



Autumn Examinations 2011/ 2012

Exam Code(s) 3IF121; 3BA1; 4BA1;1MF1; 1SD1
Exam(s) B.Sc. in Information Technology
B.A.
MSc in Software Design and Development
Higher Diploma in Software Design and Development

Module Code(s) CT318
CT865
Module(s) Human Computer Interaction

Paper No. 1
Repeat Paper

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Instructions:

Candidates should answer **Question 1** and **two other** questions.
All questions carry equal marks.

Duration

2 hours

No. of Pages 3

Requirements:

MCQ
Handout
Statistical/ Log Tables
Cambridge Tables
Graph Paper
Log Graph Paper
Other Materials

Release to Library: Yes

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Q.1. You have been asked to design an interactive system (web / mobile web-based) for an airport food hall. The system must support the user in browsing, ordering and payment. Payments for different vendors within the one order are processed separately for each vendor, but together as one bill for the customer. Users can order in advance, i.e. before travelling, or before disembarking from plane, and notify the system of an expected collection time. Your client has stressed the importance of an effective, easy to use, and well-organised interface for their users, given the time pressures customers face.

The company has indicated that they want an initial design submission from you to include the following:

(a) A PACT analysis for this application.

[6]

(b) A paper prototype of three of the 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 (e.g. interaction styles).

[9]

(c) An evaluation plan, clearly outlining what activities, when, how and by whom the evaluation activities will be undertaken, for the system which will support comprehensive testing of your design.

[5]

Q. 2. (a) Write a one-page memo to your colleagues in your software design company, proposing the adoption of *interactive storyboarding* during design to improve the success of the interactive systems designed by your company.

[6]

(b) You have been tasked with developing a prototype UI (User Interface) for your company's new home entertainment system. The brief highlights the need to minimise users' negative emotions (frustration, fear, anger, etc.) when using this new system. Discuss the design issues that this new UI raises, and outline a conceptual model for the design.

[8]

(c) Which interaction style would you apply to the design of each of the following and why?

- A mobile car finder (for car parks) application
- A music education application
- A budget management system for domestic use

[6]

Q. 3. (a) (i) Distinguish between a *conceptual* model and a *physical* model in design.

(ii) You have been tasked with developing a website for a chain of bookstores. Outline the progression from Conceptual to Physical Design in this context, clearly identifying the inputs and outputs for each design phase.

[8]

(b) What makes something easy to use? What are the properties of an interactive system that make it easy to use? Modify this list to make it specific to a technically savvy population.

[6]

(c) Good design requires good designers, not expensive tools. Comment on the validity of this statement and what it means for interaction design education. Support your answer with relevant examples.

[6]

Q. 4. (a) Research in human computer interaction has identified two distinct approaches to this cooperative interaction: the human centred and machine centred view. Norman characterises the differences in these approaches as those between analogue and digital agents. Do you agree with this statement? Why? What does this mean for effective interaction design? Use examples to illustrate your response

[10]

(b) In designing an interactive application discuss the role of *world* and *head* vectors in enabling effective progression from novice to expert use, illustrating your response with appropriate examples.

[5]

(c) In designing an interactive application there are many guidelines available to help the designer. Discuss the type and role of guidelines in producing good interactive web-based systems.

[5]