Ollscoil na hÉireann, Gaillimh GX 1478
National University of Ireland, Galway

Semester I Examinations 2003/2004

Exam Code(s)	3IF121; 3BA
	1SD1; 1MF2
Exam(s)	B.Sc. in Information Technology
	B.A.
	Higher Diploma in Software Design and Development
	M.Sc. in Software Design and Development
Module Code(s)	CT318
	CT865
Module(s)	Human Computer Interaction
Paper No.	1
Repeat Paper	Special Paper
External Examiner(s)	Professor D.Bell
	Professor P. Nixon
Internal Examiner(s)	Professor G. Lyons
	Ms. K. Young
Instructions:	Answer **Question 1** and any **two** other questions of your choice. All questions will be marked equally.
Duration	2hrs
No. of Answer Books	1
Requirements:	
Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	
No. of Pages	3
Department(s)	Information Technology

1. You have been asked to design an interactive web-based system for a clothing company who wish to begin selling their clothing online. The system must support the user in browsing through their products by different categories (e.g. Men / Women / Children; Leisurewear / Formal wear; Shirts / Sweaters / Trousers etc.), down through subcategories to the product level detail where attributes such as size, colour, and available stock/inventory levels are specified.

   The site would also enable customers to search for a particular product, put it in their shopping cart and fill in their address details for shipment as well as paying for the product. Your client has stressed the importance of an effective, easy to use, and well-organised interface for their users, given the complexity of the product information, and level of competition in the market.

   (a) Produce a paper prototype of at least three of the main interface screens, representing the system's functional organisation and overall "look and feel". Clearly outline your rationale for each of the design choices you make.

   [12]

   (b) Outline the data gathering techniques you would use in collecting requirements for the above system.

   [4]

   (c) Describe an evaluation plan for the system which will support comprehensive testing of your design.

   [4]

2. **(a)** Many researchers are beginning to explore the potential of ubiquitous computing technologies and applications in the domestic environment. Key issues to be considered in the design of such ubicomp technologies are context awareness, automated capture and continuous interaction. Discuss the challenges the design of such technologies present in relation to these themes. Use examples (e.g. ComMotion (MIT 2000), Olivetti's Active Badge, and Classroom 2000/eClass) to illustrate your response.

   [10]

   (b) You have been asked to develop an interactive web-based system for an international audience. What major issues will you address in ensuring your design is appropriate for international use?

   [5]

   (c) Which interaction style would you apply to the design of each of the following and why?
   - A PC for undersea divers
   - An interactive conferencing system
   - A computer game

   [5]

3. Write a detailed description of **three** of the following subjects, illustrating your answer with practical examples where relevant:

WWW Accessibility
Gulfs of Execution and Evaluation
Anthropomorphism in interactive system design
Hypertext
UID Tools

[20]

4. **(a)** What factors can be used to distinguish different evaluation techniques and help the interactive systems designer choose an appropriate method for evaluating their designs?

[4]

(b) Choose an appropriate evaluation method for each of the following situations. In each case identify: the participants, the technique used, the representative tasks to be examined, measurements that would be appropriate, and an outline plan for carrying out the evaluation.

(i) You are at an early stage in the design of a spreadsheet package and you wish to test what type of icons will be easiest to learn.

(ii) You have a prototype for a theatre booking system to be used by potential theatre-goers to reduce queues at the box office

(iii) You have designed and implemented a new game system and want to evaluate it before release

[6]

(c) The WWW has its origins in the world of information publishing (passive interaction paradigm) but has now evolved into something much more dynamic (active interaction paradigm). This presents the interactive systems designer with a new set of challenges depending on the level of "interactivity" involved in the web design. Briefly outline the three different levels of "active web" and the design challenges associated with each. For each level described, suggest the type of website the design would best suit.

[10]