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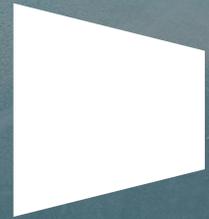


**Technology enabling, "intelligent" and "aging" convenient elderly life construction plan**

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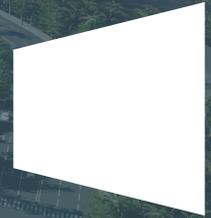


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# Part.1

**Design  
concept**



小学  
primary school

老年大学  
University for  
the elderly

幼儿园  
kindergarten

疗愈性植物  
Healing plants

智能百叶窗  
Smart shutter

地下空气过滤系统  
Underground air  
filtration system

## Design concept

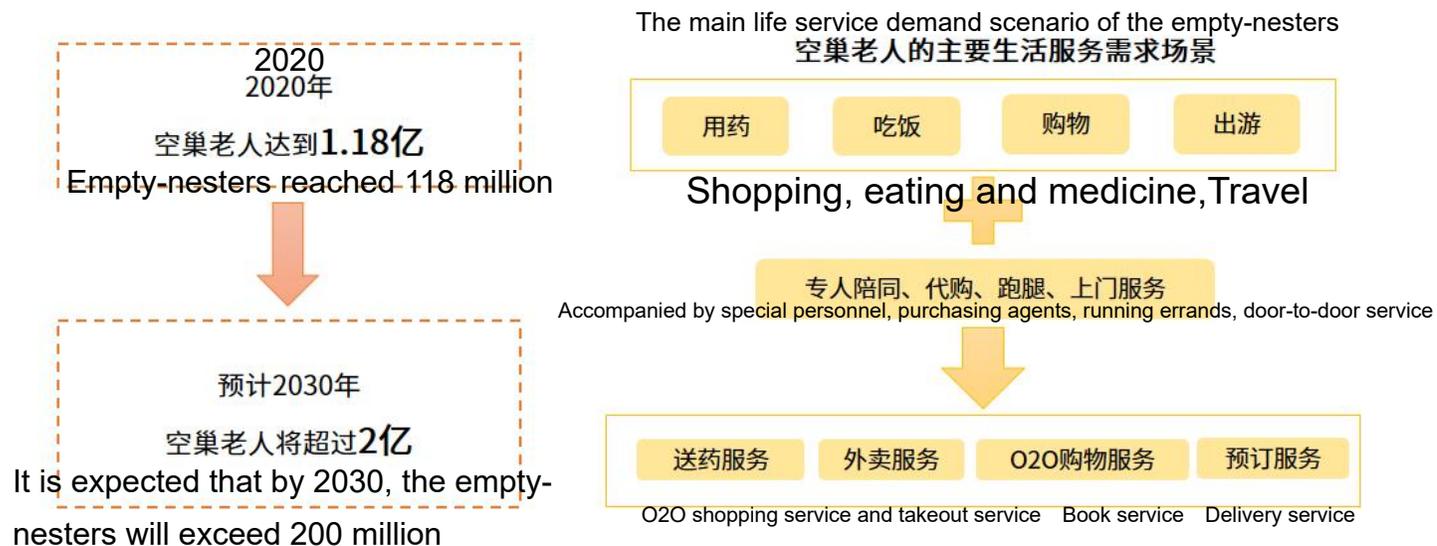
Based on the current urbanization process and the background of population aging, the construction of intelligent communities suitable for the survival of the elderly has received increasing attention, the implementation of the national strategy to actively respond to population aging, the development of pension undertakings and pension industry, the optimization of services for the elderly, and the realization of basic pension services for all elderly people. The construction of an aging community should not only conform to the living habits of the elderly to provide convenience for their lives, but also meet the intelligent needs of the current community construction.

First of all, in the early stage, we will summarize and analyze the existing problems of the current elderly care community, formulate corresponding solutions, and investigate and analyze the characteristics of domestic or foreign elderly care communities with complete facilities, so as to achieve "learning from each other's strengths" and "adjusting measures to local conditions" as far as possible, and achieve landing development according to local characteristics.

Provide convalescent services such as on-site medical treatment, acupuncture and moxibustion, psychological consultation, rehabilitation promotion, hospice care, etc; Such as access control service, housekeeping service, property maintenance, garbage removal and other life services; Such as public restaurants, cultural festivals, food festivals and other commercial entertainment services; Such as opera, gardening, calligraphy and other leisure activities; Such as university for the elderly, health lectures, reading and other cultural and educational services; Such as property management, organizing activities, coordinating disputes and other autonomous management services. Rely on the intelligent platform to build a social pension community, promote multiple efficient coordination and organic connection, meet the multi-level and personalized needs of the elderly, and provide convenient conditions for actively responding to the aging of the population.

## 空巢老人规模有扩大趋势，基础生活服务问题亟待解决

The scale of empty-nesters has a trend to expand, and the problem of basic life service needs to be solved urgently



According to China Netease Survey, according to the statistical data of the National Office for Aging, the aging population in China has reached 267 million at present and is growing at the rate of 8 million per year. The empty nest ratio in urban and rural areas is 49.7% and 38.3% respectively. Of China's 267 million elderly people, more than half live alone. With such a set of data, the total population of China now reaches 1413 million. By the end of 2021, the number of elderly people aged 60 and above in China reached 267 million, accounting for 18.9% of the total population. More than 200 million people aged 65 and above, accounting for 14.2% of the total population. It is estimated that during the "Fourteenth Five-Year Plan" period, the total number of the elderly aged 60 and above will exceed 300 million, accounting for more than 20%, entering the stage of moderate aging. Around 2035, the elderly aged 60 and above will exceed 400 million, accounting for more than 30% of the total population, and enter the stage of severe aging. "Once the new statistics come out, it will definitely reach a new high," said the relevant experts.

According to the data, several major pain points for home-based elderly care are summarized as follows:

- (1) Timely know and deal with the safety, accidents and sudden diseases at home and abroad
- (2) Lack of "invisible company" when children are not around
- (3) Unable to effectively meet the spiritual and cultural needs, social needs and value needs of the elderly
- (4) Unable to timely monitor and master the health status of the elderly at home

### 中国空巢老人总量增速极快

老龄人口增速是中国总人口增速的 **5倍**

据联合国统计，中国已经成为世界上老龄人口最多的国家。

中国老龄人口增长率每年3.28%

中国总人口增长率每年0.5%



Formulate solutions based on the above typical pain points, such as:

**(1) Prevent accidents in the elderly**

In case of a fall or a sudden disease requiring rescue, we can help the elderly to take independent actions at home or out by carrying emergency rescue equipment and intelligent equipment; Effectively prevent unnecessary trouble caused by missing the best rescue time.

**(2) The elderly suffer from chronic diseases**

Adopt advanced intelligent platform for monitoring and diagnosis, install equipment at home and link to the visual data platform in the store to minimize the probability of sudden illness and play a preventive role; Effective suggestions can be made according to the health status and medical treatment can be obtained as soon as possible.

**(3) Supporting services for the elderly**

Xiaodi Housekeeper provides a series of smart home products: smart door locks, smart monitoring, smart switches, smart curtains, smart housekeepers, etc., which make life more convenient for the elderly, improve the overall quality of life, and also avoid unnecessary small troubles in life.

**(4) Social life service for the elderly**

Some activities for the elderly will be held regularly, and universities for the elderly will be opened in specific stores, which can enrich the leisure life of the elderly in terms of spiritual and cultural needs, social needs, value needs and other aspects, and will not be boring and full of sunshine for future life.



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# Part.2

**Implementation  
and planning PLAN**



# Implementation and planning

## 1、 Preliminary research

- (1) Analyze and summarize the existing problems and needs of the elderly care community by analyzing relevant literature, scientific research data, community reports, questionnaires, etc., and establish the design framework of the community
- (2) Subdivide people in the community by age, and analyze their daily activity intensity and frequency
- (3) According to the current situation and needs of the elderly care community, establish the field of aging design, analyze the physiological status of the elderly, and carry out aging care design in the living space and outdoor space.
- (4) Conduct research and analysis on the feasibility of the expected introduction of scientific and technological concepts, and make risk prediction on its existing disadvantages. For example, the utilization of solar energy and wind energy, the application of intelligent sunshade blinds, and the application of thermal insulation glass, priority should be given to the functional plants that are conducive to the health of the elderly and help to heal.
- (5) Formulate project implementation plan and project bidding plan, carry out investment budget and fund source planning, analyze and estimate social evaluation.



## Medium-term implementation

According to the geographical location of the specific elderly care community, including the physical geography and human geography environment, the dynamic adjustment of the early plan will be carried out during the implementation process, and the implementation of the plan will be guided by practicality. At the same time, supplement, refine and implement the contents that need to be paid attention to but not included in the plan in the early stage according to the specific implementation process.

## Post adjustment

(1) According to the pilot area set up, the satisfaction of community members was summarized and analyzed through field evaluation, questionnaire survey and other methods, and the adjustment was made according to their shortcomings.

(2) Gradually expand the setting scope of the pilot area, and increase the launch and setting of products with high user satisfaction.



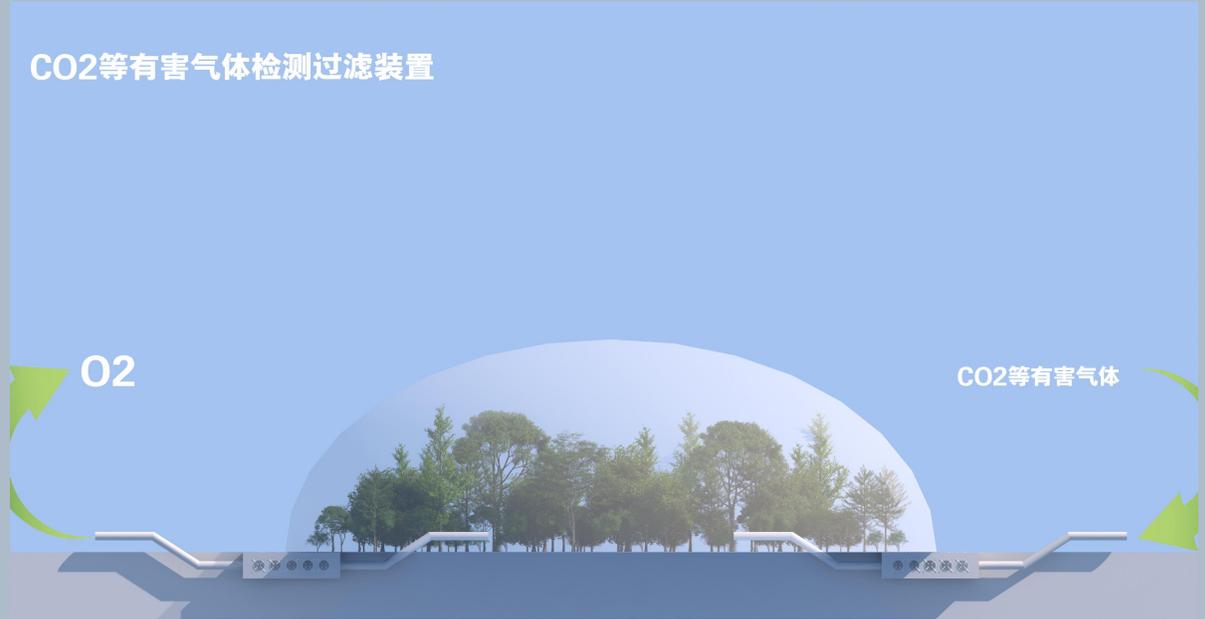


# Practical process

# Countermeasures for air pollution control



Generally speaking, when the concentration of CO<sub>2</sub> in the air exceeds 0.04%, it will cause harm to human body. Under normal circumstances, the concentration of CO<sub>2</sub> in the air should be 0.04%. If the concentration of CO<sub>2</sub> in the air increases, patients may have respiratory depression and respiratory center numbness. When the concentration of CO<sub>2</sub> exceeds 0.04%, the device automatically starts to absorb CO<sub>2</sub> for filtration. The underground air filtration system is built on the first floor of each building. According to the principle of photosynthesis of green plants, the device absorbs CO<sub>2</sub>+H<sub>2</sub>O=H<sub>2</sub>O+O<sub>2</sub> to produce organics and oxygen, which not only purifies the air, but also has the characteristics of low energy consumption, practicality, high cost and low cost, which greatly promotes environmental protection, drives people's living standards, and lets the elderly do what they want to do in good air quality, Experience the beauty of life.



Infrared CO<sub>2</sub> detector (online)  
Model: MOT500-CO<sub>2</sub>-IR Product  
Description: MOT500 online infrared CO<sub>2</sub> detector is applicable to the detection of CO<sub>2</sub> concentration in various environments. It adopts the imported NDIR infrared absorption gas sensor and microcontroller technology, with fast response speed, high measurement accuracy, good stability and repeatability. Detection gas: carbon dioxide (CO<sub>2</sub>), imported NDIR infrared CO<sub>2</sub> sensor.

Korno infrared carbon dioxide gas detector  
MOT500 carbon dioxide detector~fixed installation  
The high-definition 2.4 inch industrial color screen can display the real-time curve of gas concentration, which can be automatically calibrated by full software, and the sensor can be calibrated by up to 6 levels of target points to ensure the accuracy and linearity of detection, and has the function of data recovery



# Countermeasures for air pollution control



chrysanthemum



tulip



gardenia

A series of convalescent plants, such as lilac, tulip and white orchid, are also planted in the community, which can sterilize and purify the air and prevent diseases. At the same time, it can also relieve eye fatigue and irritability. It can also relax nerves, relieve physical and mental fatigue, and assist in the treatment of nervous system diseases. It plays a very positive role in the physical and mental health of the elderly, enabling them to live in such a good environment, and at the same time driving the call of "green waters and green mountains are golden mountains and silver mountains", so that the elderly can fully feel the good life experience brought by the aging smart community, and bring happiness to the elderly and people.

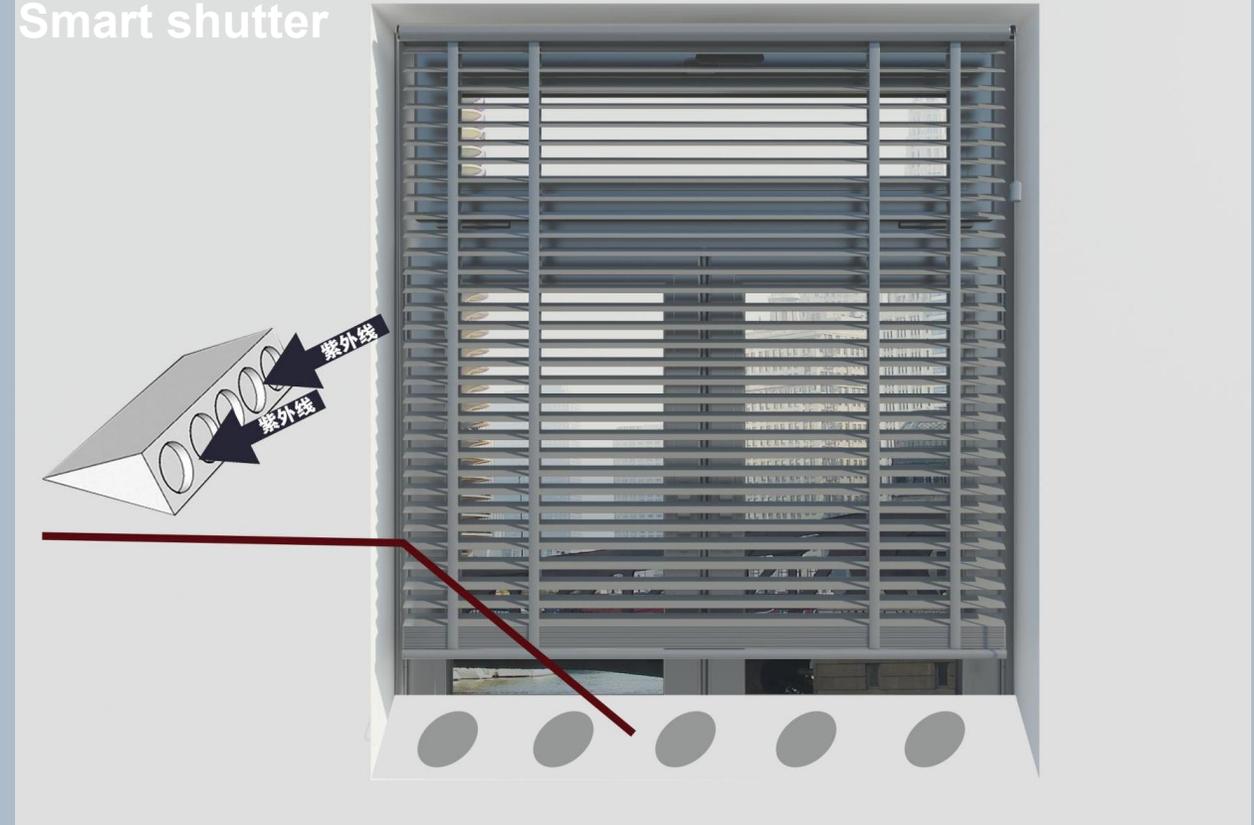


## 治理紫外线污染应对措施



Ultraviolet rays at about 280 nm and 400 nm will be harmful to human body and affect skin color and health. Ultraviolet rays are highly irritating, and will affect the skin when the length of ultraviolet rays is greater than 280 nm to 400 nm. After a long time of contact, melanin accumulation may occur, which may also cause the skin to darken or long spots on the skin. After a long time of contact, it will also cause the skin's immunity to decline, cause skin inflammation or skin aging. When the ultraviolet reaches a certain value, the recognition device will send a signal to close the shutter.

### 智能百叶窗 Smart shutter



Shutters are installed on every window of each building, which plays a great role in the health of the elderly, greatly ensuring the living standard and safety of the elderly, and driving the development of aging smart communities.

# Countermeasures against UV pollution



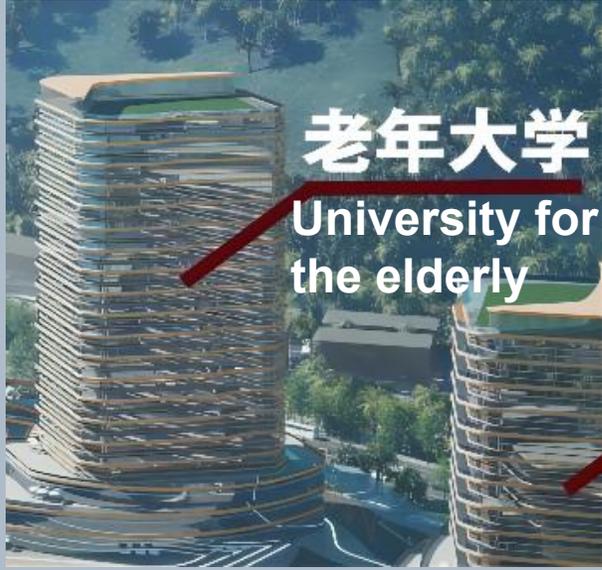
## Online UV-Vis detector

The online ultraviolet detector is based on Lambert-Beer law, the relationship between the intensity of the absorption of the measured material to a certain wavelength of light and the concentration of the absorbing material and the thickness of the liquid layer. The detector is equipped with a miniature optical fiber spectrometer, a pulse xenon lamp light source, and the miniature spectrometer controls the operation of the pulse xenon lamp through the IO control terminal. The ultraviolet visible spectrum emitted by the light source is irradiated on the measured sample through the lens or optical fiber, After being absorbed or reflected by the measured sample, it is coupled to the slit at the entrance of the micro spectrometer through a lens or optical fiber, enters the micro spectrometer, and is received by a linear array CCD after being split by a grating.

UV-Vis-950 online ultraviolet detector is applicable to continuous online monitoring of benzene ring and colored substances in continuous chemistry. The online detector consists of a miniature optical fiber spectrometer, a pulsed xenon lamp, a flow cell (reflective optical fiber can be configured according to the application needs), and a system power supply.

model	UV-Vis-950
Wavelength range	200-950nm
Wavelength accuracy	$\pm 1$ nm
Spectral bandwidth	8nm、4nm
Light path of circulation pool	5mm、10mm
Pool volume	70 $\mu$ L、35 $\mu$ L
Optical path of immersion optical fiber probe	0.5~20mm
Immersion optical fiber probe material	316 Stainless steel, Hastelloy、PEEK
communication interface	USB

# Measures to meet spiritual and cultural needs, social needs and value needs



As the saying goes, education is the foundation of a long-term plan. The age structure of the population affects the scale of all levels and types of education. With the surge of the elderly population in China, the importance of elderly education is becoming increasingly apparent. Education for the elderly not only provides a place for learning and gathering for the majority of the elderly, but also enables the majority of the elderly to master the knowledge and skills of leisure and life through purposeful educational activities, so that their expertise and hobbies can be developed and extended, and life is more colorful. Therefore, we have set up a university for the elderly in China, so that the elderly can continue to learn knowledge while living. At the same time, The kindergartens and primary schools set up in the community can enable people to receive good education from an early age, which greatly improves people's cultural literacy, and also lays a certain foundation for the long history, broad and profound Chinese culture.



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该适老化智慧社区中同时设有多种智能系统，如：智慧家居，智慧政务，智慧管理等，极大的带动老人生活的便携性和安全性。以智能化来带动环保，安全，生活以及人们的衣食住行，带动了社会的发展，为老人们的生活满足感起着极大的奠定基础，一方面缓解了国家人口老龄化带来的弊端，另一方面也能让老人更加方便的去感受生活带来的美好同时可以防止老年人发生意外发生摔倒，或者突发疾病需要救援，我们可以通过携带紧急救援设备，智能化的外出设备来帮助老人居家或者外出是的独立行动；有效的防止因为错过最佳救援时间而导致不必要的麻烦。

在老年人患慢性病时采用先进的智能平台进行监控诊断，在家中安装设备链接到店内的可视化数据平台，将突发病症情况概率降到最低，起到预防作用；可根据健康状态提出有效建议，早日就医。这也是适老化智慧社区的重中之重。



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# Part.3

**Innovation**



Technology empowers, "intelligentize" and "adapt to aging" to facilitate the life of the elderly. The "digital gap" between the elderly and intelligent devices can be shortened by intelligent design of the necessary facilities for the elderly's daily life and aging design of intelligent products, so that the elderly can also easily enjoy the convenience brought by technology.





Take the "free ride" of new energy to protect the environment and reduce the cost of use. By converting energy such as wind energy, it can not only fully reduce the use cost caused by resource consumption, but also maintain the cleanness of the environment to a certain extent, and protect the health of the elderly.



**AUTONOMOUS CAR**



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"Point to point" personalized implementation to solve the problem of insufficient resources and improve service efficiency. Through the full research and analysis in the early stage and the timely follow-up of the dynamic adjustment in the later stage, and based on the analysis of user portraits, we strive to achieve the personalized service of "thousands of people and thousands of faces". Adhere to the people-oriented policy and build with personalized service and refined management. At the same time, we will build medical institutions with geriatric characteristics and provide corresponding recuperation and rehabilitation services. This can not only solve the problem of insufficient resources for special service, but also enjoy services that match the living habits of the elderly. More targeted services improve the efficiency of the elderly.



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"Hardware" and "software" work together to meet the physical and psychological needs of the elderly. It not only meets the "hardware" needs of the elderly in terms of clothing, food, housing and transportation, but also meets the "software" needs of the elderly, such as the establishment of the "university for the elderly" in the community, and meets the spiritual and cultural needs of the elderly by regularly organizing relevant cultural activities and introducing culture into the community.

THANKS



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