Introduction to the Minitrack
IT Architectures and Implementations in Healthcare Environments

Radmila Juric
University of South East
Norway
rju@usn.no

Karen Stendal
University of South East
Norway
karen.stendal@usn.no

Sag Suh
Texas A&M University,
Commerece
Sang.Suh@tamuc.edu

In this minitrack we accepted six diverse papers which show a variety of implementations of information technologies in healthcare.

The paper entitled "Process Innovation with Lightweight IT at an Emergency Unit", illustrates the implementation of a lightweight IT support process innovation within an e-health information infrastructure, at a primary care emergency service in Oslo, Norway. The authors demonstrate the role of lightweight technology in improving logistics and message interaction within and between health units. They suggest a "bypassing strategy" where a new layer of technology is built separately from the existing infrastructure in order to effectively address process innovation efforts.

The paper entitled "A Workaround of EHR–A logistics Reporting System Development" illustrates the application of business process management for developing logistics and reporting system for laboratories, which service hospitals, medical centres, and physicians' offices in the southern area of the United States. They also aim to improve web-based logistics and reporting system while maintaining HIPAA compliant controls.

In the paper entitled "Improving Perioperative Data Integrity and Quality via Electronic Medical Record Reconciliation" the authors illustrate the implementation of a study which investigates data integrity and quality within the perioperative process via embedded quality control check (QCC) rules. Their business process management framework supports patient care documentation, performance reporting, patient billing, data analysis, and regulatory agency audits. This is a 166-month longitudinal study of a large 1,157 registered-bed academic medical centre, and therefore provides theoretical and practical implications and/or limitations of its results.

The authors of the paper entitled "Exploring Multi-Modal Communication Approach for Young Children with Spinal Muscular Atrophy (SMA)" illustrate the development and implementation of a multi-modal communication approach for children affected by SMA. They focus on a light-weight/ wireless microcontroller for processing electric signals from sensors and switches. The usability of various input devices are tested though an interactive game and a three-phase pilot study.

The authors of the paper "Assessing the impact of Physicians' Virtual Communities on their medical Decision Making quality" assess the effect of physicians' virtual community (VC) on the quality of their medical decision making. The participation of VC members is enabled through the application of the Social Capital Theory's three dimensions, which assess the effectiveness of physicians' VC. The proposed model was empirically tested using an adapted survey for which data was collected from 204 SurveyMonkey VC physician members.

The last paper entitled "Software Architectures for Smart Applications in the Management of Chronic Diseases: A Study of Reversibility of Diabetes 2" illustrates the development of a software architectural model and its deployment in the domain of the personalised management of this chronic and metabolic disease. The implementation shows the synergy between patient medical records, their glucose readings and advice on the type of food which could be consumed in order to address the reversibility of the disease.

HICSS