Semester I Examinations 2015/ 2016

Exam Code(s)	3BCT121; 3BA1; 4BA1
Exam(s)	B.Sc. in Computer Science and Information Technology
	B.A.
Module Code(s)	CT318
Module(s)	Human Computer Interaction
Paper No.	1
Repeat Paper	
External Examiner(s)	Professor Liam Maguire
Internal Examiner(s)	Prof. Gerard Lyons
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Instructions: Candidates should answer **Question 1** and **any two other** questions.
All questions carry equal marks.

Duration   2 hours

No. of Pages   3

Requirements:
None   Release to Library: Yes   ☐   No   ☐

Q.1 You have been asked to contribute to the design of a **new mobile application** to enable users to manage and organise their **travel plans** or commitments easily in advance of any trips. This application will enable users to schedule their travel arrangements by preferred day, time, and cost (comparing train, bus, taxi, air & boat), select accommodation by cost and location, view and select events of interest during their visit as well as select restaurants or bars, shopping locations etc. while there. Your company is open to other functional possibilities including automatic logging of expenses / costs and other time saving factors for users.

Your company has indicated that they want an initial, early 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) Effective interaction design involves achieving a balance between *divergent* and *convergent* design thinking.

(i) 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.

[5]

(ii) Laseau's Design Funnel clearly integrates these two processes. Using this funnel elaborate on the different activities involved during the elaboration and reduction design phases for the travel management mobile application described in Q.1 above.

[5]

(b) Effective **error messages** are critical to good user interaction design. What is the purpose of error messages? What factors are important in their design? Design an appropriate error message for a user who is unsuccessfully trying to gain access to a service they do not currently have clearance to access.

[5]

(c) Given that good design is dependent on good designers, not expensive tools, comment on the role of **software tools** in interaction design. Support your answer with relevant examples.

[5]

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. Using *Verplank's Interaction Design Framework*, what are the key elements you will need to capture and represent in your conceptual model?

[8]

(b) Explain Norman's *gulf of execution* and *gulf of evaluation* as they relate to successful interaction design, using appropriate examples.

[4]

(c) Comment on the efficacy of *Anthropomorphism* in interactive system design.

[4]

(d) The choice of **interaction style** is one of the most importance decisions in Interaction Design. What factors should be considered in making this choice? Use examples to illustrate your answer.

[4]

Q. 4. (a) "*Perfection is attained not when there is no longer anything to add, but when there is no longer anything to take away*" (Antoine de Saint Exupery, 1954)

Analyse the above statement in light of your study of effective **visual design**, including consideration of its application to a **website** of choice in your answer.

[8]

(b) 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 **mental models** to the success of the interactive systems designed by your company.

[8]

(c) What makes something easy to use? What are the properties of an interactive system that make it easy to use for the elderly? And for children?

[4]