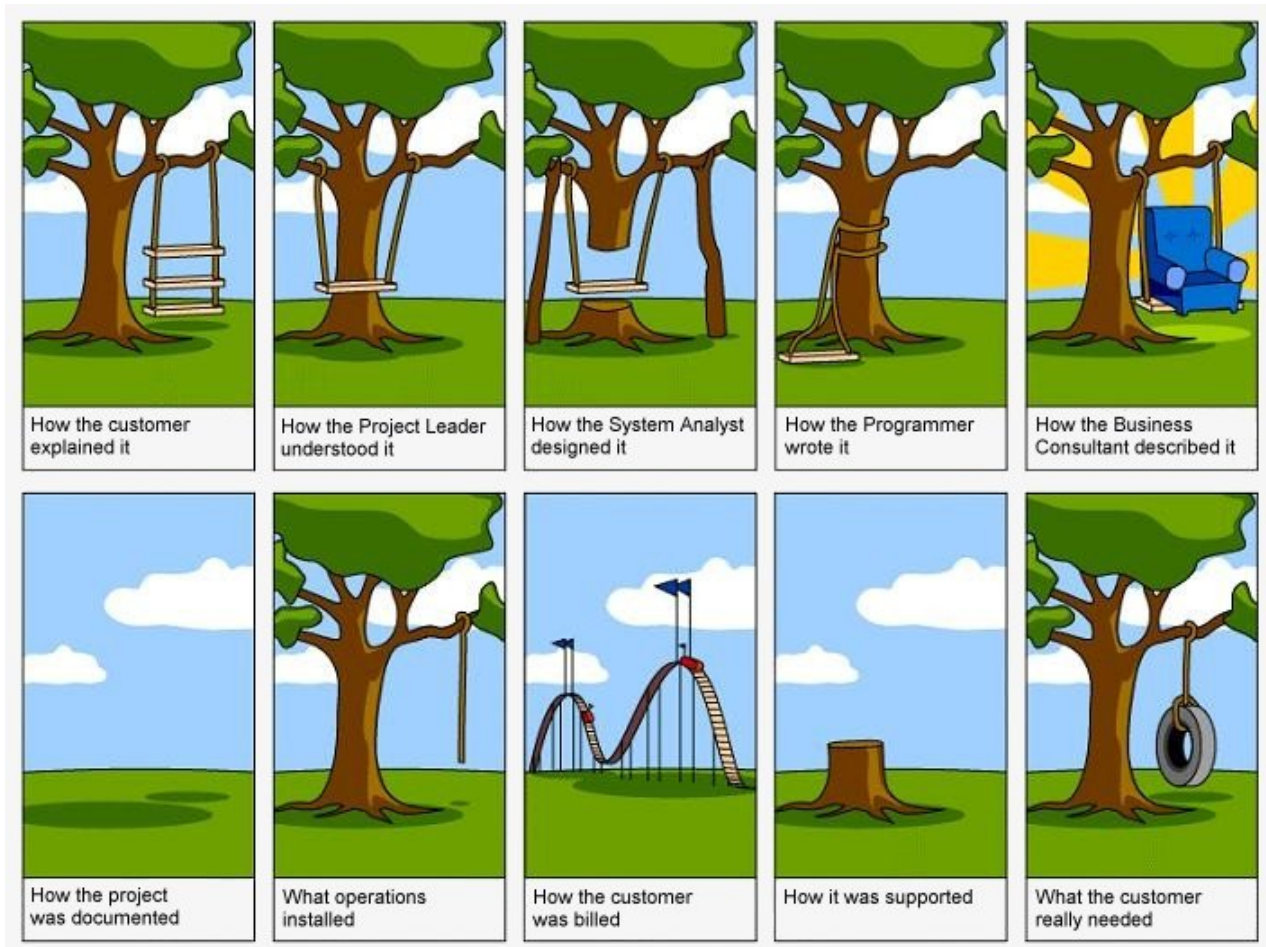


# Information Systems & Organizational Change



The design and construction of technology is only the beginning of the challenging process of implementing (and maintaining) complex information systems. In this course, we will explore the technical, sociological, ethnographic, and historical literature that deals with the organizational aspects of information technology. The focus will be on business information systems, but we will also look at scientific, governmental, and health-related organizations as well.

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**Informatics • I400/I590 • Spring 2013**

**Instructor:**

Professor Nathan. Ensmenger  
303 Informatics West  
Office Hours: T 9-10 am, Th 2:30-3:30 pm  
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**Course Objectives:**

The purpose of this seminar is to teach you to think very broadly about software development and organizational practice. The basic premise is that large-scale software development efforts only begin with design and development, and that what are often dismissed as social and organizational factors are often the key determinants of the long-term success or failure of a project.

The goals of the course are to make you, as future software developers, project leaders, managers, and entrepreneurs, better prepared to address the entire life-cycle of software development, including the elements often dismissed as being "non-technical".

**Course Expectations:**

This is a reading and discussion-oriented seminar. The readings are typically short and provocative rather than comprehensive or exhaustive, but you must be willing to do them in advance and be prepared each week to discuss them in class. Each week all participants will prepare a shared set of readings; in addition, once every month each student will be responsible for presenting on an additional reading of his or her choice.

**Readings:**

The readings are drawn from the very best historical, sociological, anthropological, technical, and business literature, and we will adjust the readings according to the specific interests of the participants. All of the readings will be made available electronically via the OnCourse system or the World Wide Web.

**Attendance Policy:**

The seminar meets only once a week, which means that attendance is particularly important. If you do need to miss class please let me know in advance.

**Grading:**

In addition to doing the readings, attending the seminar, and participating in class discussions (30%) each student will be responsible for four in-class presentations (20%), a series of short written response papers (20%), and a final paper of approximately 8-10 pages (30%).

## Course Schedule:

The seminar meets weekly on Wednesday mornings from 9–11:30 in Informatics East room 122.

### I January 9: Introduction to Organizational Informatics

### II January 16: When good technologies go bad ...

Orlikowski, Wanda. *Learning From Notes: Organizational Issues in Groupware Implementation*, Sloan School of Business, MIT, 2002.

Seely Brown, John, and Paul Duguid. *The Social Life of Information*, Harvard Business School Press, 2000. Chapter 3.

### III January 23: What is the point of Information Technology?

Beniger, James R. *The Control Revolution: Technological and Economic Origins of the Information Society*, Harvard University Press Cambridge, 1986. Chapter 2.

Zuboff, Shoshana. "Automate/Informate: the Two Faces of Intelligent Technology." *Organizational Dynamics* (1985)

### IV January 30: Why Software is Hard

Brooks, Frederick. *The Mythical Man-Month: Essays on Software Engineering*, Addison, 1982. Chapters 1, 2.

McConnell, Steve. *Code Complete: a Practical Handbook of Software Construction* Microsoft Press, 2004. Chapters 1–3.

### V February 6: Development Strategies I: Agile

Coram, M, and S Bohner. "The Impact of Agile Methods on Software Project Management" *Proceedings of the 12th IEEE International Conference and Workshops on the Engineering of Computer-Based Systems* (2005), 363–370.

Fruhling, A, and G J D Vreede. "Field Experiences with eXtreme Programming: Developing an Emergency Response System." *Journal of Management Information Systems* 22, no. 4: 39–68.

Turk, D, R France, and B Rump. "Limitations of Agile Software Processes," *Third International Conference on eXtreme Programming and Agile Processes in Software Engineering*, 2002.

Lindvall, M, D Muthig, A Dagnino, C Wallin, M Stupperich, D Kiefer, J May, and T Kahkonen. "Agile Software Development in Large Organizations." *Computer* 37, no. 12: 26–34.

### VI February 13: The Organizational Politics of Development

Case, P, and E Piñeiro. "Stop Whining, Start Doing! Identity Conflict in Project Managed Software Environments." *Ephemera* 9, no. 2: 93–112.

### VII February 20: Users, Implementation, and IT

Markus, M.L., and M Keil. "If We Build It, They Will Come: Designing Information Systems That People Want to Use." *Sloan Management Review* 35(4), 1994.

Lapointe, Liette, and Suzanne Rivard. "A Triple Take on Information System Implementation." *Organization Science* 18, no. 1: 89–107.

### VIII February 27: If it ain't broke don't fix it: or, why software maintenance is inevitable.

Canfora, G, A Cimitile, and P B Lucarelli. "Software Maintenance", *Handbook of Software Engineering and Knowledge Engineering* (2002)

Rajiv D. Banker, Gordon B. Davis and Sandra A. Slaughter. "Software Development Practices, Software Complexity, and Software Maintenance Performance: A Field Study." *Management Science* April 1998 vol. 44 no. 4 433-450.

"Is Your Next Language COBOL?" *Dr. Dobbs Journal* (September 18, 2008) <http://goo.gl/Oyqi2>

Eric Bloom, "COBOL will outlive us all" *IT World* (February 12, 2013) <http://goo.gl/FsLmh>

See also an interesting discussion of the Bloom article on Slashdot <http://goo.gl/ALSfV>

### **IX March 6: Alternative Organizations I: Just Open Source It!**

Weber, Steven. *The Success of Open Source* (Harvard University Press, 2004). Chapter 3, "What is Open Source and How Does it Work?"

Andersen-Gott, Morten, Gheorghita Ghinea, and Bendik Bygstad. "Why Do Commercial Companies Contribute to Open Source Software?" *International Journal of Information Management* 32, no. 2: 106–117.

### **X March 13: Spring Break!**

Party on.

### **XI March 20: Alternative Organizations II: Why start-ups fail, and why they succeed**

Castilla, Emilio J, Hokyung Hwang, Ellen Granovetter, and Mark Granovetter. "Social Networks in Silicon Valley." *The Silicon Valley Edge: a Habitat for Innovation and Entrepreneurship* (2000): 218–247.

### **XII March 27: Does IT Matter? If so, how?**

Nick Carr, et al. *Does IT Matter? A Harvard Business School Debate*. Available online.

### **XIII April 3: Methodologies and Self-Reflection**

Orlikowski, Wanda J., and Stephen R. Barley. "Technology and Institutions: What Can Research on Information Technology and Research on Organizations Learn From Each Other?" *MIS Quarterly* 25, no. 2 (2001): 145–165.

Bruun, H, and S Sierla. "Distributed Problem Solving in Software Development: the Case of an Automation Project." *Social Studies of Science* 38, no. 1 (February 1, 2008): 133–158.  
doi:10.1177/0306312707077366.

### **XIV April 10: Choose your own adventure**

Readings TBD

### **XV April 17: Final Project Presentations**

### **XVI April 24: Big Finish**

In which all will be made clear.