

# Talking About the Development Prospect of Senior Smart Home

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**Abstract:** This paper discusses in detail the growth trend of China's elderly population and the challenges posed by aging to society. It points out the shortcomings of current senior smart home products, especially in meeting the specific needs of the elderly. The current situation of the development of senior smart home is analysed, highlighting the needs in terms of safety monitoring, health management, life convenience and social interaction. At the same time, the future development prospects of senior smart homes are envisioned, highlighting the importance of the deep integration of Internet technology, humanised design, safety, security and environmental adaptability, as well as social interaction and entertainment. Overall, the article concludes that the senior smart home market has a broad development prospect, and with the advancement of technology and the continuous improvement of design, it enables the elderly to enjoy the convenience brought by technology without restriction.

**Keywords:** Elderly; Smart Home; Development; Prospect.

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## 1. Introduction

By the end of 2023, China's population aged 60 years and over has reached 297 million people, according to estimates, by 2035, China's total population will be China's total population will be reduced to less than 1.4 billion people, the elderly population will break through 400 million people, China's speed of aging is accelerating, so the need for the elderly should be more concerned about their lives. With the continuous progress of science and technology, the smart home products that meet the needs of our lives came into being, but at present there is a lack of smart home products designed specifically for the elderly, so this paper is based on the analysis of the current situation of smart home products, explore the prospects of the elderly smart home, smart home products for the elderly to find a direction for the development of the direction of the products.

## 2. Development Status of Smart Home for the Elderly

In the current context of rapid socio-economic development, the rising level of national income and the increasing improvement of living standards have brought people a higher quality of life and a better life experience. However, with the increasingly serious problem of population aging, the increase in the proportion of elderly people has posed new challenges to all aspects of society. Especially in the field of smart home, although the market as a whole shows a vigorous development trend, the number of smart home products designed for the elderly is still insufficient [1], and the research and development of related products has not yet been in-depth, and the scope and content of the research is relatively extensive and lack of relevance.

The insufficiency of smart home products for the elderly on the one hand limits the opportunity for the elderly to enjoy the convenience brought about by technological progress, and on the other hand reflects the obvious inadequacy of the market and research and development in meeting the specific needs of the elderly group. Currently, the needs of the elderly for smart home products are mainly focused on safety monitoring,

health management, life convenience and social interaction. However, existing smart home products are often difficult to fully meet these needs, or there are deficiencies in ease of use and affinity, making the elderly encounter many inconveniences in the process of using them. Therefore, the research and development of smart home for the elderly needs to be given more attention, so as to promote the healthy development of the smart home industry for the elderly.

## 3. Prospects for the Development of Smart Home for The Elderly

Domestic and foreign keyword search analysis for literature found that domestic and foreign research are the elderly population research as an important premise for the development of smart home system innovation, at the same time, pay attention to the relationship between the development of the Internet and the intelligent ageing home, and, pay attention to the study of the key technology of the ageing smart home and the importance of the design of the ageing smart home[2], based on which we can explore the elderly in the following areas smart home development prospects.

### 3.1. Deep integration of Internet technology

With the rapid development of Internet technology, especially the wide application of 5G, Internet of Things (IoT), big data and artificial intelligence (AI), the integration of senior smart home with these technologies can achieve a higher level of intelligence and networking[3]. In the future, the functions of senior smart homes will also not be limited to conventional home conveniences; they can also be connected to a multitude of resources such as healthcare, community services, and distance learning using internet technologies to create a comprehensive and multifunctional support platform for the elderly population.

### 3.2. Humanising the design concept

As age increases, the human body's immunity and physical functions continue to decline, and a variety of diseases come one after another, resulting in the elderly need to spend more

energy and money on medical care[4]. Therefore, the importance of design is increasingly valued in the elderly smart home. Future product design will pay more attention to humanisation, starting from the physiological and psychological characteristics of the elderly, through more advanced health monitoring equipment and sensing technology, and at the same time, taking into account factors such as ease of operation, interface friendliness and safety, and through cross-industry cooperation in research and development with the healthcare sector, so that the elderly can enjoy the convenience of the smart home in a stress-free situation.

### 3.3. Safety and Environmental Adaptability

At present, there are special elderly users in society such as widows and orphans, empty nesters and this group, for widows and orphans and empty nesters as a special group, the design of the smart home system needs to pay more attention to personalisation[5]. All the widows and empty nesters for the design of smart home systems for the elderly the primary consideration, to ensure that the elderly living environment is safe, while in the event of an emergency can get help in a timely manner. This provides comprehensive support for health monitoring, daily living assistance, social interaction, safety and security, as well as edutainment to help them lead safer, healthier and happier lives.

### 3.4. Socialising and Entertainment

The future of senior smart home systems can also be dedicated to enriching the spiritual life of the elderly. Through customised education and entertainment content, seniors can enjoy services such as online learning platforms, music and movies. This content will not only help seniors learn new skills, but also provide them with ways to relax and unwind. Whether it's acquiring knowledge through learning platforms or enjoying music and film productions, seniors can find joy and satisfaction in a smart home system. Such a design will help to enhance the sense of self-realisation and well-being of older people, making their later years more fulfilling and enjoyable.

## 4. Summary

Against the backdrop of the current rapid socio-economic development and the increasingly serious problem of population aging, the senior smart home market has shown a

booming development. Although the smart home market as a whole shows a booming development, the number of products designed for the elderly and research and development are still insufficient, and there is the problem that the market and research and development are not sufficiently tailored to the needs of the elderly, but it has a broad prospect for development. With the continuous development and application of technologies such as Internet technology, Internet of Things, big data and artificial intelligence, the senior smart home will have a higher level of intelligence and networking, which can provide the elderly with a more comprehensive, convenient, safe, healthy and pleasant life experience. The future smart home products for the elderly will focus on humane design, safety and security and environmental adaptability, as well as social interaction and entertainment content, bringing a colourful experience to the spiritual life of the elderly. Therefore, the future smart home for the elderly is expected to make greater breakthroughs in technology, design, safety and entertainment, providing a better living experience for the elderly and promoting the healthy development of the smart home for the elderly industry.

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## References

- [1] Wang Xue. Research on the design of intelligent home scene for the elderly [D]. Harbin Institute of Technology,2023.
- [2] Mu Yao,Wu Zhiwei. CiteSpace visualisation and analysis of research progress of age-friendly smart home at home and abroad[J]. Wood Science and Technology, 2022, 36(05):90-98.
- [3] He Sihan. Prospect study of "smart home + big data" home care[J]. Shanghai Business,2022(05):24-26.
- [4] Zhou Yang. Study on the Impact of Developing Healthy Aging Industry on Promoting Economic Internal Circulation under the Trend of Deep Aging--Taking Taicang City as an Example[J]. Business and Exhibition Economy,2023,(03):139-141.
- [5] LI Zhirong,LI Hongjia,CHEN Siyu et al. Research on smart home health needs of widows and orphans based on Kano model[J]. Packaging Engineering,2023,44(16):145-153.