

CMP2006 HCI, Computers & Society, Assignment Specification for Semester A

This document describes the first-sit coursework assessment requirements for this unit for Semester A, academic year 2007/8.

Through this assignment you will demonstrate achievement of the following learning outcomes:

- deploy human factors principles in the analysis and evaluation of computer systems
- apply user-centred practice in the analysis and evaluation of software systems

Introduction

For this assignment you will undertake a usability evaluation of one or more aspects of two systems of your choice. In order to perform the evaluation, you will carry out a number of different analytical and investigatory activities. The assignment submission is in two parts: part 1 will be submitted during the semester, and part 2 will be submitted towards the end of the semester. **See the departmental submission schedule for actual deadlines.**

Your work will be graded according to the criterion referencing model presented as a separate document.

The assignment task - usability analysis and comparison of two systems

You are required to choose a pair of computer systems offering similar functionality, and to design and carry out a usability evaluation process on them. You will do a usability analysis for each system, and compare them.

You may choose any sort of computer system that you like to perform this assignment, but it is important that the two systems that you choose should be similar in terms of the *functionality* they offer, and in terms of the *user group or audience* for which they are intended. For example, you might choose two web sites offering similar functionality, such as Amazon and BOL, Safeway and Tesco, Epson and HP.

In the first part of the assignment, you, as an HCI expert, will perform a usability analysis and evaluation of the systems, using your knowledge and understanding of HCI issues (user and task analysis, interaction design). For the second part of the assignment, you will design and implement a research study involving system users, to explore some aspect or question raised by your 'expert' analysis in Part 1. You must involve users (*real people*) as subjects in the study, but the number of participants and nature of the analysis are for you to determine.

For large and complex systems, a comprehensive analysis is unrealistic in the time available. In this case, you may choose to evaluate a part rather than the whole. For example, you might select a subset of a web-site's pages, based on one system function or *use case*. If you are in any doubt about the suitability of your chosen sites, or how to select a subsection for analysis, discuss your choice with the unit tutor.

When choosing the sites you plan to evaluate, bear in mind that *you need to have access to an appropriate set of users for the research study in part 2. (Don't pick web-sites for anglers if you can't get hold of any anglers to evaluate them.)*

Please note, also, that it would NOT be appropriate to choose your user-study participants from other students on this unit.

Detailed instructions for Part 1 and Part 2 follow on pages 3 & 4 of this assessment specification.

For submission deadlines for Part 1 and Part 2, see the Departmental Assignment Submission schedule on BlackBoard.

A note on the size and scale of this assignment

Unless you have chosen a system which is very small with very limited functionality, do not attempt a full usability evaluation. Choose one or two aspects which interest you to study in detail. You can pass this assignment with high marks even if you only study one tiny element of an interface, provided that your analysis is good and well presented.

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Detailed specification for Part 1 - Expert evaluation

Perform a usability analysis of the systems' interfaces, in the light of accepted usability expertise and guidelines, using techniques such as: usability heuristics; use case walk-throughs; hierarchical task analysis; interface state transition diagrams.

Please note that the techniques suggested here are not ends in themselves, but are methods designed to help you analyse the interface. It is not enough to produce, for example, a state transition chart for a web-site. You need to analyse and discuss what the diagrams show/tell you about the systems you are evaluating.

What you must submit for Part 1

- An introductory section which gives brief details of the systems you are evaluating: purpose, functionality, target audience. For web-sites you should include the URL. (Note: This section must be repeated at the beginning of your submission for part 2)
- An account of your expert evaluation and its findings, and preliminary system comparison. Make sure you highlight and discuss any areas of concern or difference between the systems, discussing any preferences that you have, and indicate the areas you intend to investigate further through your user study.
- Your submission must include your evaluation documentation, diagrams, etc.

Required format for Part 1 submission

Introductory section - Systems	Details of the 2 chosen systems: name, location/URL, brief description of purpose and functionality - <i>what are the systems for?</i>	
Introductory section - Users	Brief description of the intended audience/user group(s) for the chosen systems - <i>who are the systems for?</i>	
Outline of your area of analysis	Brief description of the areas/aspects/functions/use cases which you have analysed	
Detail of your analysis	List each of the elements you have analysed, and indicate the analytical methods you have used in each case: eg for Amazon:	
	<i>use case studied</i> find and select book	<i>method</i> HTA (hierarchical task analysis) - see diagram attached
Report and discussion of your analysis	Report on your findings, comparing and contrasting the two systems you have studied, and emphasizing whatever you have found to be interesting or important.	
Indication of future work	Outline the issues or any changes your study suggests to you, and that you intend to follow up in your user study.	
References	Harvard format	

Detailed specification for Part 2 - Usability study

(a) **Design** a small-scale usability study to evaluate some aspect(s) of your chosen systems. This includes:

- identifying appropriate user groups: sampling issues; planning how to choose and brief individual participants; addressing ethical issues
- designing appropriate standard task(s), recording mechanisms and metrics
- designing any research instruments: interview questions, questionnaires, etc,

For each aspect of your evaluation you must specify:

- **What** you are evaluating, and whether you are seeking to elicit quantitative or qualitative data
- **The method** of evaluation you will use
- **How** you will measure, record and analyse the results.

(b) **Carry out** the evaluation process you have specified.

(c) **Write a report** detailing the evaluation you have undertaken and summarising its results. You must provide explanation and analysis to account for your findings. The submission must include as appendices all the documentation supporting your evaluation, such as completed questionnaires, interview notes, etc.

If appropriate, make recommendations for the re-design or further development of some aspect of one or both of the systems you have been studying.

Required format for the Part 2 submission - User Study Report

Introductory section	Give introductory details of the systems (Systems and Users), as for Part 1, above. (Simply paste in the same information you supplied previously - no need to add any extra detail here)
Introduction to usability study	What issues emerged from your expert evaluation and what you have chosen to investigate further. This section may be copied from the final section of your part 1 assignment.
Methodology	Outline your full plan for the user study, including addressing ethical issues.
Report of user study plan and process	Describe how you carried out the study.
Analysis of results	Present the results, together with discussion and analysis.
Conclusion and recommendations	Outline any changes your study suggests to you; include details of proposed changes, and a simple prototype if appropriate.
References	References should be included. All research instruments (eg questionnaires) should be included as appendices to the main report.