

A10-130

作品名稱

爺爺奶奶安心趴趴走**Mobilized Elderly Caring System**

隊伍名稱

曲速9.99級 Warp 9.99

隊長

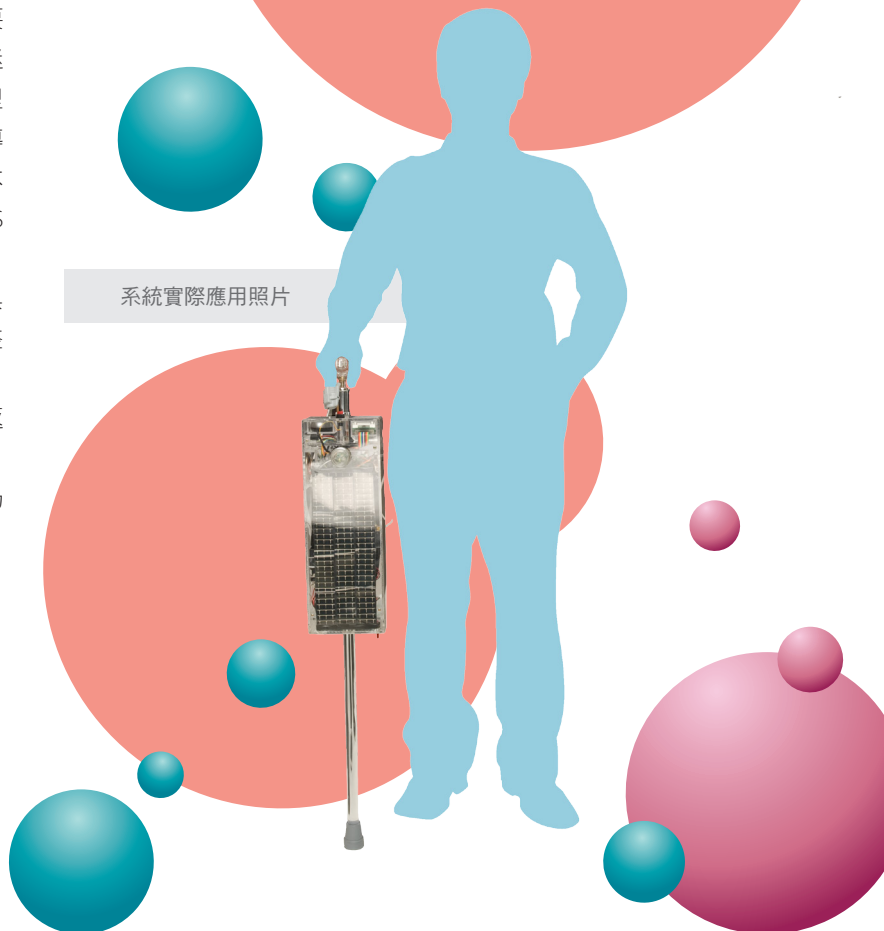
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隊員

陳銘賜 台灣科技大學電子工程系碩士班計算機組**郭柏易** 清雲科技大學電子工程研究所碩士班**林仲達** 清雲科技大學電子工程系**作品摘要**

台灣逐漸邁向高齡化社會，年長者在外出活動安全 需要我們花更多的時間來關心，例如年長者外出活動可能迷路、或是忘記住家位址、外出時需隨時注意與追蹤生理狀況、以及需要便利的求救 聯繫機制。再者一般電子導航地圖操作繁複、不適合年年長者使用。有鑑於此，本團隊以輕便、成本低的單晶片平台為基礎，整合自製TTS 模組、繪圖式LCM液晶顯示模組、無線生理感測模組、GPS模組、GSM模組等，並自行規劃實現年長者專屬、具有羅盤圖示與語音提醒之返家導航介面，完成系統且整合至年長者經常使用的拐杖機構，並且搭配導護手機，提出一套『爺爺奶奶安心趴趴走』系統。功能包含：返家語音圖示導航、緊急求救通訊、異常生理狀況求救、返家路徑學習、重要訊息提醒等。故本作品『爺爺奶奶安心趴趴走』為實用方便的年長者專屬之導航、照養、求救系統。

系統實際應用照片



指導教授

黃瓊緯 清雲科技大學電子工程系所

- 黃教授任職於清雲科技大學電子工程系。
- 執行計畫與研究方向主要著重在照顧養護層面，希望培養同學擁有科技專長與人文關懷的素養。歷年研究成果屢在全國性重要競賽，如教育部微電腦競賽、教育部嵌入式系統競賽、旺宏金矽獎等獲得肯定。
- 教學研究之餘，黃老師也是國際生活的藝術基金會的義工。在完整嚴謹義工師資訓練後，擔任推廣淨化呼吸法課程授課之義工老師，透過課程協助人們提昇身心靈層面。
- 研究領域：嵌入式系統應用與智慧型系統。

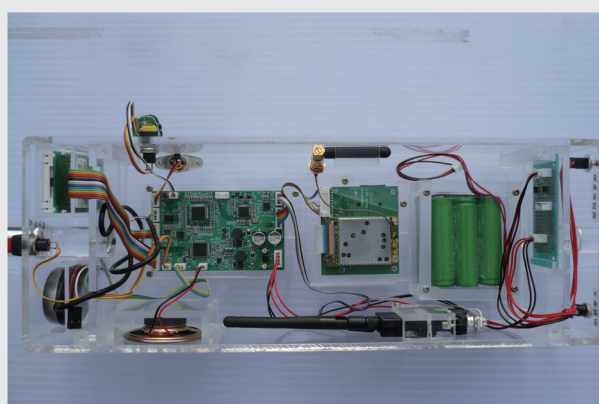


Abstract

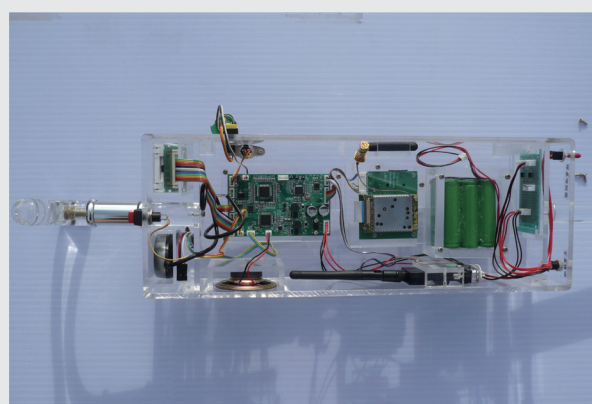
The population structure of Taiwan steps toward an aging society. There is a need for us to concern about the safety situation of older people in outdoor activities. Older people go out may get lost or forget the home address. Therefore, we need to establish mechanisms to facilitate the help link for older people, pay attention to them, and track their physiological status at any time. General electronic navigation map is not suitable to use due to its complex operations. In view of this, we constructed an older people exclusive navigation system implemented with lightweight, low-cost single-chip platform. Integrated with several modules, the navigation system has compass icons and a voice interface of home-returning reminder navigation. The modules include self-developed TTS module, graphic LCD module, wireless

physiological sensor module, GPS module, and GSM module, etc. At last, the proposed system "grandparents feel at ease around anywhere" is settled to the crutches and collocated with guidance counselors phone.

The functions of the proposed system include: 1. Compass and Voice prompt for home returning, 2. Emergency communication, 3. Abnormal physiological condition reminding, 4. Home-returning path learning, 5. Urgent message reminding, etc. Thus, the proposed navigation system is a practical, easy to use, and elder people exclusive navigation system.



System photo(I)



System photo(II)