

Stand-up helper seat 起身輔助座
莊英慎, 宋志雲, 林育民, 郭子祺, 曾巧蓁, 柴宏斌
電子工程學系
工學院
bobsung@chu.edu.tw

摘要

Old people tend to have weak waists and often have difficulty standing up from a seated position. This issue would reduce the motivation for old people to move about which would further deteriorate their health. To tackle this issue, there are electronic stand-up supports on the market to help old people stand up from a seated position. However, these devices often had structural limitations and were expensive as well. Not many people could afford these luxuries, making them enticing yet unavailable to the masses. The complicated structure also made these electronic support devices difficult to maintain and install. Application is also rather limited, and they could not be carried outdoors or easily utilized.

Our design surpassed the traditional electronic stand-up supporter by overcoming the issues of expensive pricing, complicated use and low portability. This design would provide the elderly with a stand-up helper seat that could help them stand up easily and could be widely implemented due to its easy portability and safe outdoors use. This work has formally applied for a patent, and we are actively talking with companies for industrial-academic cooperation.

Our stand-up helper seat design could be widely used in daily lives:

1. Features:

(1) Structurally simple, low incidence of breakdowns, portable and easy to store. Conforms to the concept of protection of environment and care for the elderly.

(2) Low costs could be reflected in pricing in order to increase its affordability.

(3) No electric moving parts for higher user-safety.

(4) Easy to dismantle and replace for easy use.

2. Technology

(1) An integrated design of panels, cushions and handle bars were used to allow the user to stand up easily.

(2) Limiters were used in the designs to improve user-safety so that the user would not be pushed forward.

(3) The device could be used either from the back or legs of the chair to satisfy different user requirements.

關鍵字：stand-up, helper, seat