

# DESIGN DESCRIPTION

The design site is located in Daojun Village, Haikou City, Hainan Province. This topic is an actual topic in the 7th 4x4 Chinese and foreign universities' Belt and Road experimental teaching in 2021. The purpose is to fully tap the village potential of Daojun Village, identify the location of the village, and continue to create blood for the village.

Through the analysis of the overall population characteristics of Hainan Province, it is found that Hainan Province has a large group of elderly people and has a huge demand for elderly care. Starting from the needs, the reconstruction design of Daojun Village in Haikou City is positioned as the design of the retirement community. At the same time, with the rapid development of modern science and technology in recent years, the concept of smart old-age care has developed rapidly in my country, and the application of smart old-age care has greatly improved the quality of life of the elderly in their later years. However, through a review of the research status at home and abroad, it is found that there are few studies on the concept of smart elderly care and suitable space for the elderly, and most of the domestic research focuses on smart elderly care service platforms and systems. The importance of elderly care space to the elderly is self-evident, so in this design, the focus will be on the combination of smart elderly care and modern smart technology with suitable space for the elderly to create a smart elderly care community.

The title of the final graduation thesis is "Research on the Design of Suitable Space for the Elderly under the Technology-Based Smart Elderly Care Model", and the title of the graduation project is "Sangyu One Corner" Smart Elderly Care Community Design. In the research of the paper, the impact of smart technology on space is sorted out, and the design criteria of smart old-age space after the intervention of smart technology is summarized, and it is applied and verified in design practice.

The functions of the smart elderly living module in Daojun Village are mainly based on basic life, guiding the elderly to go to public areas for activities, improving the community relationship between the elderly, and promoting the activities of the elderly. The main functions are sleep module, toilet module, leisure reading module, cloakroom module and simple meal operation module.

In terms of indoor safety design, the RNF2401 pressure floor is mainly selected. The pressure sensor is used to detect the position of the elderly in the room, and at the same time, it can detect whether the elderly fall, so as to deal with the danger in time. Set emergency pull rope buttons on the wall of the bathroom, shower room, simple meal operation wall and bedside wall.

In terms of indoor control system design, set up intelligent control panels in the positions where the elderly stay for a long time, move slowly and are far from the door, such as: bedroom bedside, kitchen, toilet and toilet, and complete the control of the entrance door, lighting and electrical appliances. operation, and at the same time set the emergency alarm system. Taking the bedside control panel as an example, due to the emergence of intelligent control panels, people's demand for viewing panels has increased. Therefore, the wall at the head of the bed is bent to the side of the bed, so that the old man can see the panel from the side of his face when he lies down, without getting up. Set the control panel in an alcove to avoid direct sunlight affecting the viewing effect. The smart panel should be able to control lights, entrance doors and various electrical appliances in the room in multiple ways.

In terms of ventilation and temperature regulation design, capillary radiation air conditioners suitable for the climate characteristics of Hainan Province are used to adjust the indoor temperature and humidity and air cleanliness, which can achieve the effect of uniform temperature and humidity throughout the room, and is very environmentally friendly and green. According to relevant research, it is found that wood has better thermal conductivity and stronger stability than other stone materials and concrete. Therefore, in the selection of interior materials, wood is often chosen as the façade and floor decoration.

In terms of lighting design, the design without main lights is used to realize the scene-based indoor lighting. The daily night mode is mainly designed, and soft lamps such as spotlights, downlights, and hidden light strips are used to meet the overall illumination of 300lux; the sleep mode, three hours before going to bed, detects the state of the elderly according to the pressure sensor on the bed. Turn off the downlights and spotlights, and only turn on the hidden light strips to ensure that the overall illuminance is below 10lux to promote sleep; in the wake-up mode, the sensor on the side of the bed detects the elderly getting out of bed, and slowly lights up the inside of the armrest and the bed. Hidden linear lights on the side, and wall washer lights above the bathroom door.

Through the above design methods, the intelligent technology and the suitable space for the elderly are integrated. From the old people living in the space through their own judgment and operation power, it has changed to serving the elderly by sensors and professional scenes. The transformation of the elderly from active control of space to passive enjoyment of space has been completed, and the danger of the elderly due to functional degradation in various aspects and wrong decisions caused by the elderly is reduced as much as possible.