

Analysis on the Development of Aging Electronic Two-dimensional Code Bracelet

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Abstract: With the aging of the population, the empty-nest, elderly, sick groups are growing, the growth of age makes them receive new things weakened ability, memory decline, mobility inconvenience, their life is not guaranteed to a certain extent. Now, in order to let special groups can also get better service and help, to provide them with convenience, a special for the elderly to create an appropriate aging electronic QR code bracelet emerged.

Keywords: Electronic QR code bracelet suitable for aging; Aging convenience and travel safety; Real-time two-dimensional code; An emergency call for help; Human health monitoring

1. Product Introduction

1.1 Background and significance of this project

The aging population is increasing, and the health and safety problems of the elderly are becoming increasingly prominent. The application of the aging electronic QR code bracelet provides convenience and protection for the elderly's daily travel and health. This study aims to explore the design and implementation of the bracelet, its early warning, two-dimensional code, human intelligent monitoring function, etc., in order to improve the safety and quality of life of the elderly.

1.2 Analysis of the needs of the elderly

The acceptability of hand rings among the elderly was investigated. According to the data, the use of the bracelet is not much among the elderly group. The elderly who have not touched the bracelet and have just touched the bracelet account for 51.85% and 44.44% respectively, while those who are proficient in using the bracelet only account for 3.70%. It can be seen that the penetration rate of smart bracelet among the elderly group is low. Among them, 81.48% of the elderly said they were willing to accept the daily wearing of the bracelet, 88.89% of the elderly believed that the bracelet could facilitate their life, but 11.11% still held a hesitant attitude about the role of the bracelet. It can be seen from the results of the survey data that most elderly people have a positive attitude towards smart bracelet products.

2. Design description of an aging electronic QR code bracelet

2.1 Product Functions

The functions of the new smart bracelet are as follows:

(1) Real-time two-dimensional code function: real-time two-dimensional code function (real-time detection report, health analysis, identity information code, etc.)

(2) NFC intelligent card swiping function: integrated card reading, card simulation and point-to-point communication functions on a single chip, using mobile terminals (smart wristband) to achieve mobile payment, bus card, access control, mobile identity identification, anti-counterfeiting and other applications.

(3) Human health monitoring function: The detection function includes exercise, sleep, heart rate, blood pressure, ECG, blood oxygen, HRV (heart rate variability).

(4) Intelligent alarm help function: when the human body emergencies, the bracelet can be intelligent alarm. It has the function of fall detection. When the old person falls, the APP can take a video of the location and surrounding environment of the old person's

fall and upload it, so that staff and family members can take corresponding measures in time.

- (5) Intelligent language function: real-time language broadcast time, weather warning, physical conditions, etc.
- (6) Family call function: receive and make family bound phone.
- (7) Positioning system function: accurate real-time positioning.
- (8) Waterproof and anti-seismic function: the bracelet is waterproof and anti-seismic.
- (9) Super battery life: 14 days of super battery life.

2.2 Project research content and key problems to be solved

(1) Safety and health perspective: the remote monitoring system for the elderly of the bracelet can better monitor the physical condition of the elderly in real time (blood pressure, blood oxygen, heart rate, etc.) and check the movement path of the elderly to prevent them from getting lost.

(2) Social perspective: The sale of the bracelet can increase the GDP of the city, provide social employment, drive the economic development of relevant employees, and improve people's living standards.

(3) From the perspective of customers: make customers more assured about the safety of the elderly travel and reduce the burden.

(4) Innovation perspective: the smart alarm function of the bracelet for human body monitoring (according to the human body sensor and pulse sensor module, the smart alarm system will help for help automatically when the human body is in a condition and cannot press the SOS button autonomously), and the real-time two-dimensional code module can be updated in real time (real-time detection report, health condition analysis, identity information code, etc.).

(5) Process structure innovation: It can be divided into three categories: C general mode, B high-function mode and A customized function mode. The BC model is A fixed model, and the A model is a functional model with high degree of freedom, which can be deployed according to customer requirements.

2.3 Significance and advantages of project innovation

2.3.1 Innovation significance

(1) Improve travel safety: real-time monitoring to provide better protection for the elderly.

(2) Improve the quality of life: more elderly people can enjoy the convenience brought by science and technology. The bracelet is not only convenient for the family members of the elderly to conduct real-time health monitoring; It also provides security for the elderly to go out.

(3) Reduce the learning cost of the elderly: the elderly's ability to understand electronic products is declining, so the bracelet reduces the complexity of using the product based on the principle of "suitable for aging and simple".

(4) Enhance the happiness of the elderly: further realize the communication with others and share the fun of life.

3. Project development analysis

3.1 Project research and development direction

3.1.1 Focus on travel, safety and health of the elderly

As a practical wearable device, people focus on the accuracy of its data and the practicality of its functions. For example, GPS safe positioning, intelligent alarm, etc., are not only highly practical, but also can meet the life and psychological needs of more people. The voice of these functions is also very high among the respondents, indicating that it is necessary to develop these functions.

3.1.2 Develop in the direction of age-appropriate, simple and practical

From the demand side, with the growth of the elderly population, the demand for intelligent pension equipment will grow. Since most of the elderly are difficult to accept complex intelligent products, the elderly will gradually expand their demand for simple and easy to operate intelligent pension equipment in the future. From the supply side, although the kinds of intelligent pension products are rich, there are serious polarization phenomenon. Low-end product market entry threshold is low, more products and little difference; High-end products have relatively high technical requirements.

3.2 Social feasibility of the project

Aging appropriate electronic QR code bracelet is an aging appropriate product based on electronic QR code technology. It gives more attention to the elderly, makes the elderly feel the care of the society for them, and creates a dynamic and positive social atmosphere. Due to the lack of intelligent products for the elderly, the smart bracelet specially proposed by this project is very important for the elderly, so that the health and living conditions of the elderly can be guaranteed to a certain extent, and their children can also feel at ease to work. Only truly stand in their point of view to consider the problem, can make the development of

science and technology more long-term. If we add simple and practical functions to the existing intelligent devices on the market and transform them to “fit for aging”, they will be favored by the elderly groups, which will bring immeasurable benefits to the society.

3.3 Market Analysis

In China, about 60% of the elderly choose to live alone, and more than half of them have no family members to take care of them. Most of the elderly are faced with the problem of inadequate care, poor care and no help, which brings great risks to their health and life safety. Qr code bracelet suitable for aging can provide security for the elderly, so that they can live a more secure life.

China’s aging population has reached 18.1% and continues to increase. It is expected that by 2050, the aging population will reach a peak of 487 million, accounting for nearly 30% of the total population. The Institute of Predictive Science under the Chinese Academy of Social Sciences predicts that China will have 450 million people over the age of 60 by 2050, making the pension problem increasingly serious. The age-appropriate electronic QR code bracelet will become an important application direction of the Internet of Things. It combines the Internet of things with the mobile Internet to make the life of the elderly more convenient, and will certainly become a new favorite in the market.

Summarize

Beijing, November 24, 2020 (Xinhua A few days ago, The General Office of the State Council issued the Implementation Plan on Effectively Solving the elderly’s difficulties in using smart Technologies, which further promotes the solution of the elderly’s difficulties in using smart technologies, adheres to the parallel innovation of traditional services and intelligent services, and makes arrangements for providing more comprehensive, more intimate and more direct convenient services for the elderly.

The product to “simple, easy to use, practical” as the concept, for the elderly to bring a more convenient lifestyle. In daily life, the bracelet can not only be used as the wrist accessories of the elderly, but also as the “electronic health certificate” of the elderly, which brings great convenience to the elderly’s daily life. This product is simple to use and practical, which can well help the elderly travel safety and health, and better solve the elderly’s weak ability to learn and accept new things due to age.

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