

CS 791 HCI Graduate Topics on Human-Computer Interaction

Study Required for Midterm Test #2

April 7, 2016

This written, closed-book, 70-minute test will take place on **Thursday, April 21, 2016** in SEM-201 from 1:00 pm (regular classroom and time). The test weights 13% in the course grade.

A Chapters Required from the textbook *Human-Computer Interaction: An Empirical Research Perspective* by I. Scott MacKenzie:

Chapter 4 SCIENTIFIC FOUNDATIONS
Chapter 5 DESIGNING HCI EXPERIMENTS
Chapter 8 WRITING AND PUBLISHING A RESEARCH PAPER

Note: from items A above, Sections 5.12 (Group effects and asymmetric skill transfer) and 5.13 (Longitudinal studies) are not required.

B Research papers (3 in total), 2 presented by grad students, 1 assigned by the instructor.

Paper 1: [Consolvo et al, 2008] on Encouraging Awareness and Activity – presented by Terence Henriod

Possible questions:

- Q1.** Refer to the [Consolvo et al, 2008] paper. Explain what the UbiFit system is and briefly describe its three main components [3-6 lines each].
- Q2.** Refer to the [Consolvo et al, 2008] paper and describe the metaphor used in the Glanceable display. Indicate and briefly explain at least 6 mappings used in this interaction metaphor (see Figure 2).
- Q3.** Describe the Study Design used for the 3-month field experiment presented in the [Consolvo et al, 2008] paper.

Paper 2: [Zhong et al, 2015] on RegionSpeak – presented by Majed Al Zayer

- Q4.** Indicate the shortcomings in the previous two solutions (VizWiz and Chorus:View) that the authors attempted to overcome in RegionSpeak [Zhong et al, 2015].
- Q5.** Describe the three steps of a dialog turn of RegionSpeak interaction [Zhong et al, 2015]. Draw an interaction flow diagram for a common RegionSpeak turn.
- Q6.** Consider the Evaluation study used in [Zhong et al, 2015] to assess the usefulness of image stitching. Explain what were the independent variables and the dependent variables used in this study and describe the three tasks performed by the users. Indicate also why these particular tasks were chosen. Briefly explain (in 2 to 4 lines) what the results of the related quantitative analysis confirmed.

Paper 3: [Tinwala and MacKenzie, 2010] on Eyes-free Text Entry – assigned by the Instructor

- Q07.** Describe the three issues found in the original prototype that led to the redesign process presented in [Tinwala and MacKenzie, 2010]
- Q08.** Explain how the Auditory Display integrates the error correction algorithm with the user interaction in [Tinwala and MacKenzie, 2010].
- Q09.** Describe the three feedback modes used in [Tinwala and MacKenzie, 2010].
- Q10.** Briefly describe the Design of the experiment used in the [Tinwala and MacKenzie, 2010] paper. Also, explain what was the purpose of the training session and what was actually done during this session.