

Sleep Aid APP and Product Design Based on User Experience

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Abstract: In China, nearly 300 million people have some degree of sleep disturbance. Sleep disorder is a phenomenon of abnormal sleep duration or unusual behavior during sleep, and it is also a manifestation of the mutual imbalance of the normal rhythm of sleep and wakefulness. The main reasons affecting people's sleep disorders can be attributed to physiological reasons, psychological factors, and external environmental factors. Sleep disorders have serious negative effects on body metabolism, immune function, and mood. Nowadays, the ways to improve sleep disorders can be divided into two kinds of sleep aid products: drug treatment and intelligent hardware treatment, but both methods have certain limitations. By analyzing the relevant theories affecting sleep, and analyzing the existing products and technology applications, this paper studies the design of sleep aid products, and finally realizes the design of sleep aid products, hoping to help solve the current people who are troubled by insomnia.

Keywords: Sleep disorders; Improve; Effect

1. Prolegomenon

1.1 Research background and development status

The research and development of sleep aid products and the research on sleep problems are on the rise, and scholar Luo Cheng has achieved more than ninety percent of the effective results by conducting research and testing the therapeutic effect with Chinese medicine Sleep Aid Soup. Japan has also invented and designed some wearable products, such as steam eye masks, which help sleep by improving eye fatigue; Steam shoulder and neck patches and foot patches that touch the skin through the product to relieve muscle fatigue and help sleep through smell; MUJI's essential oil diffuser also uses scent to help sleep. In general, the exploration of the sleep space, as well as the market, are untapped.

1.2 Purpose of the research

In our country, sleep problems are becoming a major social problem, in the rapid development of science and technology, most of the sleep aid products on the market can not meet people's needs, we need to keep pace with the times of reasonable innovation, and due to the general public's lack of understanding of sleep problems, resulting in sleep disorders and a variety of complications, resulting in economic burden. This project aims to propose a relatively complete and feasible set of cultural and creative product designs focusing on the prevention and assistance of insomnia through the research on insomnia patients and prevention and alleviation. From the aspects of interactivity and good user experience between insomnia patients and product design, the "cultural and creative product design" is constructed, and the age distribution of sleep disorders and methods of prevention and improvement are discussed to improve people's sleep quality and relieve life pressure. Under the experience of the vast group of users, collect user information of all ages, grasp everyone's problems of sleep disorders and whether to treat sleep problems independently, enrich the user base of APP, and use big data analysis methods in the background to grasp the sources of major sleep disorders. The ultimate effect of this project is to realize that the physical and APP have a preventive and auxiliary effect on people with sleep disorders, thereby alleviating the symptoms of long-term sleep disorders of the majority of users, and at the same time using the online operation of the APP to drive more people to care about their own health problems, and also actively follow the construction of the "people's livelihood project" to enhance the "happiness" of the masses.

1.3 Research significance

From a business point of view, traditional sleep products and industries are based on the sales and sales quantity of a single product to make a profit, and enterprises take market share as the primary goal, and now with the advent of the Internet era, based on big data and mobile Internet technology, the added value and services brought by products are the core of future business. This design can be used through the use of sleep aid products and APP, and analyze the user's personal information through the APP to use the items purposefully, which has certain social significance for helping people who are currently troubled by sleep problems.

2. Affect sleep-related theories

2.1 The relationship between sleep and the brain

The most fundamental reason that affects everyone's sleep quality is the human brain. When the human brain is working, spontaneous electrophysiological activity, also known as brain waves, is produced. Brain waves were discovered by German psychiatrist Hans Berger in 1924, and the potential changes generated by the activity of brain nerve points can be recorded by the instrument, which can roughly understand the brain state of each stage of human sleep. In human brainwave studies, there are at least four important beams. Wu Yibing showed that sleep has physiological laws, and the essence of sleep can be analyzed and studied from the aspect of sleep brain waves, and then through various effective treatment methods can solve sleep-related diseases.

2.2 Factors affecting users' sleep

2.2.1 Physiological factors

Physiological effects mainly refer to the state of sleep that affects the influence of one's own body and hormonal changes. The human body is the product of some negative effects released by metabolic functions, which affect the activity of the brain and produce sleep. Simply put, the activity of sleep is to consume all the metabolic substances produced by a person throughout the day. For example, people will produce lactic acid when exercising, and the rate of producing lactic acid and the rate of metabolizing lactic acid are different for everyone, and runners will produce lactic acid slower than the average person than the average person. Therefore, due to physical problems, some people with fast metabolism need less sleep time.

2.2.2 Psychological factors

Psychological factors are mainly caused by negative emotions such as stress, nervousness, anxiety, etc. that cause some problems in sleep quality. Not only can negative emotions affect sleep, but also positive emotions, such as excitement, happiness, and pleasure. Some emotions are temporary insomnia caused by life environment factors, such as a period of work that is not going well and causing stressful emotions. Or they have done some regretful things, so that a psychological mood of upset and blame is formed in the heart, and the loss of blame is slightly lighter during the day because of complicated affairs, and at night they linger in the fantasy and joy of regret, unable to sleep for a long time. In fact, to put it simply, psychological factors indirectly affect physical functions, resulting in imbalance in the body's hormone secretion and affecting sleep. So psychological adjustment or counseling will be effective in improving sleep.

3. The analysis and application of existing products

As far as the current sleep market products are concerned, there are many types, which can be roughly divided into two kinds of sleep aid products: drug treatment and intelligent hardware treatment. In addition, there are some bedding products related to sleep, such as pillows, mattresses, quilts, etc., but they are limited to the research and development of skin materials and fillings.

3.1 Drugs

The products on the market for drugs to improve sleep are subdivided again, mainly divided into two directions, the West mainly from the hormone directly needed by the human body, that is, in recent years a more popular word "melatonin". At the level of traditional Chinese medicine, the market mainly uses Chinese herbal medicines for reasonable proportioning and authentic selection of materials to effectively help improve sleep problems. For example, a sour jujube kernel answered lily tea, which mainly contains sour jujube kernel, answer, yam, lily and other ingredients. According to Chinese medicine, the effects of sour jujube kernels include sweating, nourishing the body and calming the mind, and calming the mind.

3.2 Intelligent hardware

In addition to drug-based sleep aids, there are also some smart sleep aid products, such as devices that improve deep insomnia. The product feature is that the chip can form a good natural low-frequency magnetic field to reduce the harm of the surrounding high-frequency radio waves to the body, simply put, it can reduce the surrounding noise and interference waves released by electrons, so that the body naturally relaxes, the brain wave slows down, actively assists in prolonging the deep sleep period, and improves sleep

quality.

4. The design and realization of sleep aid products

4.1 Functional positioning of sleep aid products

This product connects the APP with the controllable light, thereby creating a better sleep environment, the lighting adjustment can meet the needs of customers in various situations, not only during sleep, but also help to complete various preparations before daily sleep, such as: reading, watching movies, etc. According to the adjustment of the lighting, so that customers have the most comfortable experience in each situation. Of course, in daily life, it can also be fully qualified for various scenes that require lighting, such as: lighting required for daily office, simulating natural light during exercise, etc. The above modes can be adjusted in the APP, or can be adjusted using voice recognition.

4.2 Mobile APP application design

This product is a mobile terminal application combined with intelligent hardware, after clarifying the functional requirements of the product is to provide a convenient platform for product operation and analysis and consultation for patients with mild and moderate insomnia, and the target group is young people aged 20 to 60 and middle-aged people, after the design of the mini program. Use the card classification method to sort out the general framework structure of this mini program, the main contents include: music, sleep, community and me. Music serves as the functional entrance of the entire Mini Program and contains the general functions of the entire Mini Program; As the core page of the entire Mini Program, the sleep page is mainly an auxiliary product to provide users with an all-round immersive sleep experience for users' reference and choice; The community is mainly for the page of people who are not good at communicating with people in real life, giving users a discussion and sharing platform; Mine is mainly used to record the user's sleep record on this mini program and some other related situations.

5. Conclusion

With the popularity of the Internet and mobile smart devices into our lives, sleep health products have also flooded into the market, and people have begun to pay attention to sleep health and gradually realize the importance of sleep. The main core of this article is people-oriented, through the investigation and collection of sleep-related theories and literature research about sleep, try how to use products to change, through the analysis and research of related theories, and analysis of relevant market-related sleep aid products, and finally design the sleep aid products and APP of this article, although certain results have been achieved, there are still some areas that need to be improved, and will be continuously optimized in future learning and work to achieve the best.

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