Development of Wall-Pad User Scenario through Context Mapping

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Abstract: As Wall-Pad's market became expanded, the importance of user interface in home network environment is increasing. In the past, usually interphone was used just to open the front door; however, in these days Wall-Pad which takes the place of interphone has great functions which could control home network system. It is true that the past interphone's form is changing, but today's Wall-Pad only have great functions, its user interface is designed without considering the usability.

In this paper, to improve this, I tried to offer more convenient experience of home network service to user by analyzing user's real life pattern and their environment. I was grasp the situation of using Wall-Pad through user research, and analyze the data. As a result, I was classified user groups who use Wall-Pad into three groups and defined each one as user persona; working mom, housewife in wisdom of age and young housewife. I suggested the new Wall-Pad UI design of home network environment which fits each user by making user scenario.

In conclusion, not only increasing the use of Wall-Pad it could provide suitable Wall-Pad's UI design to users, furthermore, it would do UI design's role which contributes to home network age.

Key words: Interaction and Interface Design, Design Methodology, Design Project Cases

1. Introduction

Wall-pad can be seen as an advanced product from the 'interphone' of the past of the function of checking the visitor and opening the front door. Also, it also has problems of insufficient understanding of behavior analysis according to the residential environment of users and low usability.

2. Research

- Method

The research using content mapping methodology for identifying the underlying intentions or needs of users had the participants write user diary for one week. Also, it had them record their daily lives in images by using

disposable camera.   After the week during which every participants write their diaries, there was a time of discussing and presenting the contents of the diaries that the users wrote directly and their thoughts on residential activities through a focus group discussion.   Also, it had them express the images of their residential lives through collage technique in generative session, and real voice regarding wall-pad usage pattern and residential living pattern was told through in-depth interview.

- Subjects of Evaluation

Since they spend much of their times inside their houses, 12 housewives who use wall-pad most frequently were selected as the subjects of evaluation.   Also, all of the participants consisted of housewives who live in an apartment since the circumstance is that wall-pad is being used mostly in the residential space of apartment due to the standards of price or usability in Korea currently.

3. Analysis

Real voice and residential pattern of the users and the usage pattern of wall-pad were analyzed through KJ mapping by putting post-it on Portfolio wall.   It sought to find insights upon grouping the user facts deduced through the research.

The followings are the main issues during the analysis process.

-When is wall-pad mostly used?

-Is the location of wall-pad appropriate?

-How much the functions of wall-pad are recognized by the users?

-What do you think about the term   'wall-pad'   ?

-What do you check before leaving the house?

-What kind of attitude is being had in the method of obtaining information?

-Through what method the memos they need are expressed?

-What are the patterns of record pattern?

-What are the patterns of the movement lines of everyday life?

4. Findings

As the result of the analysis, new insights were found and the current problems of wall-pad were discovered and the residential living patterns of actual users and wall-pad usage pattern were discovered.

- Context Factor

The usage pattern of wall-pad related to residential pattern can be defined through the following four factors.

a. User posture

Since current wall-pad is attached on a wall like the interphone of the past, users stand up when using wall-pad. It was found that the current location of wall-pad is not appropriate in the case of the task that requires recording activity or lengthy period time even though it can be used without any difficulties when performing that task of checking short period of time.

b. Task (going out vs. returning home)

Distinctive tasks of residential living are going out and returning home. The task of going out and returning home is both related with security, and they can be compared through the context in front of the front door. The task of checking every control situations of house is performed when going out and the task of checking changes in the house such as phone calls during absence and visitors is performed when returning home.

c. Space

The context of living room and front door could be compared, and the functions of recording, checking and controlling were used in the living room and the behavior patterns related to going out (returning home) and crime prevention were shown at the front door.

d. Information & Communication

Since living in apartments, the relations with management office and neighbors are important. It was found that they were exchanging essential information on residential living with the apartment management office and, on the other hand, sharing information and stories about children's education or daily lives with the neighbors.

- User Segmentation

Users of various contexts were summarized into three groups by dividing into the standards of the safety vs. convenience of wall-pad and active vs. passive in the method of obtaining information: housewives with jobs, experienced full-time housewives and new generation full-time housewives with much interest in their children's education.

5. Scenario Development

- Persona

Upon classifying each persona that represents the three groups, the roles of wall-pad suitable for them were put through the process ideation. First, working moms need to not only do house work but also be given reminders to prevent mistakes from their busy lives, and need to have smooth communications with their family members even from outside. Therefore, wall-pad that's like a shadow that always reminds them and delivers memos to family members is suitable for working moms.
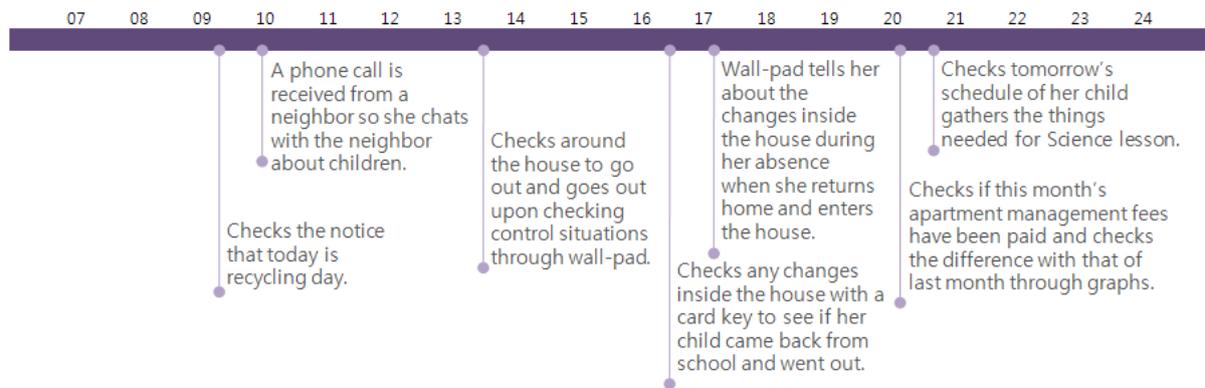
Second, since experienced full-time housewives with much know-how on house work have tendencies to prefer things that are safe than convenient, they only use main functions when using instruments even though there are various functions available. And when they come in contact with a new task, they try to associate and apply it with their previous experiences. Therefore, sheriff wall-pad that safely guards the house is suitable for this persona.

Last persona of new generation full-time housewives is active in communication activities and seeks to obtain much information related with their children. However, they are very indifferent to unnecessary information. Accordingly to such characteristics, chat wall-pad that helps their communication activities is suitable for new generation housewives.

- Scenario

GUI screen type, menu composition and wall-pad usage scenario that are suitable for each persona were developed through the insight and ideation. The followings are the scenario of experienced full-time housewife among the three personas and the case of GUI screen type.

Scenario of experienced full-time housewife

| 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

A phone call is received from a neighbor so she chats with the neighbor about children.

Checks the notice that today is recycling day.

Checks around the house to go out and goes out upon checking control situations through wall-pad.

Wall-pad tells her about the changes inside the house during her absence when she returns home and enters the house.

Checks any changes inside the house with a card key to see if her child came back from school and went out.

Checks tomorrow's schedule of her child gathers the things needed for Science lesson.

Checks if this month's apartment management fees have been paid and checks the difference with that of last month through graphs.

Menu Composition and GUI Type for Experienced Full-time Housewife

The menu composition suitable for experienced full-time housewife was to simply provide essential functions. It sought to arrange the most important functions on the main screen and provide easy accessibility through the opening of menu with different colors when selecting each menu.

6. Conclusion

During the research, the most of the participants perceived the device of wall-pad as an instrument that is installed in apartments and for opening the front door. There were also many users who were not using it because it looks too complicated and inconvenient to use even though it appears to have been equipped with various functions. Wall-pad had various problems in the aspect of usability, and there were much unsuitable parts as a device of home network era as it did not deviate too much from the context of the interphone of the past. Therefore, the residential living patterns and the usage patterns of wall-pad of actual users were discovered through context mapping in this study that thought that the contexts of users and practical needed should be included. Then, personas of three persons were selected and proposed wall-pad suitable for them and new wall-pad usage scenario.

Through the user scenario of this thesis, it will be able to not only increase the usability of wall-pad but also provide suitable wall-pad UI design to various users and, furthermore, it will play the role of UI design that contributes to home network era.