

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

SEMESTER II EXAMINATIONS 2005

Examination in Masters in Information Technology

CT534: User Centred Design

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Time allowed: TWO HOURS

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

1. A major Irish Bank has contracted your design team to redesign their ATM interface to accommodate a number of new services. The existing ATM services are: Cash Withdrawal, Balance Inquiry, Order Statement, Change Pin, Choose Language. The bank wishes to add the following services to their main interface: Transfer Funds, Pay Bills, Top-up Mobile, Lodge Money, SMS Balance & Transaction Notification.
  - (a) Outline the stages and methods you would implement in the design of the above system, from establishing requirements through to usability testing. [8]
  - (b) Produce a low fidelity prototype of the **main interface** (displaying all available services and interactive elements such as buttons, keypad etc.) and **any two new** service interfaces. Clearly outline your rationale for each of the design choices you make. [12]
2. Write a detailed description of **three** of the following subjects, illustrating your answer with practical examples.

Category Agreement Analysis  
Presence and Awareness  
Task Analysis  
Usability  
Ubiquitous Computing

3. (a) '...designers sometimes will say that when they put an icon, cursor or other target on the screen, they have added an "affordance" to the system' (Norman). Discuss, illustrating your answer with examples.

[8]

(b) Describe Jacob Nielsen's **ten** heuristics devised for general single-user computer systems. Give examples for each heuristic.

[12]

4. (a) Evaluation is a key component of the design process. Discuss the DECIDE framework as an approach to evaluation, illustrating through examples where applicable.

[10]

(b) Discuss the **six** stages of IBM's User Centred Design Process and possible methods for gathering user input during each stage.

[10]

5. Examine the use of assistive technologies and adaptive strategies by people with disabilities. Use sample cases to better describe their uses.

[20]