A FUN NEW COURSE

Topics in Human-Computer Interaction (HCI) Research
CSE 4392/5369/6369  Fall 2015, TR 2-3:20pm, Location (TBD)
Human Computer Interaction (HCI) is what happens when a human user and a computer system get together to accomplish something [Hartson et al].

Instructor: Prof. Fillia Makedon [makedon@uta.edu]
Office hours: Tues & Thurs, 4-5pm and by appointment
Course Pre-requisites: Consent of Instructor and Programming Skills
Course components:
1. Class participation, reading & discussing research papers, project reports, and presentations 40%
2. Programming assignments leading to the project 10% & a semester-long research team project 40%
3. A research paper of publishable quality 10%

About the Course: This course will introduce you to HCI research by combining theory with practice. You 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.

Why take this course? In this course you will:
1. Learn about HCI while having fun in designing user interfaces with your team-mates;
2. Get a head-start in one of the most sought-after job skills that would help you in your future career;
3. 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;
4. 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;
5. 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;
6. 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;
7. 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;
8. 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;
9. Learn how to present your work, prepare project reports, and how to summarize the outcomes in a paper of publishable quality.
10. Have access to state of the art computer lab facilities at the Heracleia Human Centered Computing Lab.

Instructor, facilities and industry: Prof. Makedon directs the Heracleia Human Centered Computing Lab (ERB 313) and the Motion Capture Lab (ELB 328). In her work, she uses computational approaches to build innovations for real world applications (e.g., healthcare, vocational safety, manufacturing, training, rehabilitation, and others). Students in the course will have access to both labs and also have the opportunity to interact with local industry through the iPerform industry-university center.

Recommended Text

Other recommended texts
Designing the User Interface, 5th ed. by Ben Shneiderman and Catherine Plaisant
Design of Everything Things - Don Norman [At Amazon]
Paul Cairns and Anna Cox (Cambridge University Press 2008), Research methods for human-computer interaction