CS 570 – HUMAN COMPUTER INTERACTION

Instructor : Prof. Sampath Jayarathna, Web: http://www.cpp.edu/~ukjayarathna

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Office Hours : Monday and Wednesday, 3.00 PM – 5.00 PM, or email me for an appointment

Schedule : Monday and Wednesday, Room: 8-345, Time: 6.00 PM – 7.50 PM

Website : http://www.cpp.edu/~ukjayarathna/courses/s17/cs570

Piazza : www.piazza.com/csupomona/spring2017/cs570/home

Blackboard : https://blackboard.cpp.edu/

Prerequisites : CS 331 with a grade of C or better or instructor's consent.

WHAT IS THIS COURSE ABOUT?

A study of the major topics in human-computer interaction, including interface design (principles, theories), software tools, virtual environments, interactive devices, collaboration, and visualization.

In this course, we'll study Human Computer Interaction (HCI) areas; including history and importance of HCI; design theories; modeling of computer users and interfaces; empirical techniques for task analysis and interface design; styles of interaction and future directions of HCI including hypermedia and computer-supported collaborative work.

WHAT WILL YOU GET FROM THIS COURSE?

After successfully completing this course, students should be able to:

- Explain characteristics of good and bad interaction design and use them to evaluate human computer interactions
- Explain characteristics of users that influence human computer interaction and use them inform interface development
- Explain, analyze and develop interaction evaluations including qualitative and quantitative methods.
- Explain and develop requirements for interaction design
- Constructs interactions using evaluation-based iterative process for directing the design of user interfaces

REQUIRED/OPTIONAL MATERIALS:

- **Required textbook**. No textbook is required. All the key course content will be documented in slides, which will be available in the course website after each lecture.

- List of optional but recommended materials. You may find some of these optional textbooks helpful, though none are required:
    - Interaction Design: Beyond Human-Computer Interaction, 4th Edition, Jenny Preece, Helen Sharp, Yvonne Rogers, Wiley, 2015
    - The Design of Everyday Things, Revised and Expanded Edition, Donald Norman, Perseus, 2013.

TENTATIVE COURSE SCHEDULE

Topics: The tentative topics are as follows. Topics and specific course activities may change as needed. PowerPoint slides will be available on the course web page after each lecture.

Interaction Design
Cognitive Aspects of Design
Social and Emotional Interactions
User Interfaces
Establishing Requirements for Design
Data Gathering and Analysis
Design and Prototyping
Usability Evaluations

WHAT YOU CAN EXPECT FROM ME:

I have an open door policy i.e., office visits. My posted office hours are times when I will make concerted effort to be available. Occasionally administrative meetings or emergencies may interfere with these posted times. The open door policy is: if my door is open, I am in and welcome walk-in visitations.

I am committed to supporting students with disabilities. If you have challenges related to these issues or others I want to work with you to help you succeed. Please come and talk to me, since only you can properly communicate your situation to me.

WHAT YOU CAN GIVE TO THE CLASS:

It is extremely important for you to be engaged in the course. Otherwise, you will fall asleep and wonder what happened to your tuition dollars. So, I encourage you to ask questions during lecture and actively participate at the piazza forum. For the first few weeks, when asking a question at the class, state your name so that I know who you are.

Cell phones and Tardiness: You may have cell phones in class, but they must be on mute, or airplane mode and not answered until the end of class. You are expected to arrive on time so that you do not cause a disruption in the middle of class. I would like to start the class at the scheduled time. If you cannot make it on time or want to leave early for some reason, please let me know. Persistent tardiness will be noted.

COMMUNICATION

Piazza: All questions will be fielded through Piazza. The primary benefit is that for many questions everyone can see the answer and other students can answer as well. I will endorse good student responses. Additionally, I expect you to actively participate in online discussions at Piazza. Over the course of the quarter, you

should post at least one substantive, interesting post to the discussion forum. You must also respond to at least four posts made by others. You can also post private messages that can only be seen by the instructor. You will be signed up with your cpp email, but you may switch to another email.

Blackboard: Blackboard will be used primarily for grade dissemination.

Email: If you send email to me, please be sure to include your name and the course number in the body of the e-mail. You should also use an appropriate subject line that looks like "CS570-Project" etc. Failure to follow these guideline may result in delayed response. *Again, email should only be used in rare instances*, I will probably point you back to Piazza if you have a question related to course materials and/or relevant to other students in the class.

COURSE ACTIVITIES

The scores you receive on the various graded tasks in the class will be weighted as follows:

40%	Project: Proposal (5 pts), Progress reports(5), Presentation and Demo (15 pts), Final Report (15 pts)
20%	Final Exam
20%	Homework Assignments (5)
10%	Quizzes (2)
10%	Emerging Software Technology/Tools Presentation (1)
1%	Extra Credit
101%	Your Total Score for the class

Project: For the project, you will work in teams of either 5, or 6 students on a problem of your choosing (or instructor provided topics) that is interesting, significant, and relevant to HCI or UI/UX Design. The ultimate goal of your course project is to develop a new tool to tackle some interesting real-world problem. At the end of the quarter, we will hold a competition during our regular class time for your project demonstration. All members of a group will receive the same grade on group work. Therefore, it is in your interest to choose other group members (ideally, first day of the class if possible) who have the same goal in the class as you do. It is also in your interest to work together and ensure that all tasks are completed effectively. Your scores on group work may be adjusted based on your contribution (peer-evaluation).

Final Exam: The final exam is comprehensive, closed books and will be held on **Monday, June 5 from 6.00 pm to 7.45 PM**. You may bring one standard 8.5" by 11" piece of paper with any notes you deem appropriate or significant (front and back). No iPads, iPhones, Blackberries, Android phones/tablets are allowed. Standard calculators are allowed.

In class Quizzes: Attendance in class and participation in the discussion are both important to your success in the course. As one crude measure of your participation and course preparation, you will have around 2 scheduled quizzes spread across the quarter. I will use them to gauge what topics we need to devote more time to and as an indicator that you were in class.

Homework: We will have 5 homework assignments, each worth 4% of your overall grade.

Emerging Software Technology/Tools Presentation: Technical presentations by students on emerging trends (e.g., TensorFlow, Torch, Mesos etc.) in software technology and/or tools. Each student will be responsible for planning a 20-minute PowerPoint presentation (10 – 12 minutes talk followed by 8-10

minutes discussion). The rules and formats of presentation will be discussed in the lectures. Penalty (-5 points out of total 10) will apply for any presentation which is shorter than 10 minutes (total time including questions and discussions) or longer than 20 minutes. Make sure your presentation with in-depth technical quality, i.e. contains CS related emerging software technology and/or tools, not just a bare introduction of the field. Each presentation will be followed by a discussion period, in which the class participants asks questions and discuss the topic. The presenter must post presentation slides publically at Piazza to the entire class after the presentation (no points will be given if the slides are not posted within 3 days). The presenter should also demonstrate his/her interest in the topic and actively lead the discussion in the class. **Topic:** After the first meeting, you must select a topic for your presentation. No two students may select the same topic, and topics will be assigned on a first-come first-served basis. Students will volunteer each week (1 week before) for about 5 presentation slots available in each *Wednesday* class time. To lock in a topic, post it in Piazza or let me know by the time you volunteer for the project. Students should consult the previous student presentations (available in Piazza) to avoid duplicate topics.

Extra Credit: You can get up to one point added to your final grade through culture reports that broaden your exposure to computer science, or user study evaluation participation. Details for participating for user studies, selecting material, writing, and submitting the extra credit is on the course website. Note: Borderline grades will not be boosted if extra credit is not submitted.

GRADES

Final course grades are based on the overall average. You are guaranteed a grade based on a 10% window (e.g., 90-100% is an A). Overall class grade (not the individual grade) windows may be increased in size if the instructor finds it appropriate.

A: 90-100, B+: 85-89, B: 80-84, C+: 75-79, C: 70-74, D+: 65-69, D: 60-64, Fail (Grade F): 0-59

ATTENDANCE, MAKE-UPS AND LATE POLICIES:

All project reports, homework assignments, extra credit are due at the beginning of class in all required forms (e.g., paper and/or submit on blackboard) on the due date. Changes to a submission's due dates will be avoided because they are unfair to those students who have organized their time to complete the assigned work. Individual accommodations will be discussed if you have a valid medical excuse.

Project due dates will be set to give ample time for completion of the project and will not be extended save for the unexpected and unlikely major, long-lived catastrophe. Start projects early--last minute computer malfunctions will not be accepted as a reason for delaying a project report due date. For team project reports, only 1 report from the group required. It is you responsibility as a group to choose which team member responsible for the submission. *Unless otherwise noted, all project reports should be submitted on paper at the beginning of the class*.

An exam/quiz missed without an acceptable excuse will be recorded as a grade of zero (0). There will be no makeup examination/quiz. If you have a valid medical excuse, the missing component of your grade will be computed based on the other parts of the course content. E.g.: A missed quiz with acceptable excuse will be assigned the average grade of all quizzes, at the option of the course instructor.

Homework assignments must be turned in by the due date and time in order to contribute to your grade. Each late submission will incur a 5 points penalty per day. No submission will be accepted after 3rd day and will be recorded as a grade of zero (0). There will be no makeup for homework assignments. If you have a valid medical excuse, the missing component of your grade will be computed based on the other parts of the

relevant course content. E.g.: A missed homework with acceptable excuse will be assigned the average grade of all other homework components, at the option of the course instructor. *Unless otherwise noted, all homework assignments should be submitted on paper at the beginning of the class.*

ACADEMIC OFFENSES

Scholarly dishonesty, especially plagiarism, will not be tolerated. Plagiarism is defined as "Failing to credit sources used in a work product in an attempt to pass off the work as one's own. Attempting to receive credit for work performed by another, including papers obtained in whole or in part from individuals or other sources." Students found to have engaged in plagiarism will be punished severely, typically earning an automatic F in the course and being reported to the Office of Student Conduct and Integrity. The Office of Student Conduct & Integrity investigates issues of student misconduct to determine if there has been a violation of the Student Conduct Code. If students are found responsible for a violation, students receive educational sanctions which can range anywhere from warnings to expulsion from the California State University system.

For the homework assignments, you may talk to any other class member or work in groups to discuss the problems in a general way. However, your actual detailed solution must be yours alone. If you do talk to other students, you must write on your homework assignment who it is that you discussed the problems with. Your submitted work must be written solely by you and not contain work directly copied from others.

Homework Collaboration Clarification: To clarify, your homework assignment is yours alone and you are expected to complete each homework independently. Your solution should be written by you without the direct aid or help of anyone else. However, I believe that collaboration and team work are important for facilitating learning, so I encourage you to discuss problems and general problem approaches (but not actual solutions) with your classmates. If you do have a chat with another student about a homework problem, you must inform me by writing a note on your homework submission (e.g., Bob pointed me to the relevant section for problem 3). The basic rule is that no student should explicitly share a solution with another student (and thereby circumvent the basic learning process), but it is okay to share general approaches, directions, and so on. If you feel like you have an issue that needs clarification, feel free to contact me.

DISABILITY RESOURCES

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities.

If you have a physical or a learning disability, please talk to me privately and/or contact the Disability Resource Center (DRC) at 909-869-3333. The location is at Bldg 9-103 to coordinate course accommodations. For further information, visit the DRC website at http://www.cpp.edu/~drc/index.shtml