

PROJECTS FOR SERVICE MANAGEMENT COURSE

RFID, Tracking and Barcoding for Hospitals: Innovative Solutions for Reducing Medical Errors, Increasing Patient Safety and Improving Processes.

We are heading towards what can be termed a “ubiquitous network society”, one in which networks and networked devices are omnipresent. Early forms of ubiquitous information and communication networks are already visible in the widespread use of mobile phones today: there were over 1.8 billion mobile phones in circulation by the end of 2004, and the number is set to surpass 2 billion by the end of 2005. Mobile data applications such as SMS, i-mode and Vodafone Live! have brought Internet-like services to the pockets of many mobile phone users. But what if much more was connected to a network: a fridge, a car, a cup of tea? The next logical step in this technological revolution (connecting people anytime, anywhere) is to connect inanimate objects into a communication network. This is the vision underlying the Internet of things. The use of electronic tags (e.g. RFID) and sensors will serve to extend the communication and monitoring potential of the network of networks, as will the introduction of computing power in everyday items such as razors, shoes and packaging. Advances in nanotechnology (i.e. manipulation of matter at the molecular level) will serve to further accelerate these developments.

1. Using Barcode Point-of-Care (BPOC) Data as a Foundation for Changing Practice and Process

It is a fact that medication errors cause an estimated 7,000 deaths each year and cost the nation two billion dollars. The majority of medication errors that actually reach a hospitalized patient occur when nurses incorrectly administer a dose of medication at the patient’s bedside. Information technology holds the potential to reduce medication errors, the most common type of medical error made in hospitals today.

Implement a bar-code solution for blood transfusions. The BPOC system should significantly enhance the ability to capture valuable data related to medication administration and compliance to established medication/transfusion administration processes.

2. Applying RFID Technology within the Emergency Department

For hospitals and other patient care facilities, keeping facilities efficient, effective and safe are daily challenges. One problem faced by patient care facilities is to provide security for patients at risk of elopement in the Emergency Department while maintaining patient dignity and privacy. There can be serious consequences to patients and hospitals in the event of a patient elopement. This situation has led many hospitals to continuously watch all of the patients they suspect are at risk of elopement which is not cost effective and difficult to achieve with limited personnel resources.

Design a system using RF banding which will free the personnel to perform other functions, while increasing the overall environment of safety, promoting patient dignity and privacy. The system should provide maximum security in a non-judgmental manner, offering patients the highest levels of respect, dignity, care and compassion. Minimize risk by allowing the staff to more easily manage and track patients under their care

3. *Using an RF System to Identify Patients and Improve Clinical Workflow in an Acute Care Hospital Setting*

Design an RF system to identify patients and improve clinical workflow. Upon admission, patients are fitted with an RF identification bracelet which contains identifying information. Using a wireless tablet with an RF receiver care givers are able to access current clinical information from an electronic medical record, administer medication, and complete documentation is one streamlined process

Individual Information Form

Name: _____
Major/Minor Degree(s) Sought _____

Educational Background:

Degree(s) Completed

Major: _____	Date Received _____
Major: _____	Date Received _____
Major: _____	Date Received _____

Work Experience: (Employer, Job Function)

Project Preference (Number your preferences from 1 to 3 where 1 = most preferred)

- ____ Barcode Point of Care
- ____ RFID in the Emergency Department
- ____ Patient Identification and Clinical Workflow Improvement

Team Member Preferences (if any):