Wisdom is not the product of schooling but the lifelong attempt to acquire it.
- Albert Einstein

Digital and Social Systems Foundations

Gerhard Fischer and Hal Eden
Fall Semester 2008

Introduction and Overview of Course, Aug 27, 2008
Course Structure

- lectures
- guest lectures
- demonstration of existing major prototype systems
- readings
  - textbook
  - additional paper
- small assignments
- independent research project by groups of students
Educational Approach

I hear...I forget.
I see...I remember.
I do...I understand.
Expectations about Involvement of Students

- active participation → presence in class
- readings and small assignments
- independent research
- create a community: (peer-to-peer learning, website)
Course Information Environment

- a Wiki at: http://ngw.cs.colorado.edu/xwiki/bin/view/DSSF2008/

- all course work (lecture notes, assignments, questionnaire) will be distributed, documented, and shared via the Wiki
Course Activities

- **active and meaningful participation in class** — this will be measured primarily by the quality of the contributions, not by the quantity (obviously zero quantity does not indicate any quality), by interesting, unsolicited contributions of relevance to the class, and by answers to small assignments.

- **assignments** — to encourage and motivate the students to inform themselves in order to act as active participants during class meetings, assignments will be given and the answers to these assignments will be deposited in the course information environment.

- **independent research project** (including written reports and presentation in class) — students will be required to engage in independent research (such as: studying a set of articles or a book, doing empirical analysis about specific digital and social systems, contributing to sites with user-generated content, design or evolving some system).
Grading Policy and Weight distribution

- Assignments 30%
- Involvement in Course Environment and Class 30%
- Independent Research Project 30%
- self-assessment (which will be honored “as is”) 10%
- there will be no final exam!
Self-Application: A “New Culture” for this Course

- “symmetry of ignorance” — stakeholders are aware that while they each possess relevant knowledge, none of them has all the relevant knowledge

- teacher, learner = f{person} → teacher, learner = f{context}

- the knowledge for (re)solving complex, real-world problems does not exist a priori, but is generated through collaboration among stakeholders
Passion for Learning — Beyond Tests

Commentary • Open Forum

Tuesday, May 2, 2000

If Mozart and Michelangelo were students in today's American schools...

"Wolfgang! Mike! Stop wasting time! You should be doing practice drills for the state exams!!"
Digital and Social Systems Faculty in CS at CU Boulder

- Health Informatics — Katie Siek
- Craft Technologies — Mike Eisenberg
- Games and Learning — Clayton Lewis
- Disaster Informatics — Leysia Palen
- Digital Libraries — Tamara Sumner
- Agentsheets and Agentcubes — Alexander Repenning
- Silence of the Lands — Elisa Giaccardi

New media for learning, working, and collaboration — Gerhard Fischer

→ details: CSCI 4412 &CSCI-5412: “Design, Creativity and New Media”
Digital and Social Systems at CU Boulder

- the Department of Computer Science
  - http://www.cs.colorado.edu/
  - exploring socio-technical systems

- the Institute of Cognitive Science
  - http://psych-www.colorado.edu/ics/
  - a community of interest bringing together psychology, computer science, linguistics, philosophy, neuroscience, ……

- the Alliance for Technology, Learning, and Society
  - http://www.colorado.edu/ATLAS/
  - new innovative collaborations and learning opportunities between the arts, humanities, science, and engineering and supported by new media
Digital and Social Systems at CU Boulder — Continued

- **the Integrated Teaching and Learning Laboratory**
  - [http://itll.colorado.edu/ITLL/](http://itll.colorado.edu/ITLL/)
  - a multidisciplinary learning environment that integrates engineering theory with practice and promotes creative, team-oriented problem-solving skills

- **the Discovery Learning Initiative and Center**
  - [http://discoverylearning.colorado.edu/](http://discoverylearning.colorado.edu/)
  - a collaborative, technology enhanced environment promoting horizontal and vertical integration

- **the College of Architecture and Planning**
  - [http://www.colorado.edu/catalog/catalog08-09/architecture/](http://www.colorado.edu/catalog/catalog08-09/architecture/)
  - mutual dependencies between physical and social structures
CLever: Cognitive Levers — Helping People Help Themselves

- supported by the Coleman Institute  (2000 – present)

- projects:
  - Mobility-for-All: human-centered public transportation systems of the future
  - Smart Care: supporting people to live independently
  - SketchUp and Autism: in collaboration with Google

- more information: http://l3d.cs.colorado.edu/clever/index.html
Selected CLever Projects

- **Web2gether: Online Community Environment** — supporting the members of a community (not only information management)

- **TEA: The Evaluation Assistant** — matching the needs of individuals to specific technologies

- **MAPS: Memory Aiding Prompting Systems** — creating new “knowledge” (scripts) by end-users who have no interest or technical knowledge

- **Mobility-for-All: Human Centered Public Transportation Systems** — from “anywhere, anytime, anyone” ⇒ right information, right person, right time, right way (exploiting the power of ubiquitous, wireless technologies)

- **Lifeline: Remote Monitoring** — reuse of the technological infrastructure for a different purpose
The Story Shown on the Videotape

- **specific**: a woman with cognitive disabilities (memory problems, no capacity for planning and remembering) and her mother

- **general**: the scenario shows socio-technical environments to help people with
  - cognitive disabilities
  - elderly people (e.g., with Alzheimer)
  - out-of-town visitors
  - foreigners
  - everyone

- **many people can not use current public transportation systems**

- **innovative technologies to “simplify” their use**
  - personal device such as personal digital assistants (PDAs),
  - mobile phones,
  - global positioning systems (GPS),
  - web-based collaboration tools