Distributed RFID Multi-Agent System for Healthcare Hospitals

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Abstract. Dependence is a permanent situation in which a person needs important assistance from others in order to perform basic daily life activities such as essential mobility, object and people recognition so there is growing need to supply constant care and support to the disabled and elderly patients.Cao et al. (2011a) Hospital today are under increasing pressure to increase the quality and efficiency of patient identification and monitoring procedures. Hospitals across the country face the same reoccurring problem: tracking and effectively managing high volumes of medical devices. Inevitably, the complexity of these issues often compromises efficiency, safety, and patient care and risk management Su and Shih (2011), Cao et al. (2009) It is necessary to develop intuitive systems with some degree of intelligence, with the ability to recognize and respond to the needs of individuals in a discrete and often invisible way. Intelligence proposing new ways of interaction between people and technology, adapting them to the needs of individuals and their environment offers a great potential to improve quality of life and simplify the use of technology by offering a wider range of personalized services and providing users with easier and more efficient ways to communicate and interact with other people and systems This paper proposes an RFID distributed based system that integrates RFID and multi-agent technologies in health care in order to make patient emergency care as efficient and risk-free as possible, by providing doctors with as much information about a patient as quickly as possible. It is aimed to enhance assistance for patients in healthcare environment by reducing risks.

1 Introduction

There is an alarming statistic from an international healthcare organization show that a huge number of people died in hospitals each year as a result of preventable medical errors. In addition, one third of personnel time is wasted in searching for medical equipment and patient files. Our distributed RFID multi-agent system is designed for the tracking, management and control patients in healthcare environment, improving patient' safety, eliminating or reducing