

THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATION Professional Graduate Diploma

USER INTERFACE DESIGN

21st April 2004, 10.00 a.m.-1.00 p.m.

Answer THREE questions out of FIVE. All questions carry equal marks.

Time: THREE hours.

1. You have been asked to translate a PC based spreadsheet package, for example Microsoft Excel, to work on a Personal Digital Assistant, or PDA. A PDA is a small handheld computer with an LCD screen of around 15cm by 10cm.

What changes would you make to the design of the software to ensure that the PDA application is *i)* fit for purpose and *ii)* is compatible with the PC version of the software? **(25 marks)**

2. You are the chief software architect for a company that makes digital cameras. You have been asked to design a program that will allow customers to store, edit, archive and find images once the images have been transferred to the customer's PC. Describe your design for such a system, including drawings as necessary. Highlight the reasons why you made each of your design choices. **(25 marks)**

3. A software house, "No-Quiche-4-U", has developed a new user interface based on virtual reality.

Design, in outline, an evaluation study to answer the following question:

Does the new User Interface offer advantages in performance to users as compared to a conventional Windows based graphical user interface?

Your answer must address issues such as setting usability criteria, how data should be collected, who should participate in the study, tasks to be performed and where and how the study should take place. **(25 marks)**

4. As a consultant you have been asked to provide advice on the design of a Tree Structured Menu System for a Graphical User Interface.

Briefly outline the advice you would give on each of the following and justify your answers:

- Depth, Breadth and Organisation of menus.
- Categorisation and ordering of menu items.

(25 marks)

5. User Modelling and Task Analysis are key activities in the design and implementation of user interfaces and interactive systems.

Outline the main approaches to Task Analysis used in designing interactive systems.

Almost all Task Analysis methods involve observing user behaviour when carrying out tasks including computer-based tasks. Discuss the question of whether observing users at work for the purposes of carrying out Task Analysis can take into account how users think and make decisions. **(25 marks)**