

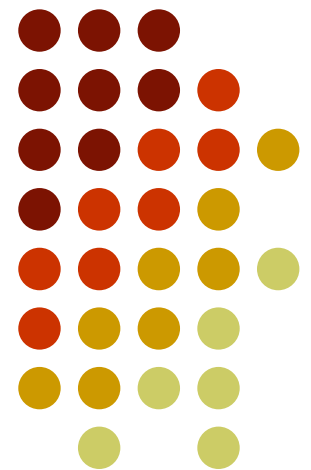
Opening Up Technological Education: The Perspective from Social Informatics

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Social Informatics



- The interdisciplinary study of the
 - Design
 - Use
 - Consequences

of **information technologies** that take into account their **interaction** with
institutional and
cultural contexts

Rob Kling (2000)

Social informatics



- contextual questions such as
 - When
 - Under what conditions
 - For whom
 - For what purposes

does the specific technology improve or degrade the quality of life or work



(what would be the impact of computers on organizational behavior if we did ...)



Socio-Cultural Domain

- Introduction of new technology
 - Conditions for making it useful
 - Who will benefit / suffer
 - Motivating its use among communities
 - Develop trust in its usage
 - Any controversies?

Economical- Logistical Domain



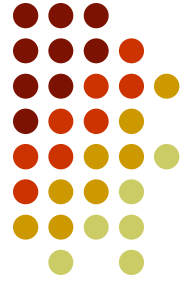
- Resources needed
- Required skills/expertise for its implementation
- Availability vs Expansion (for resources)
- Sustained / sustainable usage
- Educational Requirements

Organizational Managerial Domain



- Dominant culture of the organization
 - Fits in
 - Threatens
- Power structure
- Incentive / Reward Structures
- Skill/ knowledge sharing

U of R Computer Science Program



- Our program is patterned after the small college curriculum suggested by CC2001 report
- University enrollment has been steadily increasing
- The recent increase in the size of the faculty of the program motivated this study!
- Liberal arts environment and our desire to enrich our program

Computing Curricula 2001 Knowledge Focus Groups



1. Discrete Structures
2. Human-Computer Interaction
3. **Programming Fundamentals**
4. Graphics and Visual Computing
5. Algorithms and Complexity
6. Intelligent Systems
7. Information Management
8. Operating Systems
9. Social and Professional Issues
10. Net-Centric Computing
11. **Software Engineering**
12. Programming Languages
13. Computational Science
14. Architecture and Organization

Implementation?



- The model presented by
 - Dianne Martin
 - Hillary Holz

Non-Apologetic Computer Ethics Education:

- viable
- realistic

WE INVITE SUGGESTIONS

CS Program Requirements - I



- CS110 Intro to C++
- CS111 Data Structures and OOP
- CS220 Architecture and Assembly
- CS230 Operating Systems
- CS240 Theory of Computation
- CS340 Programming Languages
- CS341 Software Engineering
- CS450 Capstone Senior Project

CS Program Requirements - II



- 2 Electives from the following courses
 - Database Management
 - World wide Web Programming
 - Multimedia
 - Visual Basic
 - Artificial Intelligence
 - Topics Courses

CS Program Requirements - III



- Math Courses

- Calculus
- Discrete Mathematics
- Modeling
- Statistics

- Physics Courses

- Two semester sequence
- Electronic Design course (optional)