



Semester I Examinations 2013/2014

Exam Code(s) 3BCT121; 3BA1; 4BA1; 1MF1; 1SD1
Exam(s) B.Sc. in Computer Science and 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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Internal Examiner(s) Prof. Gerard Lyons
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Ms. Karen Young

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 (website, mobile application) to support the city's *Arts Festival*. The system should provide information on all Arts Festival events: date, location, producer, performers, reviews etc. In addition, the system must support ticket bookings and payments, as well as providing interactive demos and snippets from the performances and opportunities to get involved in the interactive digital performances or post reviews or play “games” associated with the festival.

The commissioning 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) *Easy-Pal* is your “friendly” digital companion. *Easy-Pal* is an affective digital agent that moves with you when you move: across device (e.g. mobile phone to car to TV) and context (meetings, commuting, social occasions, etc.). *Easy-Pal* supports you emotionally enabling you to stay connected with your loved ones wherever you are. Discuss the design issues that *Easy-Pal* raises and produce a conceptual model for your design. [8]

(b) Good design requires good designers, not expensive tools.

(i) From your study of the various theories, models, processes, and techniques of interaction design, comment on the validity of the above statement. [6]

(ii) What are the implications of your analysis in (i) above for interaction design education? Propose a course outline for a one-semester course in Interaction Design based on your analysis. [6]

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

[4]

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

[6]

(b) Analyse the role and contribution of the various models covered in this course to effective interaction design.

[5]

(c) Comment on the role and efficacy of User Interface *design guidelines* in supporting interactive system design.

[5]

Q. 4. (a) Your company has commissioned a number of evaluation studies which have shown that your users find your software products consistently “difficult to use”. Write a one-page memo to your colleagues in your company on the importance of *evaluation* to the success of the interactive systems designed by your company and identify suitable *evaluation approaches* to achieve this end.

[6]

(b) Effective interaction design involves achieving a balance between *divergent* and *convergent* design thinking. Compare these two thought processes, explaining the design stages each are suited to, and the importance of each to a successful design outcome using examples to illustrate your answer.

[6]

(c) HCI incorporates the study of novel interaction techniques with technology. Current interactions largely rely on vision (screen presentation of information) and touch (keyboard, touch-screens, etc.). You have been asked to propose a new interactive technique for a system being developed for use in a busy medical environment. Prepare a memo outlining the shortcomings of traditional interaction in this context, and proposing the benefits of this new interactive technique (including successful examples of its application in other contexts) to be presented to your company’s management team.

[8]