Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心

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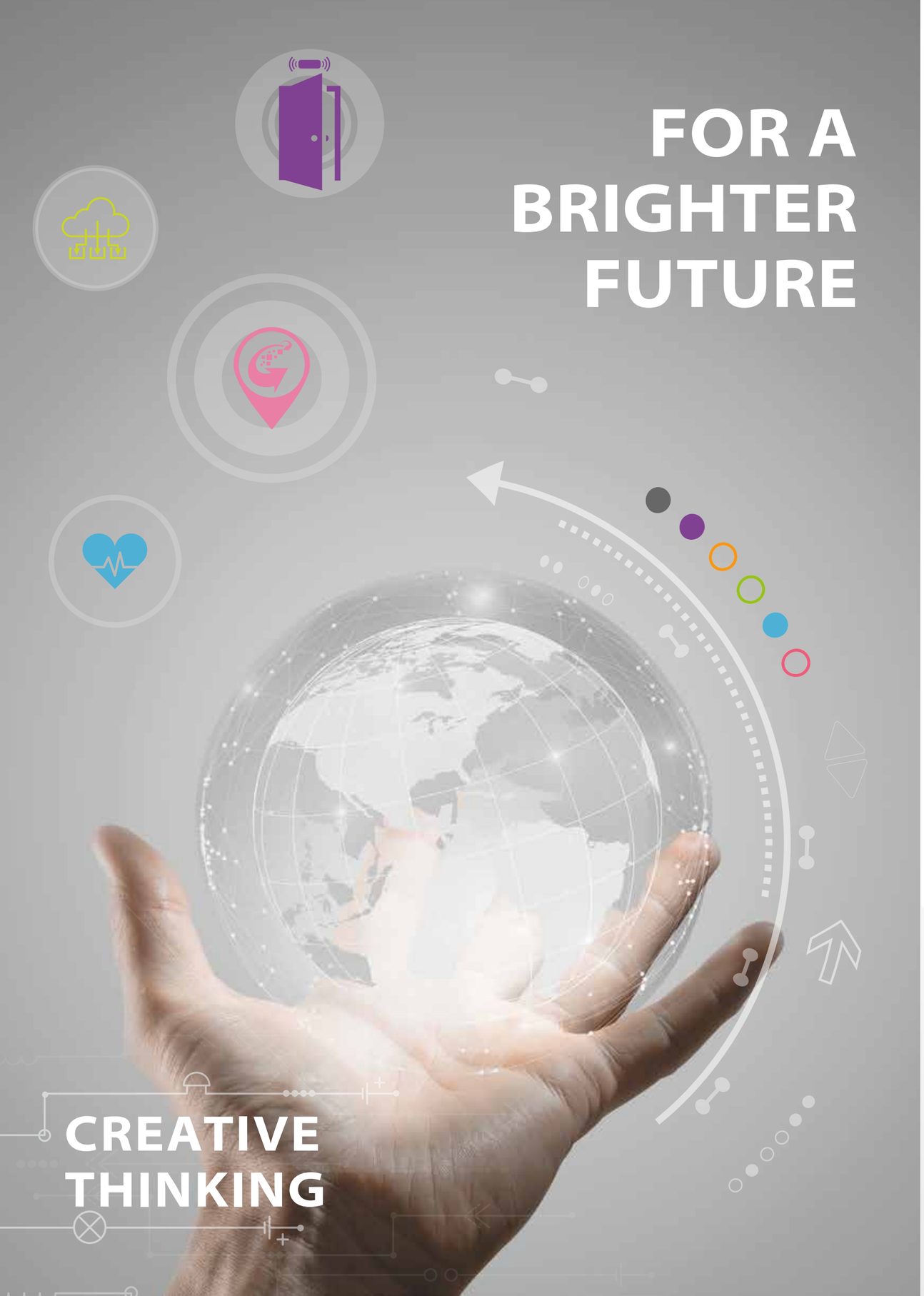
GERONTECH & SMART LIVING TECHNOLOGIES
樂齡科技　樂在「耆」中

LOGISTICS AND SUPPLY CHAIN MULTITECH R&D CENTRE
物流及供應鏈多元技術研發中心



FROM INNOVATION TO PRACTICAL FUNCTION
從創新到應用

INNOVATION AND TECHNOLOGY CULTURE
創 新 與 科 技 文 化

研究與開發　Research & Development

物流及供應鏈多元技術研發中心（LSCM）將創新科技與產業需求互相結合，旨在啟動及開展相關研究，促進業界採用最新技術，從而提升香港在物流、供應鏈、電子商貿及樂齡科技等眾多領域的競爭力，並為各大小企業開拓更佳的商業前景。

Connecting innovative technologies with industries, the Logistics and Supply Chain MultiTech R&D Centre (LSCM) is here to initiate and conduct research and facilitate the adoption of the latest technologies to boost industries' competitiveness in areas including but not limited to logistics and supply chain, e-commerce and gerontech, and open up new business prospects for enterprises in Hong Kong.

INTELLIGENT TECHNOLOGY

智能科技

DRIVE EFFICIENCY, NEW BUSINESS MODELS,
BUSINESS EXPANSION AND PERFORMANCE

提高效率，創新營運模式，
拓展業務及提升表現

EMPOWER YOUR BUSINESS

LSCM

WITH TECHNOLOGY COMMERCIALISATION

技術商品化 Technology Commercialisation

透過各種研究項目，我們發掘可應用於不同產業的創新技術知識，
並且透過商品化將技術知識推向市場。促使業界進步，提升效率，以鞏固香港
作為首屈一指的物流與商貿樞紐之地位。

From various research projects, we identify intellectual assets and initiate technology commercialisation and knowledge transfer to the marketplace to promote industrial advancement, boost efficiency and strengthen Hong Kong's position as a leading logistics and commercial hub in the region.

關於物流及供應鏈多元技術研發中心
ABOUT LSCM

LSCM於2006年成立，由香港特區政府之創新及科技基金資助，擁有一站式資源進行尖端技術研究及商品化，旨在加強各個行業與研究機構之間的互相合作，並致力推動香港成為世界級的創科中心。

LSCM由三間著名大學共同協辦，包括香港大學、香港中文大學及香港科技大學。本中心的成立，代表着政府、業界、學術界以及研究機構的支持與合作，凝聚各個界別對科研發展之熱忱。

Established in 2006 with funding from the Innovation and Technology Fund of the HKSAR Government, LSCM is a one-stop resource for advanced technology research and commercialisation with the objective of reinforcing cooperation between industries and research institutes and helping Hong Kong transform into a world class centre of creativity and innovation.

LSCM is hosted by three leading universities, namely the University of Hong Kong, the Chinese University of Hong Kong, and the Hong Kong University of Science and Technology, representing a concerted support on the part of the government, industry, academia and research institutes.

我們的願景

- 成為一所在物流、供應鏈管理、電子商貿及相關產業研發領域的領先卓越研發中心
- 成為開創和促進本地工業自主創新科技發展、致力與業界及社區合作的卓越研發中心

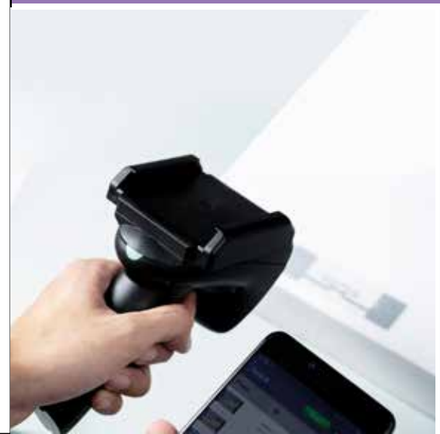
Our Vision

- To be a leading Centre of Excellence in logistics, supply chain management, e-Commerce and related industrial research and development
- To be a Centre of Excellence to initiate and facilitate indigenous innovation and technology by local industries, and collaborate with industries and the communities to embrace innovation and technology

Since 2006

A pioneer of research and development in Hong Kong

香港業界的研發先鋒 始於2006



LSCM

我們的服務
OUR SERVICE

使命

- 透過開創及進行研發活動，提升在物流、供應鏈、電子商貿及相關產業的核心技術能力，並引領業界進行應用研究心技術能力，並引領業界進行應用研究
- 促進本地工業的自主科研力量，並為在本港 / 內地營運的業界（公營和私營）提供專業技術、知識與創新及科技基金的支援
- 致力與業界（特別是中小企業）和社區合作，推廣創新科技，以提升生產力、效率及為香港社會帶來積極影響

Mission

- Initiate and conduct R&D activities to develop core technological competencies in the logistics, supply chain, e-Commerce and related industries, and to lead the industries in applied research and development work
- Facilitate the indigenous technological research by industries (public and private) in Hong Kong / Mainland China by providing expertise, knowledge and Innovation & Technology Funding support
- Collaborate with industries (especially SMEs) and communities to adopt and embrace innovation and technology for productivity, efficiency, social well-being and making positive impact to Hong Kong

LSCM致力為業界提供應用研究、技術轉移及商品化的一站式服務：

- 開展以產業為導向的研究項目
- 提供合約研究及市場資料服務
- 提供業務配對及技術轉移的平台
- 促進知識產權商品化

LSCM has been commissioned to be a one-stop resource for applied research, technology transfer and commercialisation, by undertaking the following roles and functions:

- Conducts industry-oriented research projects
- Provides contracted research and market intelligence services
- Provides a platform for business matching and technology transfer
- Facilitates intellectual property commercialisation

技術商品化
Technology Commercialisation

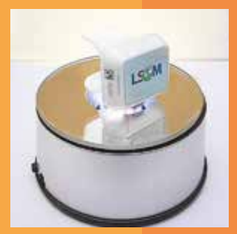
為了提升香港產業的效率與生產力，並鞏固其作為世界級智慧型大都會的領先地位，LSCM從各類研究項目中推行技術商品化，把技術推向市場，鼓勵業界採用。

To enhance the efficiency and productivity of Hong Kong's industries and strengthen its position as a world-class smart city, LSCM identifies and develops technology commercialisation opportunities generated from various research projects.

產品與系統服務
Product & System Services

我們為各主要產業提供了大量具成本效益、市場兼容以及創新技術的商品化產品組合。此外，我們還為各技術公司提供了一個優良平台，使其獲得我們研發的可授權技術，進一步將其發展為更適用於產業的解決方案，使眾多行業從中受惠。

We have a large portfolio of cost effective, market compatible and innovative technologies offered to industry customers for commercialisation. We also provide a platform for technology companies to use our ready-for-market licensable technologies and further develop them into more successful solutions for industrial use and ultimately benefit a wide range of industries.



Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心

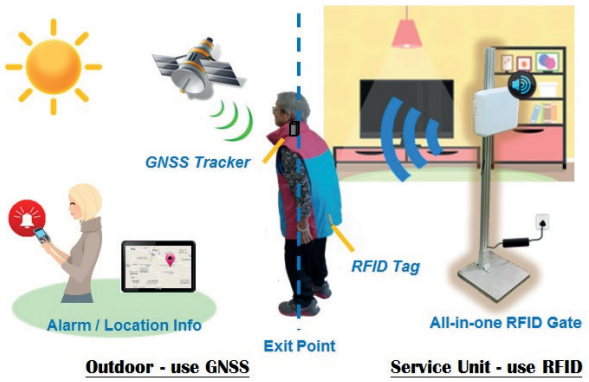
無線射頻識別閘門系統
RFID Gate Door System

適用於安老服務

解決方案概要 SOLUTION OVERVIEW

目前，香港約每六人便有一位是長者，到2034年長者人口將增加至228萬人。其中腦退化患者最容易走失。為了防止他們在街上遇到危險和受傷，迅速及準確地找出他們的位置是十分重要的。因此LSCM開發了一系列無線射頻識別解決方案，感應腦退化患者進出的情況。解決方案包括：無線射頻識別閘門、內置無線射頻識別標籤的衣服和移動應用程式。穿上附有無線射頻識別標籤的長者若走失或嘗試離開，護理人員將收到警報，可立即阻止他們遊走的情況發生。

It is currently estimated that there is one elderly in every six people is an elderly. The figure of the population will rise to 2.28 million in the year of 2034. The elderly with Alzheimer's disease/dementia are more likely to wander away. In order to prevent them from posing harm and getting hurt on the street, it is critical to locate them quickly and accurately. LSCM thus offers an RFID solution that can detect the in/out Alzheimer's patients when they wander away from their care premises. The solution consists of an RFID gate, a RFID tagged clothing and a mobile application. If the elderly member attempts to wander off the premises, the caretaker will receive alerts and can quickly prevent from such happening.



功能和特點 FUNCTIONS AND FEATURES

當腦退化患者遊走時，可能會導致嚴重的傷害甚至死亡。對於護理人員而言，此系統能夠快速及準確地防止長者遊走離開院社。

RFID Gate Door system ensures a higher level of safety when a dementia elderly wandering off, which might result in putting themselves in serious injury or even death. For caretakers, the platform provides more effective means to prevent the elderly from leaving the premises.

功能 FEATURES

- **替長者登記**
  Registration for the elderly
- **若長者遊走，防遊走閘門便會發出警報**
  Wandering off alert via RFID gate
- **若長者遊走，智能手機便會發出警報**
  Wandering off alert via mobile application
- **透過防遊走閘門發出警報通知**
  Alert acknowledgement via RFID gate
- **透過智能手機發出警報通知**
  Alert acknowledgement via mobile application

主要優點 KEY BENEFITS

- **當長者走失時，系統會自動發出警報通知，以加強戶外活動的安全性**
  Strengthen the security level of outing activities by providing automatic alert notification
- **減輕護理人員對長者遊走的工作壓力**
  Reduce the workload of caretakers
- **此系統有效地掌握長者的位置，從而令護理中心分配更多資源至其他關鍵的服務**
  When the elderly members can be located more effectively, care centres can allocate more resources to other critical services

無線射頻識別閘門系統
RFID Gate Door System

硬件 HARDWARE

無線射頻識別閘門系統規格 RFID Gate Specification
支援Wi-Fi 2.4G Support Wi-Fi 2.4G
12V DC輸入，最大電流為2A 12V DC input, and the maximum current is 2A
無線射頻識別工作頻率865-868, 920-925 MHz RFID operating frequency 865-868, 920-925 MHz
天線增益5dBi Antenna gain 5dBi

移動規格 Mobile Specification
Qualcomm Snapdragon 660或更高版本，或其他同級處理器 Qualcomm Snapdragon 660 or above, or other equivalent processors
4GB內存或以上（用於操作上） 4GB memory size or above (for operation)
100MB存儲空間或以上（用於儲存上） 100MB storage space or above (for storage)

軟件 SOFTWARE

客戶應用規格 Client Application Specification
Firefox、Google Chrome & Microsoft Edge
Android 8.0或以上 Android 8.0 or above

移動應用程式 MOBILE APPLICATION

移動應用程式是系統的重要組成部分。它提供了一個易於使用的介面，以確認警報是從哪一閘門發出的其他功能包括：無線射頻識別衣服管理、無線射頻識別閘門管理、警報歷史、長者信息管理等。

Mobile application is the essential part of the system. It presents an easy to use interface to acknowledge alert of a particular gate. Other features include RFID clothing management, RFID Gate management, alert history and elderly information management.

試驗場地 PILOT SITE

東華三院黃祖棠長者日間護理中心

Tung Wah Group of Hospitals Wong Cho Tong Day Care Centre for the Elderly

已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單

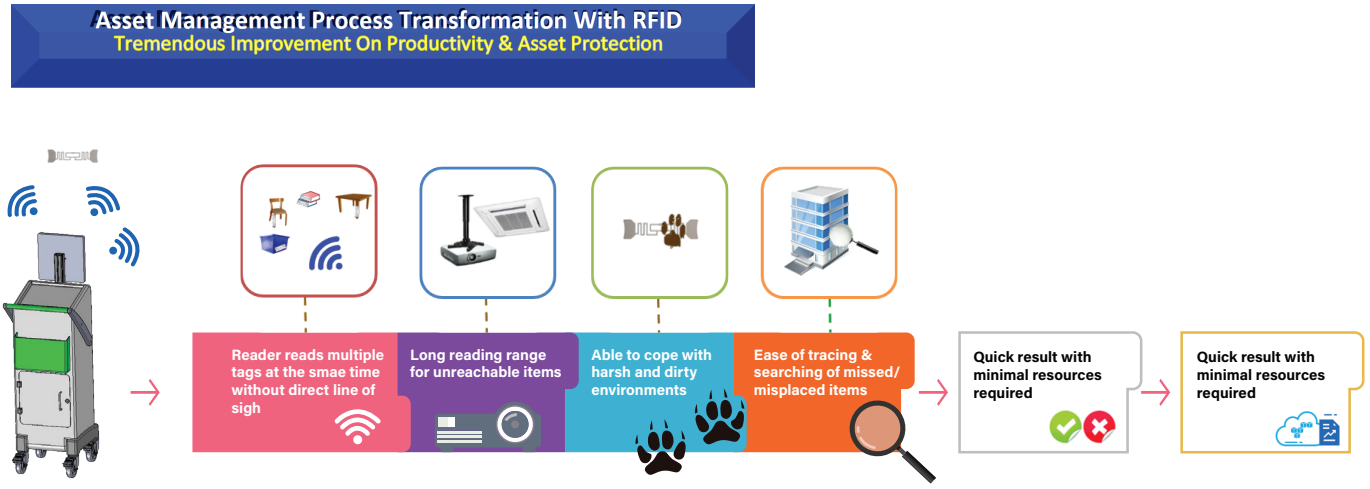
無線射頻識別物資管理系統
RFID Asset Management System

適用於安老及康復服務

解決方案概要 SOLUTION OVERVIEW

無線射頻識別(RFID)物資管理系統旨在改變傳統的盤點工作流程。這些工作一般涉及大量文書處理，並需時數月。新系統有助將盤點時間縮短到幾天，並只需簡單的步驟：編制標籤、掃描、配對和報告。

RFID Asset Management System is designed to transform traditional stock-taking work flow that involves heavy paper documentation and usually lasts for months and shorten project completion time to a matter of days. The new system involves a few simple steps inculding tagging, scanning, matching and reporting.



功能和特點 FUNCTIONS AND FEATURES

無線射頻識別物資管理系統可以提高生產力和物資管理。 它具有以下功能:

RFID Asset Management System can enhance productivity and asset management. It has the following features:

無線射頻識別標籤 RFID Label

相比傳統的條碼，無線射頻識別技術簡化了物資登記的流程，令操作流程更快捷。

Compared with traditional barcodes, RFID technology streamlines asset registration process and expedites the operation.

盤點整理 Stock-taking Management

不需以人手為每個項目逐個記錄，而是整批地作記錄。

Enable stock-taking in batch instead of manually record each item one at a time.

資產搜索和識別丟失的資產 Asset Searching and Identifying Missing Assets

現在只需點擊按鈕，便可進行掃描，尋找指定的物資，並找出遺失了哪些物資。

For locating a particular asset or finding out what assets are missing, it could be done by simply performing a scanning process with a click of button.

優點 KEY BENEFITS

- **輕鬆而快速地找到物資**
  Locate assets easily and quickly
- **提高盤點的效率和生產力**
  Improve efficiency and productivity of stocktaking
- **更有效地管理和追踪多個地點/服務單位/中心的物資**
  Better management and tracking of assets across multiple locations / service units / centers
- **優化物資的使用率**
  Optimize asset utilization

已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單

無線射頻識別物資管理流動閱讀器
RFID Asset Management Mobile Reader

無線射頻識別物資管理閱讀器設備齊全，能支援WIFI和移動應用。電池為供電來源，一次充電可持續數小時。 只需連接大型天線，便能讀取在物資上的無線射頻識別標籤。
The RFID reader is self-contained, WIFI enabled and movable. It runs on battery that can last up to a few hours on one charge. It picks up RFID tags on assets with the large antennas attached.

硬件 HARDWARE

- 僅供參考，並非最終版本。
- NOT the final version, for reference only (unit: mm)

閱讀器規格 READER SPECIFICATION

支援Wi-Fi 2.45G Support Wi-Fi 2.45G
超高頻無線射頻識別閱讀器使用DC 19V（使用充電池供電） DC 19V for UHF RFID reader (powered by rechargeable battery)
主控制單元使用DC 5V（使用充電池供電） DC 5V for main control unit (powered by rechargeable battery)
無線射頻識別操作頻率 RFID operating frequency 920 – 925 MHz
天線增益 Antenna gain 8dBi

伺服器規格 SERVER SPECIFICATION

Intel Xeon E3或更高版本，或同級的AMD CPU Intel Xeon E3 or above, or equivalent AMD CPU
32GB RAM內存容量或以上 32GB RAM memory size or above
6GB硬盤或以上 6GB free space hard disk size or above

移動規格 MOBILE SPECIFICATION

QUALCOMM SNAPDRAGON 660或更高版本，或其他同級處理器 Qualcomm Snapdragon 660 or above, or other equivalent processors
4GB或以上（用於操作） 4GB memory size or above (for operation)
6GB硬盤或以上 6GB free space hard disk size or above

軟件 SOFTWARE

伺服器應用規格 Server Application Specification
WINDOWS SERVER 2016或更高版本 Windows Server 2016 or above
MICROSOFT SQL SERVER 2017或更高版本 Microsoft SQL Server 2017 or above

客戶應用規格 Client Application Specification
Firefox、Google Chrome & Microsoft Edg
Android 8.0或更高版本 Android 8.0 or above

無線射頻識別視障人士導航系統
RFID Blind Cane Navigation System

適用於復康服務

解決方案概要 SOLUTION OVERVIEW

無線射頻識別視障人士手杖導航系統是一個專為視障人士提供導航輔助的系統。一般行人道上的傳統引導徑能為視障人士提供步行指引，但卻沒法告知用家附近設施的位置。視障人士需要記住路線才能到達目的地。

這無線射頻識別手杖導航系統旨在為視障人士提供準確且易於使用的導航功能。它結合了無線射頻識別、移動裝置及流動應用程式技術，以進行語音導航。該系統包括四個組件：（1）視障人士使用的的無線射頻識別手杖閱讀器（2）安裝於地磚下的無源無線射頻識別標籤（3）導航平台（後端系統）（4）導航流動應用程式（供用戶使用的前端系統）。視障人士拿著帶有無線射頻識別手杖閱讀器的手杖沿著引導徑行走，在該路徑下安裝的無線射頻識別標籤，會通過流動應用程式提供語音導航信息（例如右轉到美食廣場）。

RFID Blind Cane Navigation System is a system dedicated to providing navigation assistance to the visually impaired. Traditional guiding path available on the pavement provides a walking clue to visually impaired, but it does not tell the where abouts of the surrounding areas. Visually impaired user needs to memorize the routes in order to get to the destination.

This RFID Blind Cane Navigation System aims at providing accurate and easy-to-use navigation functions to the visually impaired. It combines the use of RFID technology and mobile technology to fulfill the navigation goal. The system comprises of four components – (1) the RFID cane reader which a visually impaired user holds in hand, (2) passive RFID tags for installing under floor tiles, (3) navigation platform (backend system) and (4) navigation mobile app (front-end for user's use). A visually impaired user holding a blind cane with an RFID cane reader installed walks along the guiding path under which some RFID tags are installed, and the system will be able to provide vocal navigation information (e.g. turn right to the food court) via the mobile app.

功能和特徵 FUNCTIONS AND FEATURES

無線射頻識別視障人士導航系統的主要功能是為視障人士提供語音導航。 它具有以下功能和優點：
The main function of the RFID Blind Cane Navigation System is to provide audio navigation guidance to the visually impaired. It has the following features and benefits:

高精準度 Highly accurate

對於視力不佳的用戶，1米的差異足以引致危險。 無線射頻識別手杖導航系統能為用戶提供準確的到點導航和定位。
For a visually impaired user, a 1-meter discrepancy is high enough to cause a hazard / danger. The RFID Blind Cane Navigation System is capable of providing exact-to-the-point navigation and positioning to the user.

低廉的維護成本 Low maintenance cost

無源無線射頻識別標籤是藏於引導徑地磚／引導鋼條底下，而無線射頻識別標籤並不需要電源或定期更換電池。
To enable the navigation function, passive RFID tags are inserted under guiding tiles / guiding strips. No power source or battery replacement is required for the RFID tags to operate.

易於使用 Easy to use

無線射頻識別手杖閱讀器安裝於視障人士手杖的最前端。 視障人士可以像使用普通盲人手杖一樣沿著引導徑行走，流動應用程式便能提供語音導航，用家亦可透過耳機收聽導航訊息。
The RFID cane reader is installed at the tip of the blind cane. A visually impaired user walks along the blind guiding path as usual with the blind cane. Audio navigation guidance will be provided via the mobile app and can be accessed by an earphone.

無線射頻識別視障人士導航系統
RFID Blind Cane Navigation System

智能手杖硬件 SMART BLIND CANE HARDWARE

無線射頻識別手杖閱讀器能讀取引導徑地磚下無線射頻識別標籤的編號。一般的手杖只需少許改動，便能附加 RFID 手杖閱讀器使用。

The RFID cane reader is designed to pick up an RFID number from the tags under the tiles. It can be attached to a standard blind cane with little modification.

規格 SPECIFICATION

手杖形狀閱讀器	Cane shape reader
便攜式	Portable
能安裝於普通視障人士手杖上	Able to attach to the normal blind cane
通信介面	Communication and interface capabilities：BLE 4.0
電源電壓	Supply Voltage: 3.7-4.1V
操作頻率	Operating Frequency：920-925MHz
天線增益	Antenna Gain：0.8 dBi

軟件規格 SOFTWARE SPECIFICATION

支援操作系統	Supported Operating system：Linux 16.04 LTS
支援數據庫	Supported Database：Mongo DB 3.6.3
支援Apache Tomcat	Supported Apache Tomcat： 8.5.29

硬件規格 HARDWARE SPECIFICATION

建議CPU速度：雙核處理器1.8GHz	Recommended CPU Speed: Dual Core processors 1.8GHz
建議內存容量	Recommended Memory Size：64 GB
建議硬盤容量	Recommended Hard disk Size： 6TB SSD

軟件應用 SOFTWARE APPLICATION

服務器平台 Server Platforms

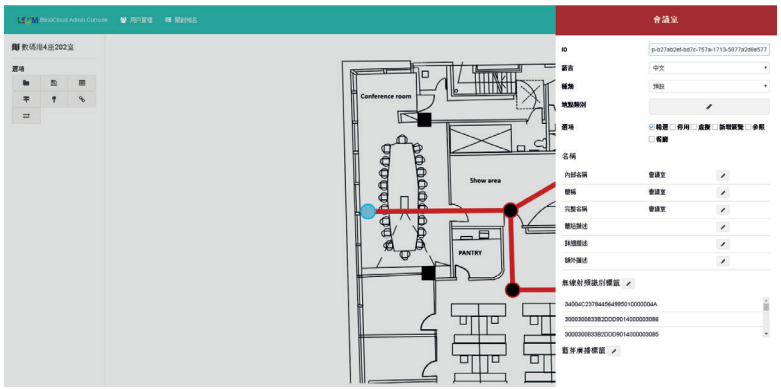
雲伺服器平台作為地圖和地標資訊的存儲庫。
The cloud server platform serves as a repository for site maps and descriptions of every point-of-interest.

地圖編輯器網頁介面 Site Editor Web Interface

為行政人員和場所管理員提供之網頁介面（地圖編輯器），方便更新地標和路徑的資訊。
Web-based interface (the Site Editor) is provided for administrative staff and premises management staff to update the site and path information.

軟件規格 Software Specification

■ **支援網頁瀏覽器：** Chrome 72.0+
Supported Web Browser: Chrome 72.0+



無線射頻識別視障人士導航系統
RFID Blind Cane Navigation System

流動應用程式 MOBILE APPLICATION

流動應用程式為視障人士提供語音導航信息。操作模式有兩種：目標模式和非目標模式。

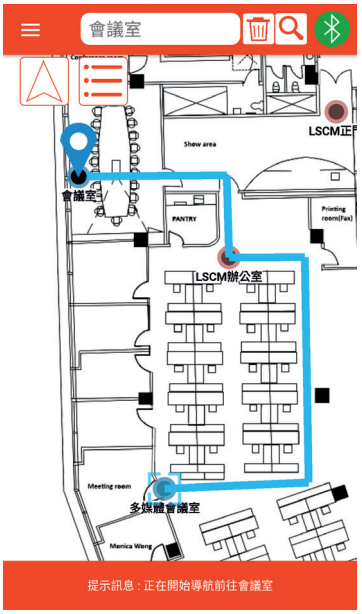
在目標模式中，用戶可預先設定目的地，而流動應用程式便會為使用者提供通往目的地的相關路線。

在非目標模式中，用戶將不用設置目的地。流動應用程式會為使用者提供周圍地標的資訊。

Mobile application is available for visually impaired to get audio guidance messages. Two operation modes are available: the target mode and non-target mode.

In target mode, the user can set a destination, and the mobile app will only inform the user about the relevant route leading to the destination.

In non-target mode, in which no destination is set, the mobile app will introduce every point-of-interest around the user.



功能 FEATURE

- **導航**
  Navigation
- **管理本地數據**
  Manage local data
- **與智能視障人士手杖連接**
  Connection with smart blind cane
- **無障礙**
  Accessibility

兼容平台 COMPATIBLE PLATFORM

- Android – 5.0+
- IOS – IOS 10+

認可的獎項 RECOGNIZED AWARD

在2016年第44屆日內瓦國際發明展上榮獲金獎。
Granted the Golden Medal in the 44th International Exhibition of Inventions Geneva in 2016.

合作 CO-OPERATION

香港盲人輔導會旗下的全資附屬公司－香港暢道科技有限公司，已開展有關業務，提供完整的配套服務。
Barrier Free Access (HK) Limited, a wholly-owned subsidiary of The Hong Kong Society for the Blind, has started the relevant business to offer full-set of service backing the RFID Blind Cane Navigation System.

Information Kiosk System
資訊查詢系統

適用於安老及康復服務

解決方案概要 SOLUTION OVERVIEW

資訊查詢系統可運用於平板電腦上。它適用於長者護理中心、院舍或其他場所，可以為長者提供不同類型的信息，如用膳餐單、日常活動資訊和活動時間表、天氣報告和預測等。長者可透過資訊系統報名參加活動或簽到。 而系統圖示設計清晰易明，長者只需觸控螢幕或直接在資訊站掃描無線射頻識別手帶，便可輕易地操作資訊站的各項功能。

Information Kiosk System is a tablet-based station which is suitable for use in the elderly care centers, attention homes or other sites. It can provide different kinds of general information to the elderly, such as menu, daily activities information and schedule, weather report and forecast, etc. The elderly member can also perform operations such as application to activities or taking attendance with the Kiosk. With clear and simple graphic design, the elderly member can operate the kiosk by touching the screen, or simply by scanning an RFID wrist-band at the kiosk.

特徵 FEATURES

- **提供文字信息**
  Provide textual information
- **可用作數碼相框**
  Act as a digital photo frame
- **通過無線射頻識別來辨認長者和員工**
  Identify elderly members and staff by RFID
- **長者可自行報名參加活動**
  Self-registering activity
- **記錄活動出席率**
  Logging of activity attendance

硬件 HARDWARE

無線射頻識別閱讀器（頻率: 920-925MHz） RFID Reader (Frequency: 920-925MHz)
伺服器 Server
Android裝置 Android Devices

規格 SPECIFICATION

建議處理器速度 Recommended Processors Speed: **雙核處理器** Dual Core Processor 1.8GHz+
建議內存容量 Recommended Memory Sizes: 64GB+
建議硬盤容量 Recommended Hard Disk Sizes: 4TB+
支援的操作系統 Supported OS: Ubuntu 16.04, Windows Server 2016
支援的數據庫 Supported DB: MongoDB 3.6.3
Apache Tomcat 8.5.29

已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單

Information Kiosk System
資訊查詢系統

軟件 SOFTWARE

長者可以通過於資訊系統上顯示的簡易用戶介面和大圖示來查詢不同信息，如當天的餐單、本周可參加的活動等。他們也可以自行報名參加活動，這樣可減輕護理人員行政工作的負擔。

For the main UI of Information Kiosk App, the elderly member can enquire information via ease-of-use user interface with big icons like what meal they will have tonight, what activities they can join this week, etc. They can also apply for the activities themselves.
This will alleviate the workload of the caretakers on those administrative work.

兼容平台 COMPATIBLE PLATFORM

- **資訊站系統應用程式可應用在任何標準Android操作的平板電腦或電視上**
  The Information Kiosk App runs on any standard Android-based tablet or TV
- **支援Android 版本** 6.0.1+
  Supported Android版本 6.0.1+

資訊站系統為員工提供了一個簡單的網頁介面來管理csv文件。 工作人員可以通過編輯和上傳已格式化的csv檔案，輕鬆地管理系統上之信息。系統可度身定做需要的信息以滿足特定的需求。

A simple web UI is provided to staff to mange the csv files. Related staff can easily manage the information by editing and uploading formatted csv, therefore all the information can be tailor-made to meet specific needs.

功能 FEATURES

- 管理檔案 Manage files
- 上傳檔案 Drag-and-drop upload files

兼容平台 COMPATIBLE PLATFORM

- 支援瀏覽器 Supported Browser: Google Chrome (6.1.0+)

Service Logging System
服務記錄系統

適用於安老及康復服務

解決方案概要 SOLUTION OVERVIEW

服務記錄系統可以讓醫護和護理人員記錄已為長者完成服務的資料。系統亦可以收集其他數據，包括血壓、血糖/膽固醇水平、體溫和脈搏/心跳率等，同時亦能輕易接駁到其他的身體檢查儀器。系統網頁介面協助醫護和護理人員監測長者的生理狀態。
系統也為個別長者設定體檢數據的警報，還能提供不同類型的總結報告，例如服務總結報告和長者的體檢報告。

The Service Logging System provides functions for nursing staff and caretakers to input completion status of services provided to the elderly. They can also capture vital-sign readings from those vital-sign devices including blood pressure, glucose/cholesterol level, body temperature and pulse/heart-beat rate. Additional vital-sign devices integration can also be done easily.
Web-based interface is also provided to caretakers and nurses to monitor the status of elderly members. Threshold alert of the vital sign reading can be set for individual elderly member. Different kinds of summary reports are also provided, such as the report on service done and vital-sign report of the elderly member.

硬件 HARDWARE

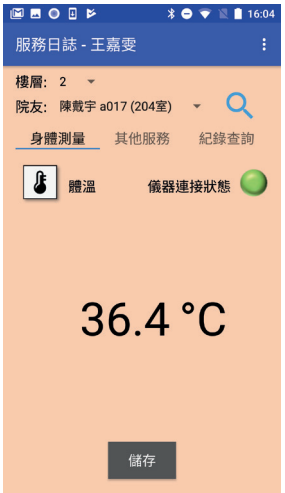
藍牙4.0生命體徵設備 Bluetooth 4.0 Vital-sign Devices
RFID閱讀器（頻率：920-925） RFID Reader (Frequency: 920-925)
伺服器 Server
Android裝置 Android Devices

規格 SPECIFICATION

建議處理器速度 Recommended Processors Speed: **雙核處理器** Dual Core Processor 1.8GHz+
建議內存容量 Recommended Memory Sizes: 64GB+
建議硬盤容量 Recommended Hard Disk Sizes: 4TB+
支援的操作系統 Supported OS: Ubuntu 16.04, Windows Server 2016
支援的數據庫 Supported DB: MongoDB 3.6.3
Apache Tomcat 8.5.29

軟件 SOFTWARE

當護理人員需要讀取長者體檢數據時，他們只需要按下「身體測量」按鈕，便能通過藍牙自動連接到有關的體檢設備。
When caretakers want to capture vital-sign, they just need to press the vital-sign button, it will then be connected to the related vital-sign devices automatically by Bluetooth.



已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單

Service Logging System
服務記錄系統

功能 FEATURE

- **讀取體檢數據**
  Capture Vital-Sign Data
- **記錄服務日誌**
  Perform Service Logging
- **通過RFID識別長者或工作人員**
  Identify elderly member or staff by RFID
- **翻查服務日誌記錄**
  Check Service Log History
- **執行會簽**
  Perform countersign

兼容平台 COMPATIBLE PLATFORM

- **服務記錄系統應用程式可安裝在任何標準Android移動裝置或平板電腦上**
  The Service Logging App runs on any standard Android-based mobile or tablet
- **支援的Android版本：** Version 6.0.1+
  Supported Android Version 6.0.1+

在服務日誌的使用介面上，當照顧者一旦完成服務，便能提供服務日誌摘要，讓醫護人員能檢查是否已完成所有服務並執行會簽。
In Service Logging User-Interface, once the caretaker has finished the service, a summary of the service log will be provided for the nurse to check whether all the services has been completed. The nurse can then perform countersign.

系統網頁亦能讓職員即時監測長者的體檢數據，並整理各種報告，如服務記錄總結報告和長者體檢報告。此外，所有服務日誌項目（如每天儀容的整潔、沐浴記錄等）都是由csv文件定義的，員工可以通過編輯和上傳csv文件來編輯服務日誌的列表。
A web is provided to staff to monitor the elderly vital-sign data instantly and generate different kinds of reports, such as summary report of service logging and vital-sign report of the elderly member. Also, all the service log items (e.g. neatness of the appearance and showering records etc.) are defined by a csv file. Staff can edit the service log list by editing and uploading the csv file.

特徵 FEATURES

- **文件管理**
  Manage files
- **上傳文件**
  Drag-and-drop upload files
- **翻查體檢數據**
  Check vital-sign data
- **翻查服務日誌記錄**
  Check service log history
- **整理報告**
  Generate report

兼容平台 COMPATIBLE PLATFORM

- **支持的瀏覽器：Google Chrome (61.0+)**
  Supported Browser: Google Chrome (61.0+)

已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單

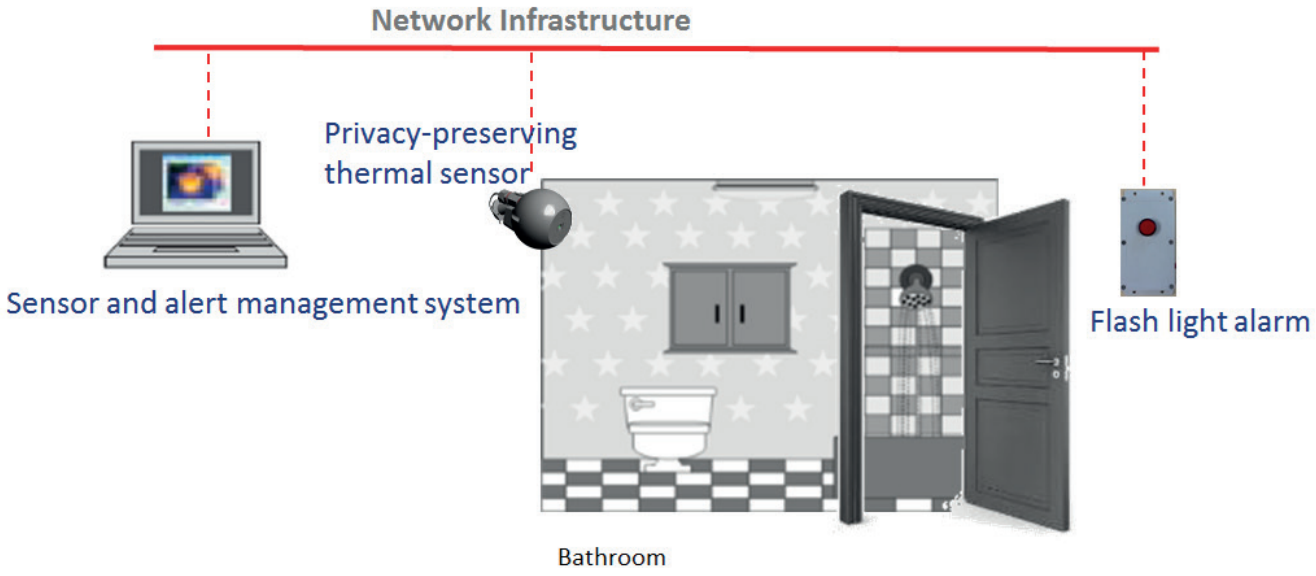
長者紅外線熱能感應警報系統
Infrared Thermal Sensing Safety Alert System for The Elderly

適用於院舍照顧服務

解決方案概要 SOLUTION OVERVIEW

長者紅外線熱能感應警報系統是一個高度保障私隱的安全監察系統。系統會根據實時熱能數據，分析有關長者是否需要護理人員協助。

The infrared thermal sensing safety alert system is a privacy preserving system designed for monitoring an individual's safety in a private space. It analyses the real time thermal data of a private space to determine whether the individual needs support from the caretaker.



功能和特點 FUNCTIONS AND FEATURES

這種低成本的熱能感應系統，可以幫助檢測和分析私人空間中的人體活動狀況。在預定的時段內，若未能檢測到身體移動的情況，將發出警報通知看護人員。傳感和警報管理系統為熱傳感器陣列和警報監控提供一個中央管理平台，以便照顧護老中心內的長者。

This low-cost thermal sensing system can detect and analyze human movement in a private space. When the body movement is not detected for a pre-defined period of time, an alarm will alert the caretakers. The sensing and alert management system provides a centralized platform for thermal sensors array and alert monitoring for nursing care within an elderly premise.

硬件 HARDWARE

熱像儀擁有多個活動感應度，易於安裝在厠所或浴室內。如果偵測到危險，系統便會向照顧者發出警報，使其作出相應行動。

The thermal camera consists of several movement sensitivity levels and can be installed easily inside a toilet or a bathroom. If an individual has fallen unconsciously, the system will alert the relevant caretakers to take immediate action.

熱像儀 Thermal Camera

警報裝置 Alarm Device

長者紅外線熱能感應警報系統
Infrared Thermal Sensing Safety Alert System for The Elderly

規格 SPECIFICATION

傳感器技術：非製冷Vox千分尺 Sensor technology: Uncooled Vox micrometer
光譜範圍：長波紅外，8μm至14μm Spectral range: Longwave infrared, 8 μ m to 14 μ m
數組格式：80x60 Array format: 80x60
有效幀速率：8.6Hz Effective frame rate: 8.6Hz
熱靈敏度：<50 mK (0.050˚C) Thermal sensitivity: < 50 mK (0.050˚C)
FOV - 水平：51˚, 對角線：63.5˚ FOV – horizontal: 51˚, diagonal: 63.5˚
最佳工作溫度範圍：-10˚C至65˚C Optimum operating temperature range: -10˚C to 65˚C
輸入電源：DC 5V 2A Input supply: DC 5V 2A
重量：~300克 Weight: ~300g
尺寸：130mm的球體設計 Dimension: sphere design with 130mm

通信和界面功能 COMMUNICATION AND INTERFACE CAPABILITIES

Wi-Fi 2.4G

電源電壓 SUPPLY VOLTAGE

DC 5V 2A

軟件 SOFTWARE

支援操作系統 **SUPPORTED OS**
Windows Server 2016或更高版本 Windows Server 2016 or above

建議的中央處理器速度 **RECOMMENDED CPU SPEED**
Intel Xeon E3或更高版本，或等效的AMD CPU Intel Xeon E3 or above, or the equivalent AMD CPU

支援的網頁瀏覽器 **SUPPORTED WEB BROWSERS**
Firefox, Google Chrome & Microsoft Edge

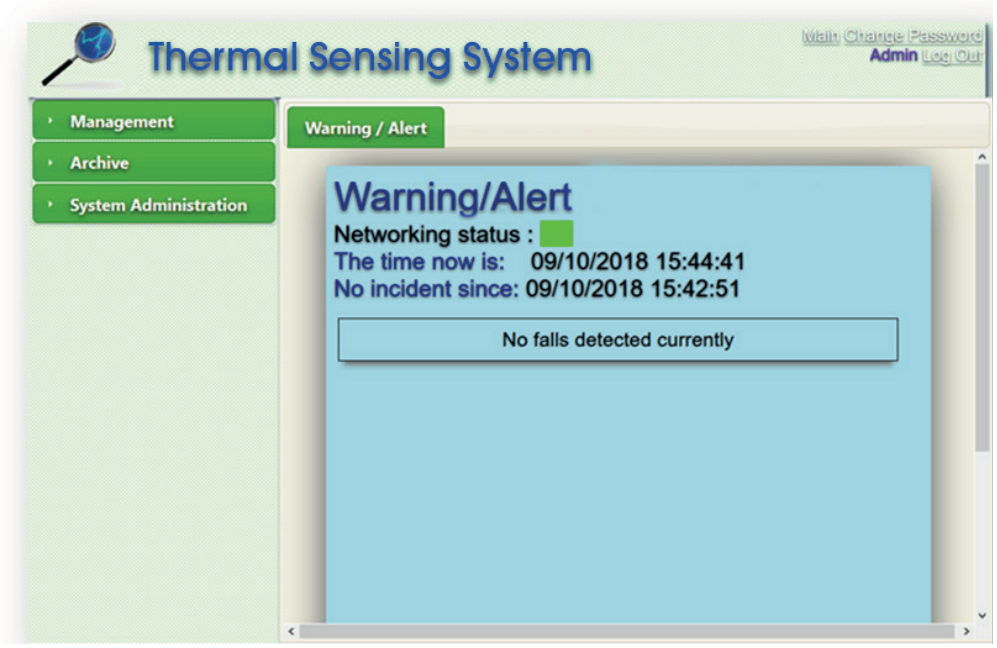
建議的內存記憶容量 **RECOMMENDED MEMORY SIZES**
32GB或以上 32GB or above

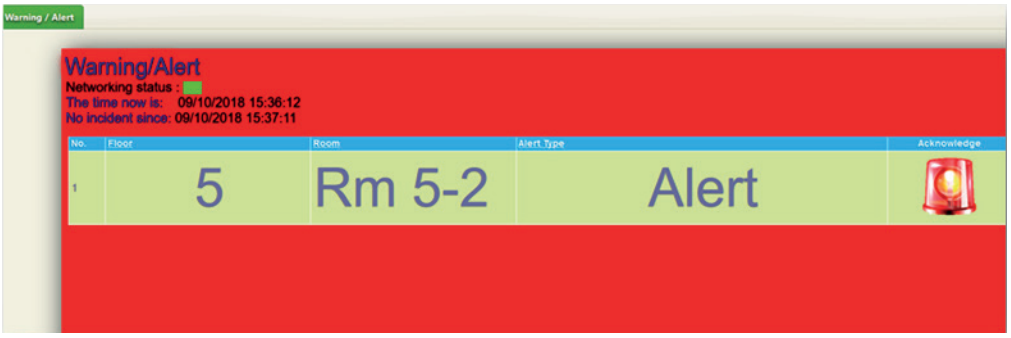
支援數據 **SUPPORTED DB**
Microsoft SQL Server 2017或更高版本 Microsoft SQL Server 2017 or above

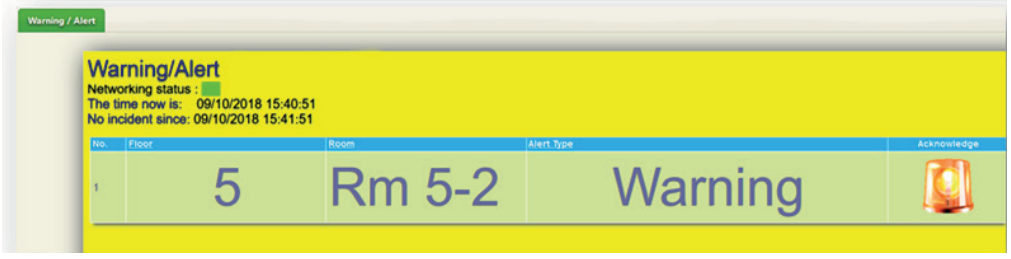
建議的硬盤大小 **RECOMMENDED HARD DISK SIZES**
6GB可用空間或以上 6GB free space or above

長者紅外線熱能感應警報系統
Infrared Thermal Sensing Safety Alert System for The Elderly

應用程式 APPLICATION







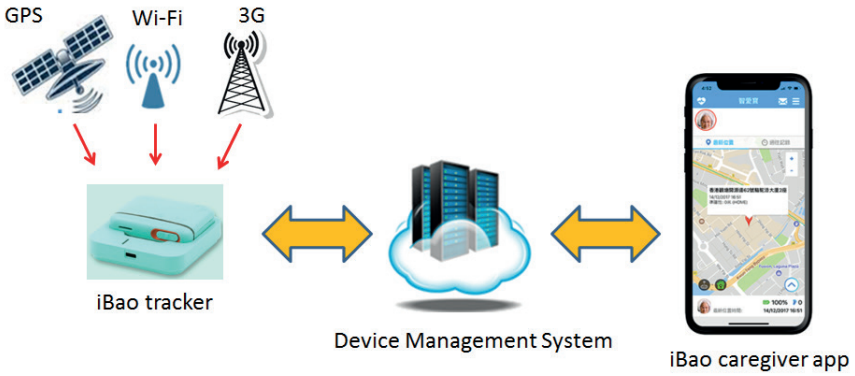
智愛寶 iBao

適用於安老服務

解決方案概要 SOLUTION OVERVIEW

目前，市面上的便攜式位置追蹤器大多數是基於GPS技術而設計的。然而，香港的大部分建築物都很高，加上建築密度高，影響了GPS訊號的接收，故一般GPS定位追蹤器的表現不是很穩定。故此，智愛寶正是低成本、實時，並高精確度的室內和室外兼容的便攜式位置追蹤器。它採用了3G、GPS和Wi-Fi的三重定位技術，並支援雲端追蹤器管理系統和監控移動應用程式，適合腦退化患者或其照顧者使用。

Today, most of the portable location trackers available in the market are GPS technology based. However, the performance of GPS location tracker in Hong Kong is not very stable because most of buildings in Hong Kong are very tall and built in high density which affects the GPS signal reception. Therefore, iBao is developed as a low-cost and real-time high-accuracy indoor and outdoor portable tracking device by using 3G + GPS + Wi-Fi positioning technologies, with supporting cloud-based device management system and tracker monitoring mobile app for caregivers of the elderly or patients with dementia.



功能和特徵 FUNCTIONS AND FEATURES

智愛寶是專為長者及其家人的定位及健康訊息監控而設計。備有全方位的室內外定位技術，減輕長者走失風險，讓長者能在人煙稠密的城市環境中輕鬆自由生活的同時，家人亦能輕易運用手機應用程式，照料摯愛，送上關心。

iBao is designed for the elderly and their families for location tracking and health information monitoring. With a full range of indoor and outdoor positioning technologies to reduce the risk of wandering, the elderly can enjoy outings in a densely populated urban environment. Family members can also use mobile app to take care of their beloved ones easily.

高準確度的室內、室外定位 High-accuracy indoor and outdoor positioning

通過3G + GPS + Wi-Fi定位技術提供實時高準確度室內和室外定位。照顧者可以隨時隨地使用移動應用程式了解和掌握長者行蹤。

It provides real time high-accuracy indoor and outdoor positioning via 3G + GPS + Wi-Fi positioning technologies. Caregivers can use the iBao mobile app to know the whereabouts of their elderly anytime and anywhere.

指定區域通知 Safety geo-fencing notification

當長者用戶不在預設的地理圍籬區域時，系統將通過移動應用程式通知照顧者。

When the elderly user is out of the preset geo-fencing zone, an alert notification will be sent out to the caregiver's mobile app.

單鍵呼援功能 Slide switch assistance notification

長者可使用單鍵呼援功能，通過移動應用程式通知照顧者。

When the elderly user slides a switch, an alert notification will be sent out to caregiver mobile app.

遙距響號 Remote buzzer

照顧者可以使用移動應用程式開啟追蹤器的蜂鳴器。

The caregiver can use the mobile app to turn on the tracker buzzer remotely for elderly user alertness.

智愛寶 iBao

功能和特徵 FUNCTIONS AND FEATURES

計步功能 Step counting

計步功能可以幫助照顧者了解長者的活動行為。
Step counting function allows the caregiver to know the elderly user activity behaviour.

指示燈 LED indicator

LED顯示追蹤器的電池和運行狀態。
LED indicates the tracker battery and operation status.

無線充電 Wireless charging

長者可以簡單地將追蹤器放在無線充電器上進行充電。
The elderly user can simply place the tracker onto the wireless charger for charging.

內置用戶識別NFC標籤Embedding NFC tag

可提供長者用戶的身份識別，以整合其他服務，例如：智健寶。
It provides elderly user identification for further services integration, such as eBao Health.

硬件 HARDWARE

智愛寶設計時尚簡約及體積輕巧，方便長者隨身攜帶。同時，電池可持續使用長達30小時以上，耐震及防灑水機身，讓長者安心使用。

The sleek and compact design of iBao makes it easy for the elderly to carry around. In addition, the battery can be used for more than 30 hours. The shock-resistant and sprinkling-proof body allow the elderly to use it with peace of mind.

至愛寶規格 IBAO TRACKER SPECIFICATION

位置追蹤技術：GPS + WiFi + LBS Location tracking technology: GPS + WiFi + LBS
3G雙頻UMTS / HSPA + 900 / 2100MHz 3G Dual-Band UMTS/HSPA+ 900/2100MHz
四頻GSM / GPRS / EDGE 850/900/1800 / 1900MHz Quad-Band GSM/GPRS/EDGE 850/900/1800/1900MHz
尺寸：70mm X 53mm X 17mm Dimension size: 70mm X 53mm X 17mm
可充電鋰聚合物電池，DC 3.7V，800mAh，2.96Wh（IEC 62133：2012，**第二版**） Rechargeable Li-polymer battery with DC 3.7V, 800mAh, 2.96Wh (IEC 62133: 2012, second Edition)
待機不少於30小時 Stand-by not less than 30 hours
Qi無線充電 Qi Wireless charging
重量：58**克** Weight: 58g
符合1米跌落測試 Fulfill 1 meter dropping testing
80kg負載壓力測試 80kg loading stress testing
防水IP55 Waterproof IP55

智愛寶 iBao

至愛寶規格 IBAO TRACKER SPECIFICATION

包含獨立的NFC標籤 Contains a stand-alone NFC tag
包含遙距響號功能 Contains a buzzer for alert
一鍵式滑動制協助通知照顧者 Slide switch for caregiver assistance notification
符合IEC60950認證 IEC60950 certification

無線充電器規格 WIRELESS CHARGER SPECIFICATION

具有IEC60950認證的DC 5V 1A（USB-C）變壓器 DC 5V 1A (USB-C) adapter with IEC60950 certification
Qi無線充電發射器 Qi Wireless charging transmitter
無線網絡作為接入點，不需互聯網連接 Wi-Fi module as access point, without internet connectivity
尺寸：84mm X 80mm X 18mm Dimension size: 84mm X 80mm X 18mm
重量：58克 Weight: 58g

通訊和介面功能 COMMUNICATION AND INTERFACE CAPABILITIES

3G

電源電壓 SUPPLY VOLTAGE

可充電鋰聚合物電池，DC 3.7V，800mAh，2.96Wh Rechargeable Li-polymer battery with DC 3.7V, 800mAh, 2.96Wh

軟件 SOFTWARE

支援操作系統 SUPPORTED OS
雲端追蹤器管理系統可在Amazon Web Services執行 Cloud based device management system is deployed under Amazon Web Services

兼容的移動平台 COMPATIBLE MOBILE PLATFORMS
兼容IOS和Android Both IOS and Android

Panasonic

電動輪椅護理床

Robotic Care Bed/ Wheelchair 「Resyone Plus」XPN-S10601HK

電動護理床輕鬆變身輪椅
Electric care bed easily transforms into a wheelchair

看護人員可以輕鬆及安全地將長者由護理床移動到輪椅，令行動不便的長者有基本的社交生活，提升生活質素。另外，由於操作輕易，可大量減輕看護人員工作負擔及移動長者時的風險，有效提升工作效率。

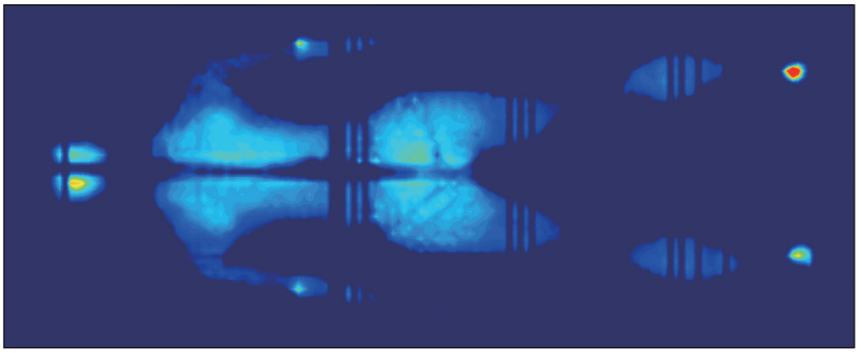
Caregivers can easily and safely to transfer the elderly from the care bed to the wheelchair, so that the elderly with mobility problems have a basic social life and enhance the quality of life. In addition, due to the ease of operation, it can greatly reduce the workload of care workers and the risk of transferring the elderly, and effectively improve the work efficiency.

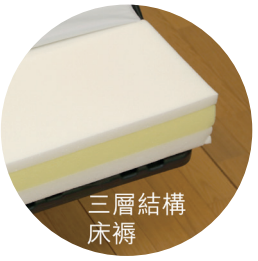
護理床的左右部份可分離
The left and right parts of the care bed can be separated

利用控制器自動調節輪椅
Automatically adjust the wheelchair with the controller

變為輪椅方便移動行走
Transfer to a wheelchair for easy to move

床褥由三層不同軟硬度的物料組成，具減壓及防褥瘡功能，更備有BS7177阻燃標準證書。
The mattress is composed of three layers of different hardness materials, with pressure relieve and bedsore prevention function. The mattress also comply with the BS7177 flame retardant standard certificate.





此外，首次安裝時，用家亦可選擇將輪椅安裝護理床的左或右方，以配合不同環境使用，居家安老就更輕鬆方便。
另外，Panasonic電動輪椅護理床亦是首部獲得ISO13482:2014證書的輪椅護理床，讓您使用時加倍安心。
In addition, when installing for the first time, the user can also choose to install the left or right side of the care bed/ wheelchair to suit different environments, making it easier to realize the concept of Aging in Place for the elderly.
Panasonic Robotic Care Bed/ wheelchair is the first care bed/ wheelchair obtained the ISO13482:2014 certificate, giving you peace of mind when you use.

Panasonic

電動輪椅護理床

Robotic Care Bed/ Wheelchair 「Resyone Plus」XPN-S10601HK

主要優點 Key Benefits

對於家居使用者 For families' users：

- **有更多機會離開護理床，增添人生樂趣**
  More opportunity to get out of bed and let the user have more fun in life
- **由於床可變成輪椅，因此無需轉移，倍感安心**
  As the bed can become a wheelchair, no more transfer and feel safe
- **由於使用者可享受更多人生樂趣，因此可減輕親友探訪時的壓力**
  As the user can enjoy more life experience, it will make the families feel relief during the visit

對於護理人員 For Caregivers：

- **只需一名護理人員便可完成轉移輔助，更可節省一半轉移時間**
  One caregiver can handle the transfer. Transfer time can be reduced to half
- **減輕對腰部的壓力，以及將擔心受傷及跌倒的心理負擔大幅減低約80%**
  Less burden on the waist and psychological burden on getting hurt and falling are reduced by approximately 80%
- **只需一套多功能的Resyone Plus，因此空間需求較少**
  Less space is required as a single unit is equipped with multi-functions

對於護理院舍經營者 For Facility operators：

- **轉移輔助效率的提升，令護理質素同樣得到提升**
  As the transfer assistance becomes more efficient, it contributes to the quality of caregiving.
- **減輕護理人員的身心負擔，減低流失率**
  Physical and psychological burden can be reduced and such may help caregivers stay at their jobs.
- **先進設備有助於吸納新護理人員入職，提升工作效率**
  Advance equipment may contribute to the recruitment of new caregivers and encourage more people to move into the facility

已列入「樂齡及康復創科應用基金」「認可科技應用產品」的參考清單