

# CSCI 2951L: Human Computer Interaction Seminar

## Course Missive

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**Instructor:** Jeff Huang, CIT 407, jeff@cs.brown.edu

**Meeting Time:** Mo/We/Fr 1:00pm-1:50pm, CIT 506

**Website:** <http://cs.brown.edu/courses/csci2951-1>

**Teaching Assistant:** Alexandra Papoutsaki, CIT 507, alexpap@cs.brown.edu

**Office Hours:** By appointment with the instructor.

**Textbook:** No textbook is required for this course. Relevant material for reading will be provided in the website.

## Description

Welcome to CSCI 2951L, Human Computer Interaction Seminar.

This seminar covers methods for conducting research in human-computer interaction (HCI). These topics will be pursued through independent reading, assignments, and class discussion. The seminar comprises of assignments that not just apply HCI research methods but push the envelope. The assignments are designed to be meaningful and have the potential to be widely visible or be published. We will have readings that teach HCI experimental research methods and provide examples of valuable contributions.

The goal of this course is to provide students the background necessary to perform research in HCI and the skills required to conduct human-centric research. There will be little or no content in this course about user interfaces, but students will find topics in CSCI 1950i (User Interfaces) relevant.

## Prerequisites

**CSCI1950-I:** Designing, Developing and Evaluating User Interfaces.

Enthusiastic students who have not taken CSCI 1950i should contact the instructor to enroll. A registration override code is required.

## Grading Policy

- 12% Reading summaries
- 18% Crowdsourcing assignment
- 18% Redesign assignment

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- 18% Experiment bughunt assignment
- 18% Fitts' Law study assignment
- 16% Participation

### Assignments

- **Crowdsourcing assignment:** Experiment with different crowdsourcing models to generate an accurate database of all computer science professors, including metadata like degrees, subfield, rank, and advisor. You will each be responsible for a handful of universities and we will aggregate the data at the end to make the database public, and publish the lessons learned.
- **Redesign assignment:** Create a provocative redesign of a classic interface using the design research approach. For example, you may change the user model from action-object to object-action, or use real-world metaphors to design affordances. Popular online examples: dontclick.it, boarding pass redesign, New York Times redesign; you will be encouraged to get some publicity online.
- **Experiment bughunt:** Comb through five empirical papers from CHI and identify experimental errors. We will aggregate this information to find out what are the common mistakes in HCI research, and publish our findings online.
- **Fitts' Law study:** Run a variant of the classic Fitts' Law experiment, which can be combined as a class for a meta-analysis that can potentially be submitted for publication as a class.

Assignments will be handed in electronically according to the instructions on each assignment document.

No late homework will be accepted without prior authorization from the instructor.

### Collaboration Policy

You are allowed to discuss the course material and assignments with other students, but all code and work should be your own.

The collaboration policy document uploaded on the website is required to be signed and returned by Wednesday, February 12, when the first homework is due.

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### Schedule

- **Jan 22** Overview
- **Jan 24** Introduction  
Grudin - Three faces of human-computer interaction
- **Jan 27** Crowdsourcing  
Kittur - Crowdsourcing user studies with Mechanical Turk  
Crowdsourcing assignment out
- **Jan 29** Crowdsourcing  
\*\*Marcus - How I Learned to Stop Worrying and Love the Crowd
- **Jan 31** Crowdsourcing
- **Feb 3** Crowdsourcing  
\*Bernstein - Soylent: a word processor with a crowd inside
- **Feb 5** Assignment midpoint  
Crowdsourcing assignment mid
- **Feb 7** Online Experiments  
Kohavi - Controlled experiments on the web
- **Feb 10** Online Experiments  
Discussions from online
- **Feb 12** Assignment review  
Crowdsourcing assignment due
- **Feb 14** Experimental Methods  
Losh - Reliability, Validity, Causality, And Experiments  
Experiment bughunt out
- **Feb 19** Experimental Methods
- **Feb 21** Experimental Methods
- **Feb 24** Experimental Methods  
Wobbrock - Practical Statistics for HCI
- **Feb 26** Experimental Methods  
Dell - "Yours is Better!" Participant Response Bias in HCI
- **Feb 28** Assignment midpoint  
Experiment bughunt mid

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- **Mar 3** Design Experiments  
Getting the Right Design and the Design Right: Testing Many Is Better Than One
- **Mar 5** Design Experiments
- **Mar 7** Design Experiments  
\*Kane - Usable Gestures for Blind People
- **Mar 10** Assignment review  
Experiment bughunt due
- **Mar 12** Design Methods  
Redesign assignment out
- **Mar 14** Design Methods  
\*\*Norman - The Design of Everyday Things
- **Mar 17** Design Methods  
Zimmerman - Research through design as a method for interaction design research in HCI
- **Mar 19** Assignment mid  
Redesign assignment mid
- **Mar 21** Qualitative Methods  
Adams - A qualitative approach to HCI research
- **Mar 31** Methodology  
McGrath - Methodology Matters: Doing Research in the Behavioral and Social Sciences
- **Apr 2** Assignment review  
Redesign assignment due
- **Apr 4** Fitts' Law  
MacKenzie - Fitts' law as a research and design tool in human-computer interaction  
Fitts' Law study out
- **Apr 7** Fitts' Law  
\*\*Soukeroff - Towards a standard for pointing device evaluation
- **Apr 9** Fitts' Law
- **Apr 11** Fitts' Law  
\*\*Shoemaker - Two-Part Models Capture the Impact of Gain on Pointing Performance
- **Apr 14** Assignment midpoint  
Fitts' Law study mid

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- **Apr 16** Systems
  - \*\*Landay - A Guide to Systems & Applications Research
- **Apr 18** Systems
  - \*Dixon - Prefab
- **Apr 21** Systems
  - \*Fitchett - Improving Navigation-Based File Retrieval
- **Apr 23** Assignment review
  - Fitts' Law study due
- **Apr 24** Social Computing Symposium

\* Best Paper Award winner; we will look at the corresponding reviews in class to see what reviewers liked about them.

\*\* link [http://cs.brown.edu/courses/csci2951-1/\[lastname\].pdf](http://cs.brown.edu/courses/csci2951-1/[lastname].pdf).