Design and Implementation of Mobile Emergency Call Schemes Based on RFID for Patient Safety

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ABSTRACT
RFID is praised as one of the top ten technologies that will influence our life in the future. The application of RFID has been extended to many fields such as Logistics, Healthcare, transportation and production management, etc. Especially, in 2004 the rapid spread of SARS disease further promotes the application of RFID techniques. The best time to rescue a patient after accident is suggested to within 4 minutes. Accident that happened at corner such as a bathroom, balcony, elevator, and staircase are most dangerous to patients, and they must be saved within 4 minutes. Currently, the alarm system used in more hospital is electronic one which is located at some specific location in hospitals. However, accidents may not occur nearby the electronic alarm system, and therefore, patients who have an accident may not be found and saved within 4 minutes. The sixth item of 14 goals proposed by US JACHO in 2006 is to improve the effectiveness of clinical alarm system. i.e. it emphasizes the importance of clinical alarm system. In this thesis, we developed a mobile alarm system beads on the RFID technique. This proposed system can help patients send call-for-help message from RFID at any place within the hospital, and thus the administrator will receive an alarm message from the system to save the patient. The system is especially useful when patients are stay alone and encounter an accident. In summary, the mobile RFID-based alarm system can improve the quality of hospital services, and further minimize the medical malpractice by human being. This thesis finally also simulates the proposed patient alarm system to validate its feasibility and superiority.

Keywords : RFID ; Healthcare quality ; Patient alarm system ; Mobility

Table of Contents

第一章 緒論 1
1.1 研究背景與動機 1
1.2 研究目的 4
1.3 研究流程 5
1.4 研究範圍與限制 7
1.5 論文架構 7

第二章 文獻探討 10
2.1 RFID的背景 10
2.2 RFID在醫療環境上的應用 14
2.3 目前醫療環境的緊急呼叫機制 15
2.3.1 廣播對講系統 15
2.3.1 無線呼叫系統 16
2.3.3 思科醫療臨床連線解決方案 18
2.4 比較分析 19

第三章 可移動式病人緊急呼叫機制 21
3.1 系統流程 21
3.2 通訊協定格式 24
3.2.1. 命令格式 24
3.2.2. 回應訊息格式 25
3.3 可移動式病人緊急呼叫機制之設計 26
3.3.1. RFID標籤 26
3.3.2. 訊息過濾機制 27
3.3.3. 警報系統 28
3.3.4. 資料庫 30

第四章 系統模擬與實作 32
4.1 RFID標籤 32
4.2 警報系統 33

第五章 機制分析與比較 45

第六章 結論與未來發展方向 48

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