Mobile health care and safety care service system for seniors

B-K. CHUANG, C-R. HUANG, Y-Y. HUANG, F-L. HSIEH, J-Y. CHANG. ***Mobile health care and safety care service system for seniors***. *Gerontechnology 2014;13(2):192;* doi:10.4017/gt.2014.13.02.332.00 **Purpose** Modern Telecare devices such as the Personal Emergency Response system (PERs) unit can only be used inside. However, many accidents occurs outdoors as well. Most of the telehealth devices that measure vitals are not mobile[1]. This study aims to develop a system that combines health and safety functions in a device for seniors so that they can use it while away from home. **Method** This study integrates health and safety functions into a mobile phone. As shown in *Figure 1*, the proposed device and vital sign equipment are stored in a portable suitcase. Bluetooth technique is used to connect the mobile phone and physiological measurement equipment. An android 4.0's App has been developed and installed into mobile phone for operation. Normally, the independent mobile phone can be used in inside or outside (top of the figure). When connecting the mobile phone with vital sign equipment through Bluetooth, it becomes to a Telehealth device, so that it can be used to measure users' vital signs and transmit them to a remote service platform. The caregiver can reveal the information from service platform to provide service via the web interface (*Figure 1*, *bottom*). We thank the National Science Council of Taiwan for financially supporting this research NSC 100-2632-E-252-001-MY3. **Results & Discussion** Thirty sets of mobile phone were distributed in the Rona Community and a remote safety and health service platform was installed in Shown-Chung Hospital in Taiwan on February 1st, 2013. More than ten outdoor accidents have been resolved successfully and over 1,560 vital sign records have been stored in the system. The results indicate that the service system can provide more comprehensive care for the elderly at home and outside. When users press the 'SOS' button from mobile phone screen, their ID and GPS coordinates will be automatically sent to the remote response center.

Reference

1. Shadi A, Yan Y. Mobile health services for patients with chronic diseases: a systematic literature review, Bachelor Thesis Laurea University of Applied Sciences; 2013

Keywords: health & self-esteem, mobile health care, telecare, GPS, GPRS

Address: Nan-Kai University of Technology, Nan-tou, Taiwan; *E:* pulihuang@gmail.com

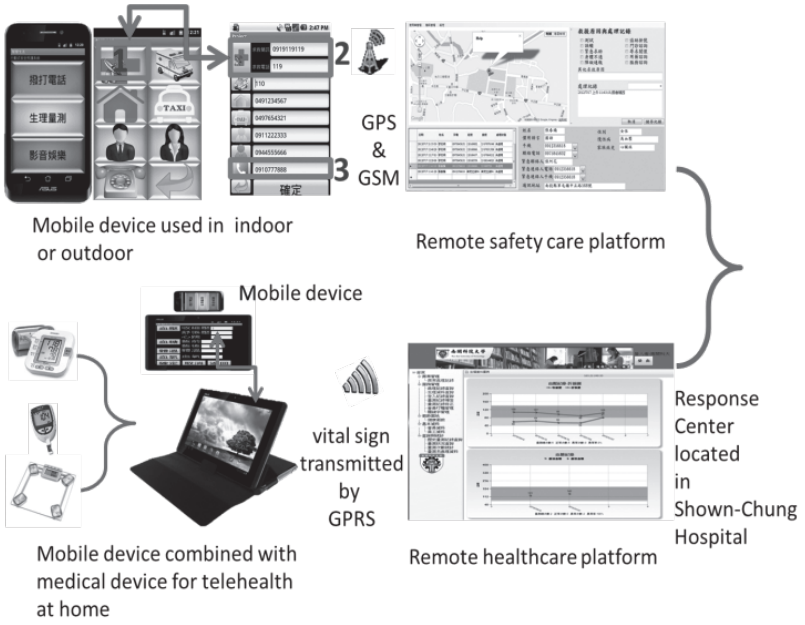

Figure 1. A mobile health care and safety care service system architecture for seniors