

THE BCS PROFESSIONAL EXAMINATION
Professional Graduate Diploma

April 2003

EXAMINERS' REPORT

User Interface Design

General

The examiners continue to find answers which are simply a regurgitation of study notes/textbook material without any attempt by the candidate to answer the question – candidates seem to spot a key word and then write everything they know about that topic. This can lead to presentation of lots of irrelevant material and/or copious answers for a part of a question worth only a few marks. Finally, quite a few candidates need to learn to structure their answers rather than producing a rambling statement. Problem-solving skills are generally lacking.

- 1. Describe the design characteristics of a user interface which would allow users to auction goods over the web, e.g. www.ebay.com, and a user interface for a word processor, e.g. Microsoft Word. Highlight the differences between the two designs.**

(25 marks)

Answer Pointer

In connection with the auction site the following points should be considered:

- The web site should offer search facilities
- Classification of goods
- Shopping basket
- Ability to follow bids
- Reporting mechanisms (perhaps e-mail) to inform you if you have won
- Secure credit card purchase

In connection with the word processor:

- Easy formatting of text
- Ability to read various file types
- Checking for spelling / grammar
- Good help facilities
- Ability to undo changes

Four to six points, with full discussion, expected for each interface at 2 marks each to a maximum of 20 marks. Up to a further 5 marks will be awarded for quality of overall answer and comparison of the two interfaces.

(25 marks)

This was a very popular question. Most answers were of a reasonable standard. The biggest problems were that candidates generally did not go into enough detail, provided little justification, and did not place a coherent structure on the answer. One area where many of the answers were weak was in the discussion of target audience, in particular how the interface would need to address different levels of skill. Many candidates did

not attempt to compare the two styles of interface – this was specifically asked for: “Highlight the differences between the two designs”.

- 2. You are responsible for the user interface design of a sales automation system at a large IT company. The software provides sales representatives with a system that allows them to:**
- 1. Track conversations they have had with prospective customers.**
 - 2. Manage the sales process from initial contact, evaluation, through to installation of the software.**
 - 3. Understand the structure of the organisation the sales representative is selling into, e.g. names of the users, managers and directors and identification of who holds the budget.**
 - 4. Storage of all documents that are sent to that organisation.**

Write a set of guidelines for your staff discussing the user interface design priorities for the software.

(25 marks)

Answer Pointer

Could be based around Schneiderman's rules, with specific examples from the application. For example:

- Consistent user interface. Standard saving routines for entering people, documents, company structure etc.
- Shortcuts. For saving, searching, listing documentation of previous discussions.
- Feedback. Graphical representations of company structures & confirmation that details have been entered correctly.

(25 marks)

Very few candidates attempted this question. Generally, it was answered very well or very poorly. Again, many answers lacked detail and were poorly structured. Some of the better answers used Schneiderman's rules as a structure for the answer – relating the requirements of the application to each rule. Very few candidates discussed the issue that such an enterprise-wide system would need to interact with other corporate systems – so there may be a need to take into account the UI of secondary systems.

- 3. An employee of a large multinational software company is taking the company to court because of injuries sustained through RSI (Repetitive Strain Injury). You have been brought in as an independent consultant to help remedy the problem. Write a safety briefing, to circulate to all employees, describing measures they should take in order to reduce the hazards of using computers at work.**

(25 marks)

Answer Pointer

The memo should contain some of the following points:

- Wrists should not be bent to the side, but instead your fingers should be in a straight line with your forearm.
- Tilt the back edge of your keyboard down, away from you.
- Increase font size.
- Use two hands to perform double-key operations like Ctrl-C or Alt-F.
- Take regular breaks.

- Hold the mouse *lightly*, don't grip it hard or squeeze it.
- Keep your arms & hands warm.
- Don't place telephone between shoulder and ear.
- Make sure eyesight is tested regularly.

(25 marks)

Question 3 was a very popular question. Like Question 1, most answers were of a reasonable standard, but the same comments held true: candidates generally did not go into enough detail, provided little justification, and did not place a coherent structure on the answer. Some of the better answers included the following points:

- Wrists should not be bent to the side, but instead your fingers should be in a straight line with your forearm
- Tilt the back edge of your keyboard down, away from you
- Increase font size
- Use two hands to perform double-key operations like Ctrl-C or Alt-F
- Take regular breaks
- Hold the mouse *lightly*, don't grip it hard or squeeze it
- Keep your arms & hands warm
- Don't place telephone between shoulder and ear
- Make sure eyesight is tested regularly

They also contained simple diagrams to help explain the text.

4. You have been asked to design an interface for a refrigerator. The design brief is as follows:

- **Easy to use**
- **Colour touch screen monitor on the outside of the refrigerator**
- **Keep track of products that are stored**
- **Alert the owner when he or she is running low on products**
- **Able to order products over the web**
- **Have a mechanism to suggest recipes based on the contents**

List the key components that would need to be used in the design of such a system. Discuss the design of the user interface.

(25 marks)

Answer Pointer

Components could include:

- Touch-sensitive, flat screen monitor
- Bar code reader
- Sensors in the fridge to monitor when contents are removed
- Internet connection
- Printer

Design features:

- Menu of items currently in the fridge designed hierarchically
- Selection of online stores where shopping can take place
- Daily alerts on the fridge highlighting goods that are running low
- E-mail or SMS text alerts for other problems, e.g. electricity cuts

- Suggestions for meals based around time of day and goods in the fridge
- Print out of instructions for preparing food

(25 marks)

Most candidates were able to answer this question well and showed a thoughtful approach to the question based on the course material. Some answers provided creative solutions, which demonstrated a good understanding of user interfaces issues and technical implementation issues. However, a number of candidates simply provided general user interface design guidelines, e.g. Shneiderman's, rather than addressing the examination question of how to design a specific user interface for a refrigerator. It is important that candidates address the examination question!

5. **A new website for your company has recently gone 'live'. The company makes furniture and the website has details of all of your products including pictures, dimensions and colours. It also has links to retail outlets that enable customers to purchase the goods at stores or on websites. How would you measure the success of the interface of the new website?**

(25 marks)

Answer Pointer

Web reporting would be the easiest way to measure this:

- Monitor weblog/cookie to analyse usage behaviour
- Who uses the site?
- How do they interact with the site?
- How often do certain groups of users connect to partner site?
- What products do people look at, for how long, and how often?
- Are there any parts of the site that are not used?
- Are there parts of the site that people spend a long time on?
- How do people find out about the site?

(25 marks)

Many candidates produced good answers, which brought in material from the texts but also related this to real world usage and experience in industry and commerce. A problem with many answers was that candidates provided general material on usability evaluation, e.g. approaches, methods and techniques, without relating these to the problem set by the examination question. Similarly, some candidates focused on web usability guidelines and heuristics in a general way without relating the answers to the examination question. Again, it is important that candidates address the examination question!