



**RAJARATA UNIVERSITY OF SRI LANKA**  
**FACULTY OF APPLIED SCIENCES**

**B.Sc. in Information Technology**  
**Third Year - Semester II Examination – January/February 2023**

**ICT 3301 – HUMAN COMPUTER INTERACTION**

**Time: Three (03) hours**

- Answer **ALL** questions.
- This paper contains five (05) questions in three (03) pages.

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- a) “Human Computer Interaction (HCI) is a subject of multidisciplinary”. Explain why we need to integrate with other study streams to become proficient in HCI. **(05 marks)**
    - b) Name three (03) features of a good interface. **(05 marks)**
    - c) Hearing or sound is a primary source of information for humans. Discuss ideas for an interface which uses the properties of sound effectively. **(05 marks)**
    - d) Discuss a way to make the icons faster and easier to use in a horizontal tool bar of an image editing application using Fitts’s Law. **(06 marks)**

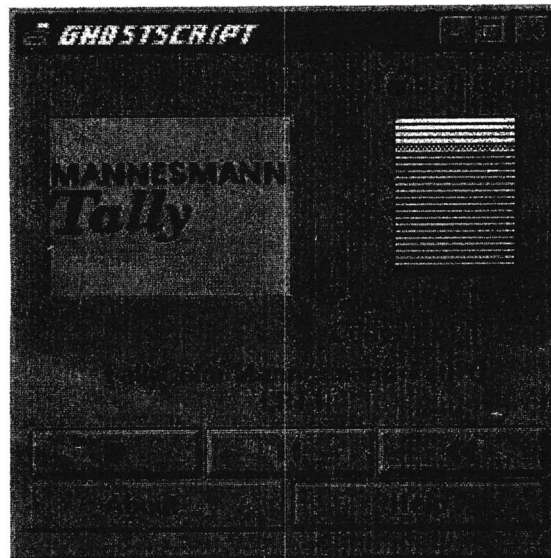
**(Total : 21 marks)**
  - a) Don Norman proposed that the emotional system consists of three different, yet interconnected levels. Name these three levels of design. **(03 marks)**
    - b) Mention two (02) design decisions you would apply in your product to increase its users’ memorability. **(05 marks)**
    - c) You have been asked to develop an application in English, but have also been told that it will be translated into Arabic and Chinese later. What factors should you apply when designing screens and message boxes for the application? **(06 marks)**

**(Total : 14 marks)**

3. a) Understanding the user of a product is essential in determining the usability. Justify the above statement using a product family of your choice. **(05 marks)**
- b) What does Skeuomorphism mean? Explain how this concept is used in the design of interfaces. **(05 marks)**
- c) The design space can be conceptualized based on the interaction type that a designer offers for the users. Identify the four (04) main instruction types with examples for each. **(04 marks)**
- d) Human Error is classified as slips and mistakes in interaction design. Define the terms "slips" and "mistakes" using suitable examples. **(06 marks)**
- e) Compare and contrast Norman's Execution Evaluation model with Abowd and Beale's Interaction Framework. **(08 marks)**

**(Total : 28 marks)**

4. a) "Interactive computing systems are deliberately designed to change people's attitudes and behaviors". Do you agree with this statement? Justify your answer. **(06 marks)**
- b) Metaphors are often employed in interface design to help users learn the application by facilitating the transfer of existing knowledge. The image below is of the Mannesman Tally printer dialog. It is utilizing a VCR metaphor to control a printer. Comment on your observations.



**(08 marks)**

- c) Discuss with examples how the conventional social interactions are enabled through the computerized methods. **(08 marks)**

**(Total : 22 marks)**

5. a) What are the disadvantages of using the laboratory tests to evaluate the usability of a design?  
(05 marks)
- b) Your team is assigned with a new project of developing a system to manage undergraduate exam results of a university. You have come up with two different prototype designs and need to test usability of each before the actual implementation.  
What would be an appropriate evaluation method for this situation? Mention how the following criteria are applied in the proposed evaluation method.
- (i) The participants
  - (ii) The technique used
  - (iii) Representative tasks to be studied
  - (iv) An outline plan for carrying out the evaluation
- (10 marks)

(Total : 15 marks)

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