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A Fuzzy Logic Based Health Assesment Platform

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Abstract : Radio Frequency Based Identification Systems have emerged as one of the possible valuable solutions that can be utilized in healthcare systems. Nowadays, RFID tags are available with built-in human vital signs sensors such as Body Temperature, Blood Pressure, Heart Rate, Blood Sugar level and Oxygen Saturation in Blood. This work proposes the design, implementation, and testing of an integrated mobile RFID-based health care system. The system consists of a wireless mobile vital signs data acquisition unit (RFID-DAQ) integrated with a fuzzy-logic–based software algorithm to monitor and assess patients conditions. The system is implemented and tested in 'Rashid Center for Diabetes and Research', Ajman, UAE. System testing results are compared with the Modified Early Warning System (MEWS) that is currently used in practice. We demonstrate that the proposed and implemented system exhibits an accuracy level that is comparable and sometimes better than the widely adopted MEWS system.

Keywords : healthcare, fuzzy logic, MEWS, RFID
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