



Semester I Examinations 2021/ 2022

Exam Code(s) 3BA1; 4BA1; 3BCT121
Exam(s) B.A.
 B.Sc. in Computer Science and Information Technology

Module Code(s) CT318

Module(s) Human Computer Interaction

Paper No. 1
Repeat Paper

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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

Discipline(s): Computer Science

Requirements:

Release in Exam Venue	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
MCQ	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Handout	None			
Statistical/ Log Tables	None			
Cambridge Tables	None			
Graph Paper	None			
Log Graph Paper	None			
Other Materials	None			
Graphic material in colour	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

PTO

Q.1 You are working in a global software development organisation with colleagues in New York, Los Angeles, London, Mumbai, Hong Kong, and Sydney. International teams in your company often collaborate on large projects, from requirements specification through conceptual and physical designs and prototypes to full implementations. You have been asked to work with a small team to create an ideal online tool set that would enable you to collaborate effectively during software development activities. They are particularly concerned initially with supporting the early requirements analysis activities and sharing of system models and designs.

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 initial evaluation plan for the system which will support comprehensive testing of your design. This should clearly outline **what** activities will be evaluated, as well as **when** the evaluations will take place, **how** (what techniques) they will be conducted and **who** will undertake them. (5)

Q.2 (a) *There is no "right" design, just good and bad designs.*

Discuss the contribution of **Design Thinking** in all its stages to achieving good design outcomes, using examples from your module study and projects, to illustrate your answer. (8)

(b) You have been tasked with developing a mobile application for a new *music streaming service*. Outline the progression from **Conceptual** to **Physical** Design in this context, clearly identifying the inputs and outputs for each design phase. (7)

(c) The choice of **interaction style** is one of the most important decisions in interaction design.

- (i) Why is this and what factors should be considered in making this choice? (3)
- (ii) What interaction style would you recommend for a tourist information kiosk and why? (2)

Q.3 (a) Successful HCI is heavily dependent on evaluation. Prepare an **outline evaluation plan** for the design of a new *mobile banking app*. This plan should clearly address users' goals and identify each of the steps involved in the evaluation identifying when, how, what and by whom the evaluation activities will be undertaken.

(8)

(b) Effective **icon design** is challenging. What do you think makes the design of simple memorable icons so difficult? Use illustrative examples to support your answer.

(4)

(c) The importance of **information visualisations** in successful interaction designs is well recognised, however simply making information available in visual form does not contribute to improved understanding of that information. What factors are important to enabling users make sense of the information presented? How would you apply these factors in the design of a *new healthy lifestyle / wellbeing app*?

(8)

Q.4 (a) Effective interaction design is ultimately about the effective assignment of responsibilities to the parties participating in the interaction, i.e. the human and the computer.

(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) Discuss issues of the allocation of functions between people and software specifically in the context of *fitness monitoring and assessment* apps.

(4)

(b) Elaborate the role of **prototyping** (both low and high fidelity) in improving the interaction experience of users using technology. Your answer should give consideration of **what** is prototyped and **when** during the design of an interactive experience, use examples from your group project to illustrate your answer.

(6)

(c) Comment on the relative merits of **Empathy mapping** and **User personas** as means of representing user research, illustrating your answer with examples as appropriate.

(4)