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SMART WIRELESS WIDE AREA NETWORKS FOR MOBILE HEALTH CARE WITH HIGH SECURITY

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This study proposes a smart wireless wide area network for mobile health care with high security. The connection system can be divided into two parts. (i) To protect personal safety, electrocardiogram (ECG) identification system (E-IDS) is proposed, which mainly aims to capture the user's ECG signal and extract the features from them to identify users through one-lead ECG measuring instrument. In the identification of personal identity, the system will also detect the heart rate of user, and provide the suggestion for the user's physiological activities and precautions. Furthermore, the ECG biometric authentication system can even pair the identity of smart watch and the identity of user together to make the system know the current identity of user. (ii) Smart wireless wide area network system (SW-WANS) enables internet-of-things (IoT) architecture to be implemented in mobile health care without relying on paid networks, and is suitable for outdoor installation when things are connected to the SW-WANS. In addition, it does not need to be paired such as a Bluetooth device; neither does it need complicated settings like Wi-Fi. With the designed sports watch, it also has the ability to detect the closest antenna to make the user know the relative position in a specific area, and heart rate data can also be uploaded at any time.

Biography

Chun Liang Lin has completed his graduation from the Department of Aeronautics and Astronautics, National Cheng Kung University, Taiwan. Presently he is working in the Department of Electrical Engineering at National Chung Hsing University with many years of teaching experience. He has submitted several journal articles which are not only related to electrical vehicle but also biomedical engineering. Nowadays, his research focuses on the application of the concept of IoT (Internet of Things) on health care.

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