

Course Number: CSC 642

Course Title: Human Computer Interaction

Number of Credits: 3

Prerequisite: a grade C or better in CSC 413 or consent of instructor

Catalog Description

The design, implementation, and evaluation of human/computer interfaces. Topics include interface devices, interface metaphors, interaction styles, User Centered Design, testing, and quality assessment

Expanded Description

The course has the following main components:

- User Interface (UI) Design principles
- Modern Software Engineering processes and best practices for design, development, evaluation and testing of usable systems (User Centered Design, mockups, focus groups etc.)
- Team project – development of user intensive application of students' choosing, with emphasis on front end only, utilizing best practices, design principles and modern tools and frameworks for user interface design, implementation and testing
- Individual take home student project focused on user intensive software application
- External speakers covering industrial strength and advanced UI systems

Course Objectives and Role in Program

With maturing of SW technologies and with SW applications becoming ubiquitous, the need for teaching students to design, develop, test and evaluate easy to use software systems is becoming critically important. This course is designed to address this issue in a practical way; it is focused on practical principles and best practices for UI design, development, testing and evaluation using modern software tools and frameworks. In addition, this course offers one team and one individual project, which helps students build their portfolio of projects as well as teamwork skills. Both PC and mobile UIs will be covered. The course may also involve external speakers who will expose students to industrial-strength, state of the art projects in human computer interaction.

Learning Outcomes

At the end of the course students will be able to:

- Design, implement, test and evaluate UI sub-systems using fundamental principles of UI design (PC and mobile)
- Work in a team to implement a user intensive project of their choice by following best principles and practices of design, development, testing and evaluation of usable systems such as User Centered Design
- Use modern tools and frameworks for UI design, implementation and testing
- Design and implement adequate user evaluation experiments and focus groups

Method of Evaluation (point distribution may change)

- Team assignment including student project demo and presentation at the end of the class: 40/100
- Individual take home final project: 30/100
- Final individual exam (close books, close notes, no mobile): 30/100

Tools, frameworks, platforms

Students and teams will propose (and instructors will approve) their own tools and frameworks choosing from leading open source resources. Class will involve both PC and mobile user interfaces.

Attendance:

Due to strong teamwork component, attendance will be mandatory for portions of the class (details to be announced in each class). Any absence has to be justified; the instructor and team members must be informed in advance.

Required textbooks

None. Material will be provided in class slides

Created by:

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