Agenda

- Welcome and introductions
- Mission statement
- Students
- Faculty
- Lecture topics
- Tutorial sessions
- Practicum – Projects
- Final presentations
- Papers
The mission of this course is to empower students to critically analyze a current \textit{or} future problem in health care, and working in teams, to develop a novel solution using information technologies.
## Students

<table>
<thead>
<tr>
<th>Harvard</th>
<th>MIT</th>
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<tr>
<td>◆ HMS</td>
<td>◆ HST</td>
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<td>◆ Media Lab</td>
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<td>◆ Sloan School</td>
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<td>◆ HLS</td>
<td>◆ Affiliated hospitals</td>
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Faculty

- Steven Locke, MD (HST)
- Bryan Bergeron, MD (MGH & MLC)
- Jeffrey Blander, M.S. (Ardais & HSPH)
- Daniel Sands, MD (BIDMC)
EMR Technology

Custom Drugs

Home Monitoring

Speech recognition

DNA Mapping

ePrescribing

EMR

OCR

LCDs

Security

ASP

Printers

Wireless

PDAs

Email

WEB

Cable Modems

Laptops

Cell Phones

Technology
Perception vs. Reality

in the headiest days of the internet bubble, did Wall Street betray the public's trust?
dot con
Venture Capital Deal Flow

Business Plans Received

Projects Evaluated

Projects Funded
Many of our economy’s greatest companies began as disruptive innovators

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<tr>
<th>Company</th>
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<td>Nucor</td>
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Source: Christensen CM.
Computer-assisted care

- Interactive informed consent
- Computer-based self assessment tools
- Evidence-based decision support tools
- Guideline-driven treatment algorithms
- Multimedia patient education at time of diagnosis
- Home-based monitoring of treatment response
- Home-based monitoring of side effects
- Patient-clinician e-mail
Computer-assisted care 2

- Computer-assisted self-help Rx via IVR
- Graphic reports to case managers and PCPs
- Automated alerts for adverse events
- Automated alerts for suicide risk
- Automated pharmacy reports
- Interactive patient education
- Tailored, patient education materials
- Interactive advanced directives
Lecturers

Bryan Bergeron (MGH, KTI)

*The Black e-Bag*
Lecturers

John Glaser (Partners)

*The Future of Healthcare Enterprise Computing*
Lecturers

Daniel Sands (CareGroup)

The Future of the EPR and the e-Empowered Patient
Lecturers

Keith Strier (CGEY)

Innovation and the Power of Disruptive Technology
Lecturers

John Halamka (CareGroup, HMS)

The Future of Academic Computing in Health Care
Lecturers

Eugene Hill (Schroeder Ventures)

The Future of Healthcare IT Ventures
Lecturers

Isaac Kohane (CHMC)

*The Future of Genomics and Informatics*
Lecturers

Jeffrey Blander (Ardais, HSPH)

Challenges in Implementing Bioinformatics

Solutions
Lecturers

Kenneth Mandl (CHMC)

The Future of Biodefense and IT
Lecturers

Steven Locke (HST, BIDMC)

The Future of Disease Management
May 8, 15

Final Student Project Presentations

– Faculty
– Invited Guests

Reception to follow on the 15th
March 13

Field trips (3:30 to 6:00)

(To be arranged)

Previous years:
- Simulation laboratory at HMS (Locke)
- Shapiro Institute (Sands)
- Suggestions?

(Spring break for HMS)
March 20  (Spring break)

No class
Assignments

- Week 2: Project Proposals Due
- Week 3: Project Selections Due
- Week 5: Stakeholder Analysis Due
- Week 8: Event Diagram and Porter Analysis Due
- Week 10: Project Track Review Presentations
- Week 13 and 14: Final Presentations
- Final Papers Due Monday May 19th
Group Design Projects

- Student, faculty or corporate sponsor driven
- Common elements for each project
- Track selection
- Group final presentations and paper
Common Elements

1. Objective of the group project
2. Proposed product or service solution
3. Industry summary
4. Competitive analysis; Porter model; evaluation of macro-industry forces; barriers to entry
5. Micro-stakeholder analysis
6. Universal problems with current solutions
7. Interaction diagrams existing vs. new proposed solution
8. Reflection on cost, quality, and access
Project Track Selection

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

Each team chooses two our of four
Example Projects

- Kurzweil technologies, Inc.: Creating a Web Presence for Specialty Practices
- Institute of Cybermedicine/ABCD/HSPH: Development of Virtual Social Support Communities
- Institute of Cybermedicine: On line delivery of programs for parenting and/or child abuse
- MGH Anesthesia: Web-Based Specialty-Specific Residency Clearing House
- Pfizer Health Solutions: Web-enabling a mind/body program to manage high utilizing somatizing patients
Example Projects

- Johnson and Johnson: **Breast Center manager**  
  **Market Research/Roll-out in Europe**

- Radiology.com Patientexpress(TM): - **An internet service for personal management (storage & access) of medical images**

- Harvard Vanguard Medical Associates: **Techniques for Decreasing Medication Morbidity in the Patient with Sensory or Cognitive Impairments**

- Emerald Solutions/IOC: **Development of Strategy for a Secure Clinical Web Environment**
Handouts and Website

- Syllabus
  - Lecture topics and readings
  - Tutorial topics, readings and assignments
  - Mostly online

- Group design project tracks

- Website: http://web.mit.edu/hst.921/www
# Registration and Credits

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<th></th>
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Registration for HST 921 and 923 is completed through Harvard. Registration for HST 922 and 924 is completed through MIT.
FAQ’s

- Office hours
- Required readings
- Required paper
- Project selection
- Work load
- Attendance
- How can you help?