

## LIS4930: HEALTH INFORMATION TECHNOLOGY PROJECT OUTLINE

Emily Rosenthal – Jachima Taino – Kris Suchdeve – Shawn Reiss – Alex Rosete – Andrew Parks – David Kuder

---

**Topic:** Healthcare Applications of Auto-identification

**Project Overview:** Information Technology has created radical new opportunities in healthcare. Improved patient care, increased quality and safety, and finding new ways to improve efficiency and reduce costs are common goals throughout healthcare. Research in the area of Health Information Technology (HIT) has produced numerous ways in which technology can be implemented into the healthcare field to achieve those goals. One technology, whose application in healthcare is still in its infancy, but has caused some significant excitement within the healthcare industry, is auto-identification technology. Auto-identification technology is a broad term used to describe technologies such as EHR embedded technology, Radio Frequency Identification (RFID), barcode technology, biometrics, and health/smart cards.

---

- I. OVERVIEW OF PROJECT SCOPE AND OBJECTIVES
  
- II. INTRODUCTION: AUTO-IDENTIFICATION TECHNOLOGY
  - A. WHAT IS AUTO-IDENTIFICATION TECHNOLOGY?
  - B. TYPES OF AUTO-IDENTIFICATION TECHNOLOGY
  - C. CURRENT USES OF AUTO-IDENTIFICATION TECHNOLOGY (ACROSS INDUSTRIES)
  
- III. EHR EMBEDDED TECHNOLOGY
  - A. WHAT IS EHR EMBEDDED TECHNOLOGY
  - B. TYPES OF EHR EMBEDDED TECHNOLOGY
  
- IV. RADIO FREQUENCY IDENTIFICATION (RFID):
  - A. DEFINITION: RFID
  - B. ADVANTAGES OF RFID IN HEALTHCARE
  - C. TYPES OF RFID
    - 1. *PASSIVE RFID*
    - 2. *ACTIVE RFID*

D. HEALTHCARE APPLICATIONS OF RFID

1. *TAGGING NEWBORNS*
2. *PATIENT IDENTIFICATION*
3. *EQUIPMENT TRACKING*

E. POTENTIAL PROBLEMS WITH RFID

V. BARCODE TECHNOLOGY

A. DEFINITION: BARCODE TECHNOLOGY

B. ADVANTAGES OF BARCODE TECHNOLOGY

C. THE HEALTHCARE INDUSTRY BARCODE (HIBC) STANDARD

D. HEALTHCARE APPLICATIONS OF BARCODE TECHNOLOGY

1. *PATIENT IDENTIFICATION*
2. *POINT-OF-CARE LABELING*
3. *BLOOD PRODUCT ADMINISTRATION*
4. *MEDICATION ADMINISTRATION*

E. POTENTIAL PROBLEMS WITH BARCODE TECHNOLOGY

VI. BIOMETRICS

A. DEFINITION: BIOMETRICS

B. ADVANTAGES OF BIOMETRICS IN HEALTHCARE

C. TYPES OF BIOMETRICS

1. *FINGERPRINT SCANNING*
2. *RETINAL SCANNING*
3. *FACIAL GEOMETRY*
4. *HANDPRINTS*
5. *DYNAMIC SIGNATURES*

D. HEALTHCARE APPLICATIONS OF BIOMETRICS

1. *STAFF MANAGEMENT*
2. *DATA SECURITY*

VII. HEALTH CARDS/SMART CARDS

- A. DEFINITION: HEALTH CARDS
- B. DEFINITION: SMART CARDS
- C. ADVANTAGES OF HEALTH CARDS/SMART CARDS IN HEALTHCARE
- D. HEALTHCARE APPLICATIONS OF HEALTH CARDS/SMART CARDS
  - 1. *HEALTH INFORMATION ACCESS CONTROL*
  - 2. *MEDICAL ALERTS*
- E. POTENTIAL CONCERNS WITH HEALTH CARDS/SMART CARDS

VIII. OVERALL BENEFITS OF AUTO-IDENTIFICATION IN HEALTHCARE

- A. ERROR REDUCTION
- B. REDUCE CASES OF HEALTHCARE BENEFITS THEFT
- C. IMPROVED QUALITY OF HEALTHCARE
- D. INCREASED EFFICIENCY
- E. INCREASED SECURITY
- F. COST REDUCTION
  - 1. *INVENTORY CONTROL*
  - 2. *STAFF TIME MANAGEMENT*

IX. POTENTIAL DISADVANTAGES OF AUTO-IDENTIFICATION IN HEALTHCARE

- A. SECURITY ISSUES

X. COSTS

- A. INTEGRATION
- B. IMPLEMENTATION
- C. HARDWARE & SOFTWARE COSTS
- D. TRAINING COSTS
- E. SUPPORT & MAINTENANCE COSTS

XI. CONCLUSION