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Management of Medical Equipment for Prevention of Accidents – 13.56MHz RFID System

Matsuda Atsuko^{1,3} Shindo Akiko¹, Marukami Terutaka¹, Tani Shoko¹, Fujimaru Kenichi²,
Nakao Toshinari², Miyamoto Masaki³, Horio Hiroyuki¹, and Inada Hiroshi¹

¹ Graduate School of Applied Informatics, University of Hyogo, ² C. A. N. System Co., LTD,

³Department of Medical Informatics, Hyogo College of Medicine

aa04m407@ai.u-hyogo.ac.jp

Medical equipment is essential for present medical services. It is important and indispensable for prevention of medical accidents to manage medical equipments for maintenance and inspection. That is, adequate management of the equipment ensures not only security but also accurate diagnosis and treatment for patients.

Clinical engineers (CEs) have engaged in the medical equipment management in Japan. Usually, they manage various medical equipments manually. Centralized management and application of information techniques to it is scarcely conducted.

Therefore, we tried to construct a safety management system of medical equipments by using an RFID tag and a PDA, which can support management of maintenance, inspection and alibi of equipments. Merits of an RFID tag are that it is possible for an RFID tag to obtain information of plural targets without contact, and to rewrite and add information.

In the developed system, unified management is adopted, in which function of order, lending, return, inspection and control is possessed. As an RFID tag, we used the one corresponding metals, the frequency band of which is 13.56MHz for the system. The frequency band is different from the band used for wireless LAN utilized in the hospital and considered to be suitable for the system. A database of medical equipments is made in order to grasp the states of equipment operation.

We constructed a small-sized system and tried to conduct an experiment for confirmation of its utility. As a result, it is suggested that the developed system in the present study is useful for safety management of medical equipments.

Furthermore, security and reliability of signal reading of an RFID should be examined to construct the practical system.

Keywords : Safety Management of Medical Equipments, Prevention of Medical Accidents,
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