2 Function Description
Entering the cyber space
As you sit on chair, it is operated by sensor that is installed in chair. Therefore, this tool can be entered the cyber space without any extra control.

Transferring Position
Position can be moved with spin control of jog shuttle and speed of movement will be changed in accordance with angle of spin. In the cyber space of 3D sound technology, not only conversation in a group of direct participation but also conversation in a group of near location can be heard.

Registration as a Friend
The person who is known through the cyber space can be registered as a friend when the degree of intimacy is higher than before. Registration is possible to search for the target through transferring position.

Searching for a friend
As if you are waiting for a friend in a park, you can wait for a friend while you are sitting on a chair. While you are waiting, you can check out whether your friend log in or not through confirmation of signal. Moreover, through the function of search, you can move to group of friends who are log in directly.

Measurement of heartbeat
Sensors will be installed in many places, which are chairs and body contacts, to check heartbeat and it will warn for urgent case of sudden increase of heartbeat and excited state.

Emergency warning and Consult doctor
If you press LED button of heartbeat display, you can talk to your doctor directly.

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