

Ubiquitous Life People Informatics Engine (U-Life PIE): Wearable Health Promotion System

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Abstract : Since Google launched Google Glass in 2012, numbers of commercial wearable devices were released, such as smart belt, smart band, smart shoes, smart clothes ... etc. However, most of these devices perform as sensors to show the readings of measurements and few of them provide the interactive feedback to the user. Furthermore, these devices are single task devices which are not able to communicate with each other. In this paper a new health promotion system, Ubiquitous Life People Informatics Engine (U-Life PIE), will be presented. This engine consists of People Informatics Engine (PIE) and the interactive user interface. PIE collects all the data from the compatible devices, analyzes this data comprehensively and communicates between devices via various application programming interfaces. All the data and informations are stored on the PIE unit, therefore, the user is able to view the instant and historical data on their mobile devices any time. It also provides the real-time hands-free feedback and instructions through the user interface visually, acoustically and tactilely. These feedback and instructions suggest the user to adjust their posture or habits in order to avoid the physical injuries and prevent illness.

Keywords : machine learning, wearable devices, user interface, user experience, internet of things

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