

Research on the Application of Situational Story Method in the Design of Women's Home Medical Products

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Abstract. Through in-depth research on the situational story method, this study investigates the feasibility of incorporating it into the design of home medical products for women. The study applies the realization principle of the situational story method to determine the process of utilizing this method in the design of female home medical products. This paper aims to offer innovative approaches and techniques for creating medical products for women, utilizing the situational story method as a design tool.

Keywords: situational story method; women; household medical products; design process

1 Introduction

Due to the differences in physiological structure, some diseases only occur in woman. At present, the design of home medical products on the market is more concerned about the applicability of the production, while ignoring the relevance of the production, and lack of research on the characteristics and needs of the female population. Currently, home medical products on the market are mostly for the elderly or young people, and there is a lack of women's home medical products that are segmented to the female population. As a design method focusing on the user's situational experience, the situational storytelling method has unique advantages in the field of product design. Compared with the traditional design method, the situational storytelling method implements the centre of design into the system of the interaction between people, products, and the use of the environment. Analyse user requirements for using products in different use environments in different use environments, so as to truly focus on the user, meet the user's needs and Enhance the user experience. Therefore, this paper discusses the use of situational storytelling in women's home medical products to provide new ideas for women's home medical product design.[1][2]

2 The core concept of situational story method

The situational story method is a design method in which designers create a product use situation by telling a story, find user needs, and then carry out product development and design. It emphasizes the user experience of the product by describing the stories that happen during the interaction of people using the product to explore the potential needs of the product. The basic principle is "user-oriented", which coincides with the core theory of product design "user-

centered".

2.1 Women's home medical products and situations

Situation is in the form of a system model, which contains the four elements of "people, things, environment, activities", in a particular environment and product interaction behavior, in the context: "people" is the main body of the behavior, is the user of the product, that is, the user In the context: "person" is the subject of the behavior, the user of the product, i.e. the user; "thing" is the object that generates the behavior with the "person", and also the target object to be concerned about in the context, i.e. the product; "context" is "person" and "thing"; "situation" is "person" and "thing". The "environment" is the space where "people" and "things" interact, including physical space and virtual space, i.e., the environment; "activity" is the mutual relationship generated by the interaction between people-objects-environment, i.e., the relationship generated by the process of using the relevant product for the target users in an environment, i.e., the environment of the target users. Activity" is the mutual relationship generated by the interaction between human-object-environment, i.e. the behavioral motives and psychological activities generated by the target users in a certain environment during the use of related products.[3]

The situational story method is to combine the behavior motivation and psychological activities of the product users, environment, and target users in the process of using related products in a certain environment.[4] As a known condition, the product is regarded as an unknown target, and the "objects" is the product design and development process through the analysis of the known situation,as shown in Figure 1.

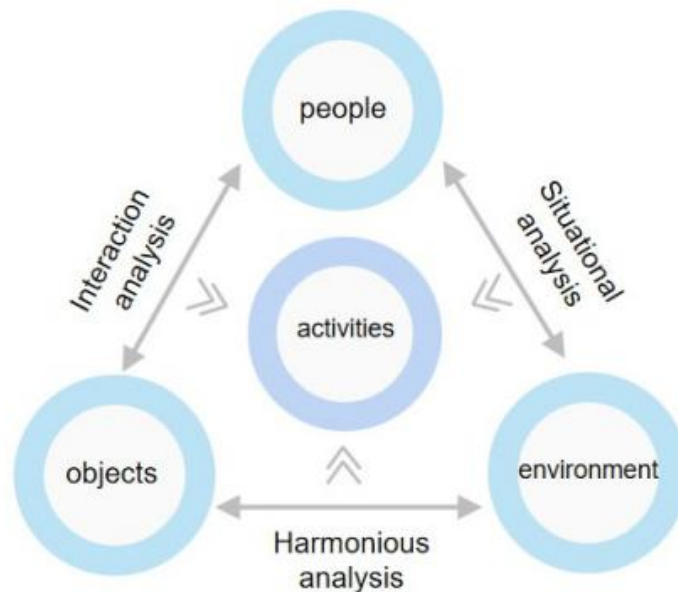


Fig. 1. Implementation principle of scenario storytelling

3 Feasibility analysis of situational story method in the design of women's home medical products

3.1 Women's home medical products and situations

Women's home medical products refer to medical products suitable for the home environment aimed at women's health, and are generally divided into four categories: testing equipment, health care equipment, physiotherapy equipment, and nursing equipment. Different usage scenarios can extract different design requirements. In order to be applicable to the home as an interactive context, female home medical products are portable, simple to operate, targeted, usable and aesthetically pleasing compared to the specialized medical products used in hospitals. The design requirements of specific women's home medical products need to be designed according to the user's own health problems and corresponding usage scenarios to obtain the most comprehensive and accurate design requirements.[5][6]

3.2 Advantages of situational story method in the design of women's home medical products

The female group has received attention in various fields of society, and pays more attention to their own bodies, becoming a veritable main force of healthy consumption, their aesthetic pursuit of products is also constantly improving. Compared with men, women's aesthetics pay more attention to the first feeling, with a larger proportion of sensual factors, and they are more fond of mildness and smoothness. Therefore, the use of situational story method in the design of women's home medical products has the following advantages:

- a. People-oriented; guided by the exploration of user needs, so as to design products that can meet the multi-level needs of users.
- b. Effective positioning; through situational stories, simulating the situation when users use the product, can more accurately discover user needs, and improving the success rate of product design and development.
- c. Comprehensive understanding; by simulating the difficulties that users may face in the process of using the product in different situations, so as to pay maximum attention to every detail in the design and improve the humanized care of product design.

4 Application process of situational story method in women's home medical products

The first task of product design is to determine a design direction, and this direction is valuable, we use the scenario storytelling design method, after confirming the design direction to build a cycle of dynamic situations, "people, products, environment" three elements in the scenario interact with each other, so as to jointly build a complete situation. Through situational research and other methods, we can further mine the real and virtual situations of users when using a certain product, such as the collection of data such as motivations, appeals, expectations, pain points, etc., so as to improve and optimize user experience based on situational data collection.

According to the application concept of the situational story method and the characteristics of

women's home medical products, this paper summarizes the application process of the situational story method in women's home medical products, as shown in Figure 2.

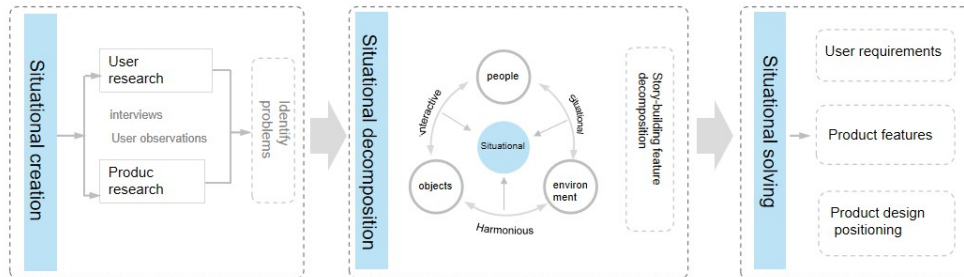


Fig. 2. The application process of the Scenario story method in women's home medical products

4.1 Situational creation

Through the research on female users, the later research directions and problems are constructed. Through the process of problem construction, the divergent directions are focused, and the follow-up situation construction is focused on a certain health problem, so as to avoid the emptiness of the research direction.

4.2 Situational decomposition

Think and summarize the problems found in the situational creation, take the three elements of situational construction as the research decomposition dimension, so as to decompose users, products and environments.

Situational research: In principle, situational construction research emphasizes directly entering the user's environment to collect real user behavior and psychological data, and to understand a series of behavioral motivations when they use the product through interviews and observations. After observing user behavior activities, the observation conclusions will be interpreted to further gain insight into the motivation and needs behind the user behavior. Through the interpretation of the user-related scenarios can be transformed into a situation that is conducive to promoting the designer to understand the real demands behind the user's behavior, the designer in the context of the insight into the user's behavior or emotion directly affects the design direction, so the scenarios to accurately interpret the user's real insight into the real emotions and demands, which can directly promote and guide the output of the design plan.

User Persona: User persona is a user-centered design method, which shows the real characteristics of the target group or typical users of a product, collects real user data by using qualitative research means such as user interviews, and in this way creates a vivid and perceptible prototype of the user portfolio, and summarizes the goals, behaviors, and perspectives of the product use of the real user group for analysis and research. The user portrait usually includes basic character information, work situation, family status, living environment, and behavioral descriptions of product use goals, needs, pain points, and other relevant contexts. In the design of women's home medical products, we need to make user portraits of typical female users, describe the situational stories in the form of story boards or text descriptions, and describe the behaviors, appeals, expectations, opinions and goals of the user characters in the

scene. To describe and communicate, in order to summarize a set of situational display of using the product based on the target user, so as to guide and influence the design.

4.3 Situational solving

Situational solving is to create a scenario and situational decomposition of the two parts of the content of the solution, in the product design process, according to the specific problem analysis and choose the appropriate solution to achieve the purpose of optimizing the design solution. Situational solving decomposes the situational in the design problem-solving process, including the construction of design content, product positioning, and the realization of functions that meet the core demands of target users. These factors all affect the success or failure of product design.

5 Case studies

Breast cancer is an important issue affecting women's health. Therefore, it is very important to publicize the importance of early diagnosis and early treatment of breast health to the public, and to strengthen the daily inspection of breast health problems. Based on the design process of the situational story method, this paper takes the design of a home mammary gland detector as an example to conduct research.

User situational Establishment: Through the interview method, a series of pre-research on users is conducted, and a user role is established. Mary, 30 years old, has a lively and cheerful personality and is a product manager. Because the work is hard and stressful, I will pay more attention to my health.

Situational story description: After the user role is established, a real working and living environment is established for the user role based on the user information obtained from the previous user investigation. By restoring the state of the user role in the situational of using the product, the existing requirements of the product are found and analyzed.

Mary came home from work and found that her chest was a little swollen, she wanted to know her condition, picked up the detector for testing, and found no problem after testing, but still felt insecure, and the next day to go to work and couldn't go to the hospital.

Situational demand analysis: According to the research of female user groups and the establishment of user usage situations, the demand point of female household breast detector products can be obtained. Demand analysis is carried out for each of the situation elements, and the results are shown in Table 1.

Table 1. Requirements analysis of situational elements

	Demand
Products	<ol style="list-style-type: none"> 1. Beautiful shape. 2. Comfort of operation. 3. It has health care functions. 4. Desire for health knowledge. 5. Analysis of breast data. 6. Scheduled health reminders. 7. Ask for help from a doctor online
Women – the environment	<ol style="list-style-type: none"> 1. Comfort of product materials. 2. Intelligent hardware hardening. 3. Ready to detect
Product – Environment	<ol style="list-style-type: none"> 1. The hardware is securely worn. 2. Small and does not take up space

5.1 Display of breast detector

According to the refined requirements, the solution was developed and the product was designed, and the results were shown in Figure 3. Product form: upper part test part + lower part health care massage part. Detection part: Handheld, using light sense, pressure sense to determine the presence of tumor and location information. Health care part: vibration massage degree, short time massage helps prevent the production of breast lumps, relieve psychological stress and so on.



Fig.3. Breast detector products and how to use them

6 Conclusion

In today's new market experience stage, in the process of launching household medical products, users are regarded as the core of the entire product, and product development and design are carried out closely around the various needs and expectations of users. The situational story method is a design method centered on user experience. Applying the situational story method to the design of women's home medical products can precisely capture the needs of users in

different usage environments and target the demand points. Redesign so that the booming market for women's home medical products can continue.

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