MSIS 554: Electronic Commerce – Technical Perspective

Syllabus

CSUF, Spring 2001
Schedule #16902
Lab: W 7:00-8:15 pm. LH 322
Lecture: W 8:30-9:45 pm. LH 308
http://www.ics.uci.edu/~burke/msis554-s01/

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Course Prerequisite: MSIS 555

Course Description
MSIS 554 is an introduction to technical aspects of electronic commerce. It is intended to prepare you to participate in e-commerce initiatives within an information systems context. The final product of the course will be a fully-functional electronic commerce organization implemented jointly by all of the students in the class. Each student will make a unique contribution to this goal.

Course Required Readings

All students
Other readings will be available on-line.

Interest groups

Course Organization
The course is divided into lab and lecture time. Lab time will be devoted to the course project, including meetings, discussion with other students, and development work. However, considerable outside reading and research is expected for all students. The lecture portions of the class will consist of presentation and discussion of the technical common ground necessary for all members of the class. Students are expected to be active participants in the lecture portion of the course.
Students will be divided into five teams, each of which will be assigned an e-commerce function. There are four internal functions: Sales and Marketing, Customer Support, Supplier Support, and Information Management; and one external function: the Bank. (The number and size of teams may be adjusted to account for class size.)
Because e-commerce is an inter-disciplinary area of study, students will also participate in interest groups, disciplinary areas that cut across the business functions. Interest groups will also meet regularly and be responsible for composing discussion questions related to each week’s reading. The Interest Groups will center on the following areas: Business Strategy, Design, Management, Security/Privacy, and Technology. Each Interest Group has its own required readings, and the course midterm will be based on these readings. Some members of the class will be selected to be “moles.” Their task will be to compromise the security and/or privacy of the e-commerce enterprise. For example, a mole might try to break into the bank and transfer money to his own account. If a mole is successful in breaking into some part of the system, the responsible team will be penalized, depending on the severity of the breach, and the mole will be rewarded. A team that discovers a mole will be immune from attack by that mole. New moles may be appointed at any time.

Learning Objectives
This course calls on you to demonstrate: (1) knowledge of e-commerce technologies, applications, protocols and concepts, (2) the ability to reason through analysis, evaluation and design of e-commerce systems, and (3) the ability to effectively apply this knowledge to the construction of such systems.
Since e-commerce is rapidly evolving, the course will not concentrate heavily on the details on any particular platform or set of technologies needed to implement e-commerce systems. Students will be expected to use the course texts and readings as well as outside references to supplement lecture material.

Assessment Measures
Students will be assessed according to their contributions to the group efforts in the class and their performance on the two exams.

Journals
Every student will submit a one-page journal entry describing their activities during the previous week. Both individual and group activities should be described. Journal entries are due at the beginning of class. Do not use class time to work on your journal.

Functional Teams
Functional teams will be assessed based on development milestones for their components of the overall e-commerce system. The milestones correspond to specific deliverables, either design documents or working programs. These team efforts will be graded, and individual grades will be computed from the team grade with input from a team self-assessment questionnaire completed by each team member. The final working deliverable will be subject to security review. If one of the moles in the class can demonstrate an exploitable security flaw in the team’s components, the grade on that milestone will be reduced by 10%, and credit given to the mole. A team may inoculate itself against such attack by a given mole by submitting a sealed envelope to the instructor with a statement providing evidence that proves the mole’s identity. Teams may not share evidence or publicize their mole investigations. The instructor may declare certain components of the system as “secure” by fiat, meaning that they will be considered reliable and cannot be attacked by a mole.

Interest Groups
Interest group members will be expected to interpret each week’s readings and contribute to class discussion from the viewpoint of that group. Interest groups will also meet regularly and discuss issues that cross team boundaries. Each interest group will write and present a position statement to the class on 3/14, describing the company’s policies and architecture as it relates to their area. Group self-evaluation will be used to assign credit for these statements and presentations.

Midterm & Final
The midterm will be a take-home essay exam based on the readings assigned for each student’s Interest Group. The final will be an essay exam covering topics related to both the lecture and application aspects of the course. Students will receive the exam question one week prior to the exam and may bring a pre-prepared outline to the exam.
Moles
Some students will be given the opportunity to serve as moles, concrete manifestations of the importance of security in e-commerce. A mole has the opportunity to earn extra credit by violating the security of any component in the e-commerce enterprise, including the one being built by their own team. No one will be required to be a mole.

Course Grade Calculation
- Functional team (35%)
- Interest group (25%)
- Journal (10%)
- Midterm (10%)
- Final Exam (10%)
- Attendance/Participation (10%)

Attendance
I expect you to come to class every meeting day, arrive on time, and participate fully in class discussions and exercises. Attendance is especially important because this course meets only once a week, and the in-class activities are crucial to the instructional design. Thus you will be allowed only one absence during the course of the semester. If you are absent a second time, your course grade will drop by one full point. If you are absent three times, you will fail the course. This policy applies to both excused and unexcused absences. Students may only be excused for documented medical or family emergencies or religious holidays. You must notify me as soon as possible of documented absences.

Late Assignments
Deliverables and other assignments are due at class time on the assigned date, unless another time is explicitly authorized. Team deliverables except for presentations and the final deliverable may be accepted up to one week late with a two grade-point penalty. Presentations cannot be made up and team members should be prepared to make the entire presentation in the event of the absence of any member.

Incompletes
If for some reason you need extra time to complete the course, you must submit a written request for an Incomplete (either in person or by e-mail). Such a request should be made in advance of the final exam date and should include 1) an explanation of why you are unable to meet your obligation, and 2) a completion proposal including a statement of work and the date on which you agree to submit it. Except in cases of documented emergency, I will not issue a grade of Incomplete if you ask for one on or after the date of the final.
I will handle requests for Incompletes on a case-by-case basis. If I approve your request, I will sign a copy and return it to you. Please be aware that your Incomplete is not approved until you receive the signed copy. Also, please be aware that I will not accept your work if you submit it after the date you yourself set for completion of the course.

Classroom Etiquette
- Please turn off pagers and cell phones before coming to class. If it rings, I will confiscate it.
- Please do not tape lectures or discussions. If you have a documented need, please let me know.
- Please do not get up and walk out in the middle of class. Such behavior is discourteous and disruptive. If you need to leave early, please let me know ahead of time.
- Please do not chit chat or eat loud food in class.
- Please be mindful that you are part of a learning community. Treat others with respect even if you do not agree with their positions or they with yours.

Important Note
I reserve the right to modify this syllabus at any time during the course of the term. The most current course information will be available on the course web site: http://www.ics.uci.edu/~burke/msis554-s01/
**Functional team deliverables**
Each team will complete a series of deliverables on the way to the completed system. “Lab deliverables” are intended to be completed during specific lab times. Details on each deliverable will be provided as they are assigned.

- 2/7 (Lab) Team web site
- 2/21 Analysis: Events and things
- 3/7 Interface mock ups
- 4/4 Implementation schedule
- 4/18 Initial implementation
- 4/25 (Lab) Revision schedule
- 5/9 Final implementation
- 5/16 Final presentations and security review

**Interest group deliverables**
Interest groups will be responsible for certain deliverables as shown below. In addition, each interest group will be responsible for contributing one discussion question per member by email to the instructor before each class, based on each week’s reading. The questions should reflect the perspective of the respective group. For example, when the reading is about cryptography, the technical interest group might be expected to submit questions about how cryptographic algorithms are implemented, but the management group might ask how responsibility for keys should be distributed in an organization. Discussion questions should be designed to further all students’ understanding of assigned material.

- 2/14 (Lab) Key questions and useful Internet resources
- 2/28 (Lab) Vision statements and risk assessments
- 3/7 Ownership statements and mitigation strategies
- 3/14 Policy presentations
- 4/18 (Lab) Progress reports and risk updates
- 5/9 (Lab) Project post-mortem

**Schedule of Class Meetings & Assignment Due Dates**

**Unit One: Technology**

**1/31 Introduction**
Lab: Job applications
Lab deliverable: Resumes and application letters
Lecture: Introduction, Course structure, Project

**2/7 The E-Commerce Environment**
Lab: Functional team meeting
Lab deliverable: Team web site

Reading:
- Fingar, J.
  <URL: http://www.isoc.org/internet/history/brief.html>
- Raggett, “Getting started with HTML” <URL: http://www.w3.org/MarkUp/Guide/>
- Raggett, “More advanced features”
  <URL: http://www.w3.org/MarkUp/Guide/Advanced.html>
- Raggett, “Adding a Touch of Style”
  <URL: http://www.w3.org/MarkUp/Guide/Style.html>
2/14  **E-Commerce Networks and Services**
   Lab: Interest group meeting
   Lab deliverable: Questions / resources
   Reading: TBA
   Due: Use cases

2/21  **E-Commerce Infrastructure**
   Lab: Functional team work
   Lab deliverable: Events and things
   Lecture: Intranets, Extranets, Portals, Middleware, Directory services.
   Reading: Finger, 2 and TBA

2/28  **Payment Mechanisms**
   Lab: Interest group meeting
   Lab deliverable: Interest group vision statements and risk assessments
   Lecture: Credit cards, e-checks, e-cash
   Reading: TBA
   Due: Object / Relationship diagrams

3/7   **Security and Privacy**
   Lab: Functional team work
   Lab deliverable: Interface mock ups
   Lecture: Vulnerabilities of e-commerce. Encryption, SSL, firewalls
   Reading: TBA
   Due: Interest group ownership statements

3/14  **Presentations**
   No Lab
   Lecture: Interest group presentations

3/21  **Midterm**

3/28  **Spring Break**

**Unit Two: Applications**

4/4   **E-Commerce Markets**
   Lab: Functional team work
   Lab deliverable: Implementation schedule
   Lecture: Technologies for markets, search, catalogs, dynamic pricing
   Reading: Fingar, Ch. 3

4/11  **Customer Service**
   Lab: Functional team work
   Lecture: Mass customization, multi-channel customer interaction. Email handling
   Reading: Fingar, Ch. 4

4/18  **Vendor Management**
   Lab: Interest group meeting
   Lab deliverable: Progress reports and risk updates
Lecture: Business to business e-commerce. XML. Ontologies.
Due: Initial implementation
Reading: Fingar, Ch. 5

4/25  Supply Chain Management
Lab: Functional team work
Lab deliverable: Revision schedule
Lecture: ERP systems, distributed applications, auctions
Reading: Fingar, Ch. 6

5/2  Data Mining and Reporting
Lab: Functional team work
Lecture: Data warehousing, OLAP. Data mining and decision support.
Reading: TBA

5/9  The Future of E-Commerce
Lab: Interest group meeting
Lab deliverable: Project post-mortem
Lecture: Mobile e-commerce, agents.
Due: Final implementation
Reading: Guttman, Moukas & Maes “Agent-Mediated Electronic Commerce”

5/16  Final Presentations
No Lab
Final presentations
Security review

5/23  Final exam