

OLLSCOIL NA hÉIREANN, GAILLIMH
THE NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER I EXAMINATIONS 2002/2003

Third Examination in B.A.
Third Examination in B.Sc. in Information Technology
Examination in Higher Diploma in Software Design and Development

CT318/CT865: HUMAN COMPUTER INTERACTION

Prof. D. Bell
Prof. P. Nixon
Prof. G. Lyons
Ms. K. Young

Time allowed: TWO hours

Answer **Question 1** and any **two** other questions.
All questions carry equal marks

1. You have been asked to design an interactive web-based system for an accommodation agency. This agency provides details of properties to rent, including the location, size (number of rooms), price, facilities, rental restrictions (e.g. no smokers), and dates available. These details are published online on behalf of the property owners, who pay the agency for this service. Anybody looking for a rental property can browse this site, or request properties in specific areas, at a particular price or with particular equipment. The system will suggest properties to the client or, for a fee, will take their details and notify them of a suitable property once one becomes available.

- (a) Outline the stages and methods you would follow in the design of the above system from initial requirements collection through to usability testing.

[6]

- (b) Produce a paper prototype of at least three of the main interface screens (to include the main screen, and subsequent “product” screens), representing the system’s functional organisation and overall “look and feel”. Clearly outline your rationale for each of the design choices you make.

[9]

- (c) Describe how your interface is suited to a global audience, and what changes you might need to make to internationalise your design.

[5]

2. (a) Describe the four basic activities, and the associated key characteristics, of the interaction design process as outlined by Preece, Sharpe and Rogers. Your answer should indicate how each of these activities relates to the stages of the standard systems development lifecycle, and which lifecycle models best suit interactive systems design.

[10]

(b) Brenda Laurel has described a website as live art: an ongoing performance which audiences visit that changes over time. Many HCI researchers and companies (e.g. Apple, IBM) have published guidelines for the design of effective websites: how do these guidelines support or detract from Laurel's metaphor of web design as theatre?

[10]

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

Mental Models and User Interface Design
Usability Testing
Ubiquitous Computing
Task Analysis
Interaction Styles

[20]

4. (a) Effective human computer interaction is difficult to design, and heavily reliant on evaluation, an activity central to the whole design process. Describe how to integrate evaluation throughout the system design process, illustrating your response with examples where appropriate.

[12]

(b) The design of interfaces for mobile devices presents interactive systems designers with a considerable challenge given the lack of screenspace available. Outline the factors to be taken into consideration in designing mobile interfaces and the range of interaction options available to these designers, paying particular attention to choice of interaction style.

[8]