HST.921 HST.922 HST.923 HST.924

Information Technology in the Healthcare System of the Future

Spring 2009

Steven Locke, MD
Course Director

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Bryan Bergeron, MD
Daniel Sands, MD, MPH
Assistant Directors

Agenda

- Welcome and Introductions
- Course Mission Statement
- Course Overview
  - Faculty, Students, and Sponsors
  - Lectures
  - Tutorials
  - Practicum – Projects and Final presentations
- FAQs
  - Registration & Credit
- Q&A

Mission Statement

The mission of this course is to empower students to critically analyze a current -- *or future* -- problem in health care, and working in teams, develop a novel solution using information technologies.

Course Overview

Course Faculty

Steven Locke, MD

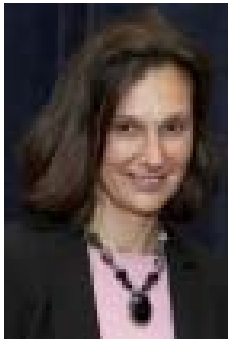
Associate Professor of Psychiatry, HMS;
Associate Professor of Health Sciences and Technology, MIT

Bryan Bergeron, MD

President
Archetype Technologies
Assistant Professor of Health Sciences and Technology, MIT

Mirena Bagur

CONTeXO Consulting



Daniel Sands, MD, MPH

Director of Medical Informatics, Cisco
Assistant Professor of Medicine, HMS

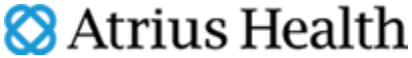
Teaching Assistant:

Julie Hermann, MS/MBA Candidate
Harvard-MIT Biomedical Enterprise Program

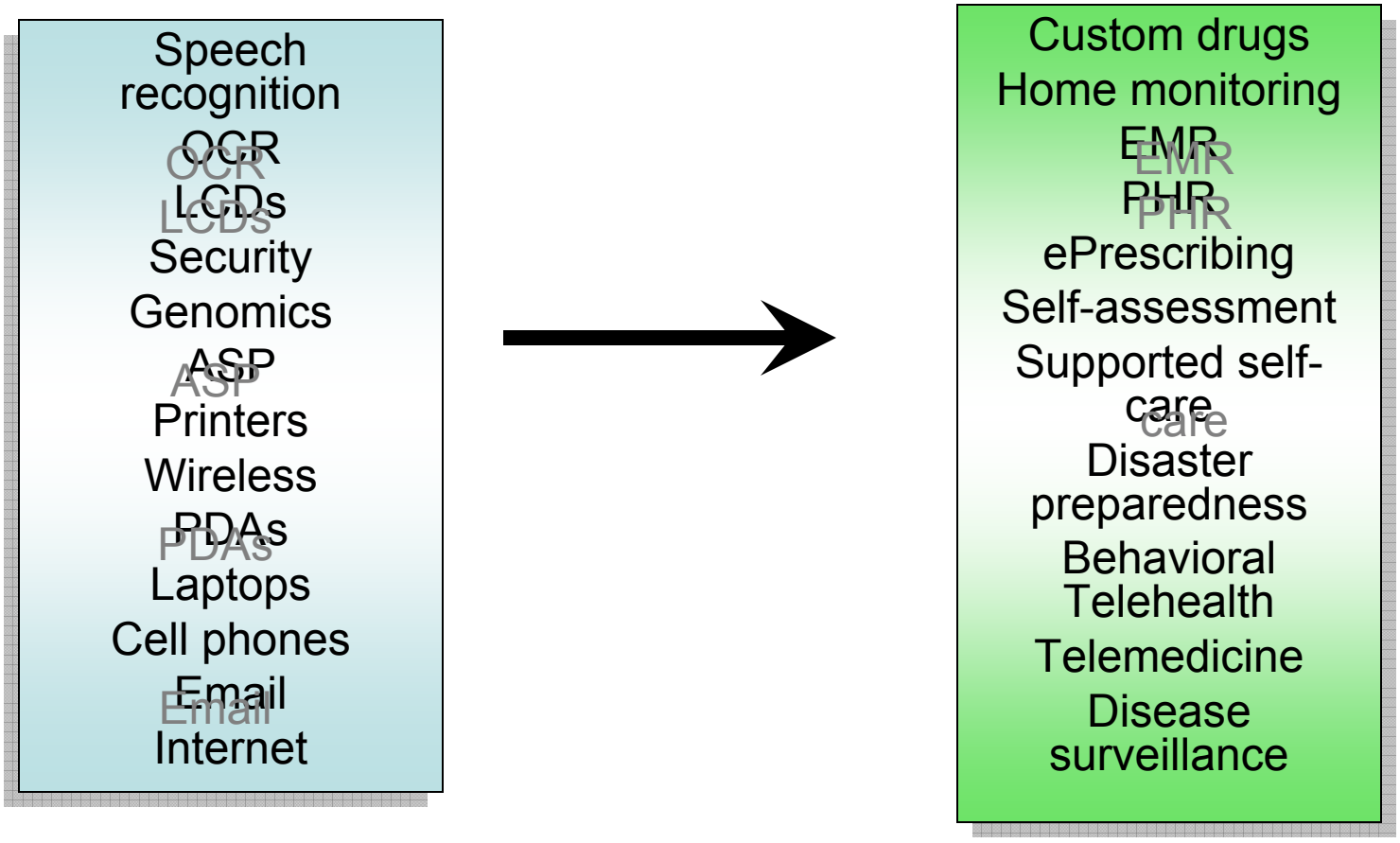
Industry Mentors

- Winfried A. Burke,
  - Managing Partner, CONTeXO
- Francis X. Campion, MD
  - Director of Provider Programs for Outcome, Inc., Cambridge, MA
  - Director for the Complex Chronic Care Disease Management Program at Harvard Vanguard Medical Associates
- Sherri Dorfman
  - Founder, Stepping Stone Partners
- Mark Hauser, MD
  - OnSite Psychiatric Services
- Gary Hirsch, SM
  - Consultant, Creator of Learning Environments
- Frank Schwichtenberg
  - Senior Technologist, IBM Internet Technology Group

Industry Partners 2009

Corporate Partners	   
Other Participating Organizations	• Archetype Technologies, Inc. • Division of Clinical Computing, Beth Israel Deaconess Medical Center • Veritas Health Solutions LLC • Center for Medical Simulation • CONTeXO Consulting

Technology-driven Healthcare



Guest Lecturers

Eugene Hill, MBA

Senior Partner, Schroeder Life Sciences

Karen Bell, MD, MMS

Senior VP, Healthcare IT Services, Masspro

John Glaser, PhD

CIO, Partners Healthcare

Expert Panelists

• Chris Carter	SVP, Internet Innovation, Healthways
• Lynne Dunbrack	Health Industry Insights
• Joshua Feast	CEO, Cogito Health
• Judith Frampton RN, MBA	VP, Harvard Pilgrim Health Care
• Al Lewis JD	Founding President, DMAA
• Afsana Akhter Meng	Director, Business Development, Medullan
• Ben Williams	CEO, Firefly
• Craig Schneider PhD	Mass Health Data Consortium
• Barry Zallen MD	Medical Director, BCBS MA
• Larry Nathanson MD	Beth Israel Deaconess Medical Center
• David Ahern PhD	Robert Wood Johnson Foundation

Projects & Final Presentation

Group Design Projects

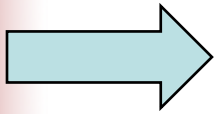
- Student driven
- Corporate partner driven
- Multidisciplinary teams
- Tracks
  - Design, Business, Marketing, Trials
- Class exercises (design, elevator pitch)
- Group final presentations and paper

Common Elements

1. Objective of the group project
2. Proposed product or service solution
3. Industry summary
4. Analysis
    - Problems with current solutions
    - Competitive analysis
    - Porter model
    - Evaluation of macro-industry forces
    - Micro-stakeholder analysis
5. Interaction diagrams
6. Reflection on cost, quality, and access

Project Track Selection

- Track 1: Marketing Analysis
- Track 2: Business Plan
- Track 3: Product Design Plan
- Track 4: Clinical Trial/Product Evaluation



Each team chooses two out of four

Market Analysis and Plan

1. Market Background
2. Future Directions of Market
3. Market Size/Forecast
4. Customers/Customer Segmentation
5. Target Market Segments
6. Product Description
7. Pricing
8. Promotion
9. Sales and Distribution Strategy

Business Plan

1. Partnering
2. Staffing Plans
3. Advisory Board
4. Risk Management (analysis of specific risks and address various scenarios)
5. Financial Projections and Resources Required
6. Near Term Milestones and Expenses
7. Long Term Projections

Product Design

The Product

1. Product Definition and Goals
2. Product Requirements/Specifications
3. Expected Product Lifecycle
4. Product Add-ons, Third Party Tool Sets
5. Follow-on Products

User Profile

1. Job Description
2. User Skills, Knowledge and Education
3. Work Style
4. Concerns
5. Wants
6. Requirements
7. Work Environment

Clinical Trial

1. Rationale
2. Objectives
3. Study design and hypotheses
4. Participants
5. Intervention
6. Primary and secondary endpoints
7. Sample size (optional)
8. Anticipate time frame for study completion
9. Data collection; sub-protocols, intervals, encounters, events
10. Analysis

Sample Student Projects

1999-2008

- J&J - Empowering Consumers and Physicians via Consumer-led Social Media Networks
- Healthways - Improving Physician Engagement Through Technology
- Playdiatrix™ - Serious Games for the Improvement Of Pediatric Care
- Venture Capital Investment in Cancer Diagnostics Technologies
- Careplace - Online Health Consumer Empowerment, Advocacy, and Support
- Technology Opportunities in Healthcare for the Baby Boomer Generation
- Computer-Assisted Disease Management to Improve Outcomes in Diabetic Patients

Sample Projects (more)

- Clinical Outcomes and Profitability of a New Infusion Pump Technology System
- Patient Express™ - An Internet Service for Personal Management of Medical Images
- Caregroup PatientSite – Web-based Interactive Electronic Medical Record
- GlucoGPS: Product Design and Marketing Strategy
- Analysis of Information Technology Applied to Clinical Trials
- D-Tree: Medical Diagnosis Software for Palmtops
- Fast Infectious Disease Observation System (FIDO) for Syndromic Surveillance

FAQ's

- Course auditing
- Project selection
- Required readings
- Required paper
- School-specific credit
- Work load
- Attendance
- Professional standards

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