Final Exam

CSE 510 – Advanced Topics in Human-Computer Interaction
DUE: Thursday, March 10, submit by end-of-day

Description

This exam is an opportunity to demonstrate and apply your understanding of the course material in a more substantial format. It requires you to connect concepts across papers, serving as an evaluation of your understanding and critical thinking about concepts covered in this course. If you have kept pace with the readings, you will find it much easier to approach this exam (e.g., simply referring back to readings, rather than needing to understand them from scratch). You may reference any of the articles, slides, notes, discussion posts, or other material readily available on the web. You may consult the course staff with any questions, but this is strictly an individual assignment (i.e., do not discuss it with others).

We have provided six pairs of *framing* and *instance* papers from this quarter's assigned readings. Although the course focused on papers within the same topic, the ideas you encountered in this framing papers are more general than the topics in which they were presented. The pairs in this exam therefore come from different research topics, requiring you to connect the concepts you learned across topics.

Select **two pairs** of papers. For each paper of papers, write approximately **500 to 750** words on their relationship (e.g., using the framing to discuss the instance). Responses will be evaluated on the understanding you demonstrate and the critical relationships you discuss between the papers you choose.

You may also seek to create a pairing of your own choosing. Select one of the framing papers discussed in class and connect it to a non-obvious instance paper (e.g., a paper from another day, a paper you encountered outside of class). Do not choose a paper which directly casts itself in terms of the framing you have chosen, as this will leave you little or no room to demonstrate more fundamental understanding. After choosing your papers, **obtain advance permission from the course staff** before writing.

There is no time limit for this take-home exam, and we expect the exam can be completed in a couple hours if you kept pace with and understood the readings. One strategy would be to quickly sketch points you might make for each pair, then choose and further develop your most insightful perspectives.

Submission and Grading

Submit a PDF via the Canvas link provided on the course website. Responses will be evaluated on the understanding you demonstrate and the critical relationships you discuss between the papers you choose.

For example, consider the following pairing (i.e., not assigned as a pair to which you can respond):

FRAMING PAPER:
Reinecke, Gajos. LabintheWild: Conducting Large-Scale Online Experiments With Uncompensated Samples. CSCW 2015.

INSTANCE PAPER:
Consolvo, Klasnja, McDonald, Avrahami, Froehlich, LeGrand, Libby, Mosher, Landay. Flowers or a Robot Army?: Engaging Awareness & Activity with Personal, Mobile Displays. UbiComp 2008.

A poor analysis might simply note that "*UbiFit Garden was tested with 28 WEIRD participants recruited through a market research agency in the United States*", then state that "*the experiment could be more useful to researchers if it were conducted with a more diverse population*". This analysis restates key points from each paper, and uses a few keywords, but does not engage with any critical relationships.

A better analysis might note that "*UbiFit Garden was tested with 28 WEIRD participants recruited through a market research agency in the United States*", then go on to explain that "*UbiFit was intentionally designed to provide positive reinforcement rather than punishment*" and perhaps question that decision with more diverse populations, such as "*I expect this is well-suited to the cultural background of the United States, which as a culture may respond poorly to punishment. It would be interesting to see how people from other cultures would respond to the UbiFit interface and how the interface could be redesigned to better align with cultural preferences.*"

It might continue in identifying another design assumption "*Further, UbiFit explored the metaphor of a garden as a representation of activity levels.*" and surfacing questions "*This may not resonate with people from certain geographic areas, or may need to be redesigned to account to reflect the climate. For example, a garden visualization may not be motivating for someone in an urban environment or someone from a particularly arid climate. In that sense, perhaps the 'robot army' has a more universal appeal.*"

Pairings
Select **two** of the following pairs, and write **500 to 750 words** critically relating each.

Pairing 1
FRAMING PAPER:
Myers, Hudson, Pausch. Past, Present, and Future of User Interface Software Tools. TOCHI 2000.

INSTANCE PAPER:
Gajos, Wobbrock, Weld. Improving the Performance of Motor-Impaired Users with Automatically-Generated, Ability-Based Interfaces. CHI 2008.

Pairing 2
FRAMING PAPER:
Wellner. Interacting with Paper on the DigitalDesk. CACM 1993.

INSTANCE PAPER:
Klemmer, Newman, Farrell, Bilezikjian, Landay. The Designers' Outpost: A Tangible Interface for Collaborative Web Site Design. UIST 2001.

Pairing 3
FRAMING PAPER:
Reinecke, Gajos. LabintheWild: Conducting Large-Scale Online Experiments With Uncompensated Samples. CSCW 2015.

INSTANCE PAPER:
Kittur, Kraut. Harnessing the Wisdom of Crowds in Wikipedia: Quality through Coordination. CSCW 2008.

Pairing 4

FRAMING PAPER:

Patel, Fogarty, Landay, Harrison. Investigating Statistical Machine Learning as a Tool for Software Development. CHI 2008.

INSTANCE PAPER:

Hartmann, Klemmer, Bernstein, Abdulla, Burr, Robinson-Mosher, Gee. Reflective Physical Prototyping through Integrated Design, Test, and Analysis. UIST 2006.

Pairing 5

FRAMING PAPER:

Grudin. Groupware and Social Dynamics: Eight Challenges for Developers. CSCW 1992.

INSTANCE PAPER:

Heimerl, Hasan, Ali, Parikh, Brewer. A Longitudinal Study of Local, Sustainable, Small-Scale Cellular Networks. ITID Journal 2013.

Pairing 6a

If you choose this pairing, you may not also choose Pairing 6b.

FRAMING PAPER:

Buxton. Touch, Gesture, & Marking. Chapter in Readings in Human-Computer Interaction: Toward the Year 2000.

INSTANCE PAPER:

Mott, Vatavu, Kane, Wobbrock. Smart Touch: Improving Touch Accuracy for People with Motor Impairments with Template Matching. CHI 2016.

Pairing 6b

If you choose this pairing, you may not also choose Pairing 6a.

FRAMING PAPER:

Wobbrock. Improving Pointing in Graphical User Interfaces for People with Motor Impairments Through Ability-Based Design. Chapter in Assistive Technologies and Computer Access for Motor Disabilities.

INSTANCE PAPER:

Holz, Baudisch. Understanding Touch. CHI 2011.

Pairing 7

You may also seek to create a pairing of your own choosing. Select one of the framing papers discussed in class and connect it to a non-obvious instance paper (e.g., a paper from another day, a paper you encountered outside of class). Do not choose a paper which directly casts itself in terms of the framing you have chosen, as this will leave you little or no room to demonstrate more fundamental understanding. After choosing your papers, **obtain advance permission from the course staff** before writing.