IRLS575 User Interface and Web Site Design

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COURSE NAME, NUMBER AND PREREQUISITES:

IRLS575 section 010

[Prerequisite: IRLS 504 or consent of the instructor.]

Instructor: Heshan Sun

COURSE DESCRIPTION:

This online graduate course is an introduction to User Interaction and Web Site Design, concerned primarily with the
design, evaluation, and implementation of interactive computing systems for human use and with the study of major
phenomena surrounding them. The course introduces theories of human psychology, principles of computer systems and
user interfaces designs, website design, and issues involved in using technologies for different purposes.

3 credits will be given in award of the successful completion of this course.

General overview

To adapt Ranganathan: information is for use. Nowadays, much of stored or recorded information is available
electronically, and typically it is accessed through computers and networks, for example, by means of web sites. So the
User often meets the information at the interface between humans and computers. The academic discipline of Human-
Computer Interaction (HCI) studies exactly this interface.

This course offers instruction in a) the User Interface in Information Systems, b) Human Computer Interaction, and c) the
design and evaluation of 'information' web sites. (Not all web sites aim primarily at presenting information — some are for
entertainment, many are for commerce. These types of sites are not considered in this course.)

HCI itself addresses the problem of designing composite systems, of humans and computers, which are both safe and
This is an extremely important problem these days because everybody is a User. [30 years ago, computers could have all sorts of interface shortcomings because only experts used them and the experts could use their skills to overcome the difficulties. But now we are all Users, and we don't want difficulties!]

When looking at HCI, four considerations, and their interactions, are prominent

- **Human capabilities.** These include physical and cognitive issues: what folk can do with their hands, eyes, and brains. Humans are highly variable, and have cognitive strengths and weaknesses (for example, humans have poor memories yet good abilities to recognize patterns in a visual scene).
- **The technical features of the computing machines.** Principally what the computer presents, and receives by way of input and output; and the style of the interaction between the User and the computer. For example, an older computer might be able to take input only from a keyboard, and give output only to a printer— in which case, human-computer interaction would be similar to a dialog or conversation (these days the possibilities are far richer with, for example, mice for input and sophisticated visual displays for output).
- **The tasks being undertaken.** For example, there is a world of difference between typing in a document for word processing, and producing some architectural drawings using a CAD/CAM package. Additionally, a modern trend is that of moving from the single user-- single interface to group working and multitasking (for example, computers are used extensively now in the cockpits of commercial aircraft and in that setting there is a team of humans interacting with several computers).
- **The environment.** What is the work, or task, setting? What are its physical and socio-cultural characteristics? (For example, it is unwise to use sound input or output in a noisy setting; another example, it is unwise to expect children to spell keywords perfectly for a Search in an Online Public Access Catalog in a library.)

**The academic backdrop to HCI**

HCI is concerned with the design, evaluation, and implementation of interactive computer systems and study of major phenomena surrounding their use. Many academic disciplines— including cognitive psychology, social psychology, organizational psychology, computer science, ergonomics, linguistics, artificial intelligence, philosophy, sociology, and anthropology — have a role to play in the theories behind HCI and Web Site design.

**Web Site design**

Web site design augments HCI — it applies and extends the principles of HCI in a special case. To make a rough and ready distinction. Plain stand alone computers tend to calculate what they offer, whereas web sites are part of a network or networks and tend to retrieve information they, or others, already have and offer that. So the design of web sites can put an emphasis on the organization of information, on information architecture (IA), and the management of information. The design of web sites brings into play traditional library science skills.

**COURSE OBJECTIVES:**

Successful completion of this course will help students achieve the A3 competency (outlined at [http://sirls.arizona.edu/about/studentCompetencies](http://sirls.arizona.edu/about/studentCompetencies)). More specifically, by the completion of this course, you will:

- To gain knowledge on important human factors (e.g., human limitations) that affect human-computer interactions.
- To gain knowledge on user-computer interaction styles.
- To know the typical input, output, and interaction-style features of computer systems
- To gain knowledge on user interface evaluation methods.
- To be able to make informed and better design decisions.
- To be able to critique HCI designs of others.
- To experience the presentation of information by many common systems for the computer mediated communication of information

It is not an objective of this course to teach a student how to code, to program, or to use a development system for producing Web sites. In fact, no technical skills are presupposed by this course, and none are taught in it.

**REQUIRED COURSE MATERIALS:**

**Textbook:**
There is no set text for the course. Class reading are available either directly on the Web or in D2L.

Facilities:

First of all, students need stable and high-speed online access, either by way of their own computers and Internet connection or by public access means (such as those provided in Public Libraries or in on campus labs).

This is an online course taught virtually at a distance using the Web. Two major information systems are used in this course:

1. Desire-to-learn (d2l) is used as the instructional and course management environment. Students need to log in d2l every week to read class notes, participate in class discussions, receive updates from the instructors, and complete the exams. In addition, D2L has facilities for internal email, and this will be the preferred way to contact the Instructor or the teaching assistant.
2. A wiki system will be used extensively by individual students and by groups. An instruction regarding how to use the system will be available in the first week of this class.

COURSE REQUIREMENTS:

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The course requirements are

- Individual projects
- Group project
- Open book exams
- Participation

You will have two individual projects. The intention, though, is that this course will in part be doing interface and web site design, rather than just talking about design. Approved practical projects or group presentations would be welcome substitutes for one or both projects.

A group project will be set. These will a small project undertaken by you working in teams. So called 'groupware' — for example wikis, chats, decision support systems, social networking software, etc — are an increasing important area of computer software. The group project will require you to use groupware, and thus have direct experience of some examples of it.

You have a mid-term exam and a final exam, both of which are taken-home.

The participation requirement is that you contribute to the online discussion groups or forums. You can meet this requirement by posting at least 5 times during the semester. We do not want these forums to be cluttered up by folk posting when they have nothing to say. But you should have something to say from time to time, and we would like to hear it.

COURSE, SCHOOL, AND UNIVERSITY POLICIES:

Academic Code of Integrity

Students are expected to abide by The University of Arizona Code of Academic Integrity. 'The guiding principle of academic integrity is that a student's submitted work must be the student's own.' If you have any questions regarding what
is acceptable practice under this Code, please ask an Instructor.

**Accommodating Disabilities**

The University has a [Disability Resource Center](#). If you anticipate the need for reasonable accommodations to meet the requirements of this course, you must register with the Disability Resource Center and request that the DRC send me, the Instructor, official notification of your accommodation needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

**Assignment Policies**

For individual assignments and group project, you should post them on your own wiki (an instruction for how to do this will be available in class). Exams will be conducted in D2L. Unanticipated lateness resulting from poor planning or procrastination is highly undesirable. 5% of the credits of the assignment will be deducted for each day late (e.g., if the assignment was due on Tuesday noon and you submit it on Wednesday, you lose 5% of the credits. If you submit it Thursday, you lose another 5%). More details will be available in each assignment.

**Incompletes**

The current Catalog reads

> The grade of I may be awarded only at the end of a term, when all but a minor portion of the course work has been satisfactorily completed. The grade of I is not to be awarded in place of a failing grade or when the student is expected to repeat the course; in such a case, a grade other than I must be assigned. Students should make arrangements with the instructor to receive an incomplete grade before the end of the term ...

> If the incomplete is not removed by the instructor within one year the I grade will revert to a failing grade.

**GRADING:**

Students are judged on (1) the quality, originality, completion and progress that their individual and group work demonstrates; (2) participation in class and group/team discussions. Timely completion of assignments affects the grades.

The final grade will be:

-- Individual projects: 25%
  -- Bio (5%)
  -- Project (one project, 20%)

-- Group Project: 30%
  -- Proposal (15%)
  -- Final report (15%)

-- Exams: 35%
  -- Mid Exam (15%)
  -- Final Exam (20%)

-- D2L discussions 10%

Total: 100% (Extra credits: In addition, 3 bonus points will be given to those who participate in a longitudinal survey conducted by the instructor.)
INSTRUCTOR NAME AND CONTACT ADDRESSES:

Instructor: Heshan Sun

Phone: (520) 626-0658 (office)

Availability: d2l (preferred), email (hsun [at] email [dot] arizona [dot]) edu or office (appointment only)

Office Time: Wednesday 2pm-4pm
Guided exploration

Click a term to initiate a search.

Audience
- for Students (92)
- for Faculty (28)
- for Alums (24)
- for Staff (17)
- for Prospective Students (7)
  more...

Course
- IRLS417 (2)
- IRLS418 (1)
- IRLS432 (1)
- IRLS470 (2)
- IRLS488 (6)
  more...

People
- Adjunct Faculty (152)
- Faculty (150)
- Staff (17)
- Friends (6)