Description of Course Content:
This course will introduce students to HCI research by combining theory with practice. Students will be able to choose projects from game development, to virtual reality, avatars, user interface design, social computing, design using psychological tools, visualization, animation, game design and programing user centric software.

Student Learning Outcomes:

- Learn about HCI while having fun in designing user interfaces with your team-mates;
- Get a head-start in one of the most sought-after job skills that would help you in your future career;
- Gain a theoretical understanding of how to design, implement, and evaluate the next generation of computer interfaces and a goal-directed experience in “doing computing” out of the box, making it usable, useful and a good user experience;
- Gain an understanding of the changing concepts of interaction away from the desktop: using sensors, devices, mobile computing, and designing for a quality user experience where a human can naturally interact with objects in 3D spaces;
- Learn what makes interfaces useful, usable and enjoyable, while you increase your awareness of good and bad design and gain basic skills such as, task analysis and user-centric design;
- Become exposed to experimental research in HCI such as, affective interaction, prototyping & evaluating multiple user interface alternatives, implementing simulations in order to get feedback, and how to do field work in order to generate new design ideas;
- Study smart environments, mobile web applications, smart networked objects, augmented and mixed realities (VR, haptics, Human Robot Interaction (HRI), computer gaming), pervasive computing, intelligent interfaces and wearable computing;
- Learn principles of aesthetics and visual design, perception and cognition and be guided into formulating an innovative research project that you will implement in a team of 3 students and complete through short programming assignments;
- Learn how to present research work, prepare project reports, and how to summarize outcomes in a paper of publishable quality.
- Access to state of the art computer lab facilities at the Heracleia Human-Centered Computing Lab.

Required Text:


Other Suggested Readings:

5) Don Norman (Amazon.com, Inc.). *Design of Everything Things.*

Descriptions of major assignments and examinations:

1. Class participation, reading & discussing research papers, project reports, and presentations.
2. Programming assignments leading to the project.
3. A semester-long research team project.
4. A research paper of publishable quality.

**Attendance:** Attendance and class participation are mandatory.

**Grading:**

- **40% for the following:**
  - (10%) Class participation (attendance is compulsory), research paper reading & discussion;
  - (10%) Project progress reports in writing and oral;
  - (10%) Intermediate programming and demonstration of project showing progress;
  - (10%) Presentation on publishing work – graded for accuracy and clarity;

- **40% for Term Project:**
  - Each team member has a specific and unique role to be clearly specified and demonstrated in an oral presentation;

- **20% for an individually written research paper:**
  - 5-10 pages with cited references);
  - It is the culmination of your project work;
  - Should include insights you derived from the project, related observations, possible alternative solutions and future work. It is expected to be of publishable quality;

**Late Work Policy:** Assignments will not be accepted after its due date.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw.

**Disability Accommodations:** Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities (OSD) [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364.

Counseling and Psychological Services (CAPS) [www.uta.edu/caps](http://www.uta.edu/caps/) or calling 817-272-3671. Only those students who have officially documented a need for an accommodation will have their request honored.

Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://www.uta.edu/eos).

For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted.

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. Information about activating and using MavMail is available at [http://www.uta.edu/oit/cs/email/mavmail.php](http://www.uta.edu/oit/cs/email/mavmail.php).

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit [http://www.uta.edu/sfs](http://www.uta.edu/sfs).
Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located [insert a description of the nearest exit/emergency exit]. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics scheduled</th>
<th>Recommended Reading</th>
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| 1    | • Introduction to Interaction Design and HCI  
• Define project teams | • Chapter 1, Interaction Design text  
• Chapter 1, Mackenzie  
• Chapter 1 Shneiderman |
| 2    | • Understanding Interaction  
• Human Factors  
• Direct Manipulation  
• Decide on project topics | • Chapter 2, Interaction Design text  
• Chapter 2, MacKenzie  
• Chapter 5, Shneiderman |
| 3    | • Cognitive Aspects  
• Human Factors  
• Managing Design Processes  
• Evaluating Interface Designs  
• Initial Project Presentations | • Chapter 3, Interaction Design text  
• Chapter 2, MacKenzie  
• Chapter 3, Shneiderman  
• Chapter 4, Shneiderman |
| 4    | • Social Interaction  
• Collaboration and Social Media Participation  
• Interaction Elements  
• Interaction Devices | • Chapter 4, Interaction Design text  
• Chapter 9, Shneiderman  
• Chapter 3, MacKenzie  
• Chapter 8, Shneiderman |
| 5    | • Emotional Interaction  
• Designing HCI Experiments  
• Quality of Service  
• Project Presentations & Reporting | • Chapter 5, Interaction Design text  
• Chapter 5, MacKenzie  
• Chapter 10, Shneiderman |
| 6    | • Interfaces  
• Project reporting | • Chapter 6, Interaction Design text |
| 7    | • Data Gathering  
• Evaluating Interface Designs  
• Quality of Service and Functionality  
• Presentations - Initial Project Demo | • Chapter 7, Interaction Design text  
• Chapters 10 & 11, Shneiderman |
| 8    | • Data Analysis  
• Project reports and discussion | Chapter 8, Interaction Design |
| 9    | • Establishing requirements  
• Prototyping | • Chapters 10,11,12 , Interaction Design text |
| 10   | • Writing and Publishing your results  
• Information Search & Information Visualization | • Chapter 8, MacKenzie  
• Chapters 13 & 14, Shneiderman |
| 11   | • Final Project presentations and Demos |