EDC 384P (Unique # : 08215)

Computer-Assisted Instruction: Design and Development

Spring 1999

Class Meeting: Wednesdays
Time: 4:00 - 7:00 pm
Room: SZB 526 & Advanced Systems Lab on 3rd floor (324)

Instructor: Dr. Liu, Min
Office: SZB 528J
Office Hours: Wednesdays, 2:30 - 3:30 pm
or via appointment
(It'll be a good idea to set an appointment with me.)

Telephone: 471 - 5211
Email: MLiu@mail.utexas.edu

Graduate Assistant: Susan Pedersen
Telephone: 471 - 5211
Email: sped@mail.utexas.edu
Lab Hours for Providing Assistance: To be determined during the first class period

COURSE DESCRIPTION: The focus of this course is on applying the design principles in developing computer assisted instruction. Students will be provided with opportunities to learn the user interface design principles and to apply the principles into educational software development through using the Authorware authoring system. Through working with Authorware and evaluating commercially available software, students are expected to develop an understanding of how design principles can be applied to educational software development and how to design effective educational software. The contexts for this course will be primarily interactive, collaborative, multi-disciplinary, and student-centered. A large portion of this course will be devoted to hands-on activities.

OBJECTIVES:
• Demonstrate knowledge of design principles relevant to computer assisted instruction
• Be able to apply design principles to developing educational software
• Demonstrate a good knowledge of Authorware
• Be able to design and develop a program using Authorware
READINGS:

**Required textbooks:**
- Class package on reading available at Texas Union room 2.124.
- Class package on Authorware available at Texas Union room 2.124.

**Required Web resources for Reading:**

**Nicholas Negroponte**

**Jakob Nielsen**
- http://www.useit.com/alertbox/

**Donald Norman**
- http://www.jnd.org/index.html#RecentBooks
  -- several excerpts for Norman's new book, The Invisible Computer

**Recommended reading:**

**Recommended Web resources:**

- The AWARE web site: http://www.e-media.nl/aware/
- Macromedia site: http://www.macromedia.com/
- Authorware Developer's site:
  http://www.macromedia.com/support/authorware
- Frequently asked question site:
  http://www.ix-software.nl/authorware.html

**DISK:**

You will need to purchase two zip disks. All written work needs to be word-processed. Other assignments/project on *Authorware* will be saved and turned in on the zip disk(s).
LATE WORK POLICY: All work is due based on the specified due-dates except in emergency situations. If work is turned in late, no credit will be given. This policy is in effect as an incentive to stay current with the assigned work. Like many courses, the work of one session is based on understanding the work of the previous sessions. Falling behind in the work greatly reduces the chances of success at attempting later work. One "Murphy" (that is, one late submission due to human error) is permitted for the semester.

COURSE DROPPING: The last day of the official add/drop period without administrative approval is Jan. 22. A student seeking to drop a class after this day should go to the Office of Dean/Student Division (SZB 216).

ASSIGNMENTS: Assignments for this course include:

- active participation in weekly discussions
- various in-class and out-of-class design activities
- readings on various topics
- exercises on learning Authorware
- interface design group project
- Authorware-based project for the semester

PERFORMANCE EVALUATION:

Student performance will be evaluated on the following course requirements. Academic dishonesty (presenting anyone else’s work as one’s own) in any form will result in a grade of “F” for the assignment or exam in which it was demonstrated. As a rule, no “incomplete” grades will be given in this course except in situations where a student is unable to complete all the projects for the course due to an extreme emergency.

**Participation --- 10 pts:** Each student is required to attend each class and engage in discussions on the readings or other class activities. If you absolutely must miss a class because of an emergency, you must inform me in advance. Please arrange with a classmate beforehand to pick up the handouts and provide detailed notes to you. You are still responsible for the information covered in that class and turn in the assignment on a due date.

**Design Activities --- 10 pts:** During the semester, there will be various design activities, in-class or out-of-class, for students to apply the knowledge gained from the readings. Each student must complete each of these design activities for a given date. The five design activities, each worth 2pts, are:

- design of everyday objects
- evaluation activity
- design of CD software
- design of web sites
- your favorite screen design

**Exercises on Authorware--10pts:** Each student is required to complete All practice exercises on using Authorware. The exercises are at the end of the instructional modules in the course package. Each exercise is worth 1 point.
Exercises on Photoshop--10pts: Each student is required to have a basic understanding of Photoshop. There will be some required exercises to complete. Because Photoshop is so involved and this course does not focus on graphics, you will determine yourself how much Photoshop skills you will acquire within the semester depending on your interest and time. Keep in mind that knowing Photoshop will significantly enhance the appearance of your project.

Interface design group project --15 pts: This is a group project. Based upon the readings, discussions, and hands-on activities, you will be asked to form groups and evaluate the interface design of a piece of educational software using the design principles outlined in the readings. A written report and an oral presentation are required from the group. Additional guidelines will be furnished.

Authorware project--45 pts: Each student is required to complete a final Authorware-based project in a field of interest. This assignment will include (1) the design document, (2) the actual program, (3) client evaluation, (4) a project documentation, and (5) oral presentation. Additional guidelines will be furnished.

Design document - 5 pts
Authorware project - 25 pts
Client Evaluation - 5 pts
Project Documentation - 10 pts

The final grade of the course will be based upon the following:

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<th>Final Grade</th>
<th>Points Total</th>
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<tr>
<td>A</td>
<td>90 - 100</td>
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<td>B</td>
<td>80 - 89</td>
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<td>C</td>
<td>70 - 79</td>
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<td>D</td>
<td>below 70</td>
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TENTATIVE SCHEDULE OF ACTIVITIES

(Detailed weekly assignment sheets will be distributed each week.)

Week 1
Jan. 20
• Introduction
• Explanation of the course: Course requirements and expectations
  • Instruction on Authorware (1)
  • Demo on Authorware projects

Hand out: Everyday object assignment
Guidelines on Authorware Project Design Document
Week 2
Jan. 27
• Readings for the week
  • Norman, C 1, C2
  • Burton, Moore, & Holmes, Hypermedia Concepts & Research
  • Mullet & Sano, p1-p15

• Recommended reading:
  • Laurel, A(rticle)2, A4, A6
  • Dick & Carey, The Systematic Design of Instruction

• Discussion on the Readings & everyday object design
• Session on Photoshop Basics
• Working on Authorware project idea

Week 3
Feb. 3
• Readings for the week
  • Norman, C 3, C4
  • Liu, Jones & Hemstreet, A Study of the Multimedia Design &
    Production Process by the Practitioners
  • Mullet & Sano, p17-p49

• Recommended reading:
  • Laurel, A14, A15, A21

• Discussion on the Readings & Overview of design process
• Instruction on Authorware (2)

Due: Authorware Project Idea - 1 paragraph (via email by 10pm)

Week 4
Feb. 10
• Readings for the week
  • Norman, C 5, C6, C7
  • Mullet & Sano, p51-p87

• Recommended reading:
  • Laurel, A24, A25, A28

• Discussion on the Readings & evaluation activity using Mullet & Sano's
  principles in group
• Instruction on Authorware (3)

Hand out: Guidelines on the interface design group project

Week 5
Feb. 17
• Readings for the week
  • http://www.jnd.org/index.html#RecentBooks -- Norman
  • Mullet & Sano, p89-p129

• Discussion on the Readings & CD design activity using Mullet & Sano's
  principles
• Instruction on Authorware (4)

Hand out: Guidelines on Authorware project
Due: Authorware Project Design Document
Week 6
Feb. 24
• Readings for the week
  • Mullet & Sano, p131-p168

• Discussion on the Readings & Web design activity using Mullet & Sano's principles
• Instruction on Authorware (5)

Week 7
March 3
• Readings for the week
  • Mullet & Sano, p169-p211

• Recommended reading:
  • Laurel, A32, A33, A37

• Discussion on the Readings & your favorite screen
• Instruction on Authorware (6)

Due: Authorware exercises from Module 1- Module 5

Week 8
March 10
• Readings for the week
  • http://www.useit.com/alertbox/ -- Nielson
  • http://www.useit.com/jakob/publications.html -- Nielson
  • Mullet & Sano, p213-p245

• Recommended reading:
  • Laurel, A42, A43, A50

• Discussion on the Readings
• Instruction on Authorware (7)

Week 9
March 17
• No class. Spring Break. Have a nice break!

Week 10
March 24
• Readings for the week
  • http://www.useit.com/jakob/publications.html -- Nielson
  • http://www.useit.com/papers/international_usetest.html -- Nielson

• Presentation on Interface Design Group Projects (I)
• Instruction on Authorware (8)

Week 11
March 31
• Presentation on Interface Design Group Projects (II)
• Instruction on Authorware (9)

Due: The report on Interface Design Group Project
Week 12
April 7
• Instruction on Authorware (10)
• Guest Speaker on CD ROM making (CIT)

Week 13
April 14
• Guest Speaker: Panel Discussion on Multimedia Development (Former & current IT students)
• Work session on the Authorware project

Week 14
April 21
• Guest Speaker: Rick Ligas on Photoshop Tips/Tricks
• Work session on the Authorware project

Week 15
April 28
• Work session on the Authorware project

Week 16
May 5
• Authorware Project Demonstration
• End-of-semester reflection: How to design computer-assisted instruction?
• Course evaluation

May 12  Due at 12 noon:
• Authorware project
• a folder consisting of written information