THE BCS PROFESSIONAL EXAMINATION
Diploma

April 2000

EXAMINERS' REPORT

Multimedia

The two-hour paper consisted of answering any 4 from 6 equally-weighted questions. A general tendency by candidates was to reproduce textbook material without any comment, discussion or even, at times, relating the answer to the question. This was particularly evident in the final parts of questions which are often more testing to allow the stronger candidates to demonstrate their abilities. In addition, candidates often failed to illustrate their answers by references to particular real-world examples, software packages or systems.

Question One

Answer Pointers

This question was about the MPC3 standard for a multimedia PC. It was only attempted by two of the candidates who both scored poor marks. It should have been a fairly standard question to answer and therefore it raises a question of the candidates' preparation for the examination. Answers to the second part of the question were particularly poor. The examiners were expecting a discussion of the relatively low specification of the MPC3 standard in comparison with even the most entry-level modern P.C. Candidates could take each part of the specification and relate it to the demands of modern multimedia software.

Question Two

Answer Pointers

This question required the candidate to explain some standard terms and discuss the relative merits of software and hardware compression. It was attempted by nearly all candidates, with little success. The explanation of terms such as display resolution, colour–depth and frame rate was poor. Several candidates missed the point of the comparison of software and hardware compression and chose to answer their own question comparing lossy with lossless compression.

Question Three

Answer Pointers

This question invited candidates to draft slides for a talk about Delivering Multimedia via the Internet. It was attempted by two-thirds of the candidates, generally obtaining good scores. Although candidates could approach this question from a variety of angles, it was expected that they would include the following core issues:

- current sound, graphics and video formats
- streaming and downloading
- current state of hardware
- current Internet access methods
- applications such as radio and tv stations with multimedia content, cyber malls with multimedia content etc.

- bandwidth limitations and brown outs
- cost of access
- differing support in the browser wars
- next generation options such as Internet 2

Question Four

Answer Pointers

This question had a factual question followed by a discussion question.

(a) In this section the candidates were expected to describe analogue and digital sound sources and A/D conversion, audio mixing and editing, the possibilities of using MIDI music and compositions tools and synthesized and digitized speech. Most candidates tackled this reasonably well although some seemed to equate "sound" entirely with "music".

(b) This was much more open-ended and the candidates approached it in a number of ways. Most concentrated on the issue of why sound (whether music, speech or sound effects) can add to the overall multimedia experience. Some brought in parallels from the film and entertainment industries where music is used to add atmosphere or describe emotions. Some discussed the use of voice-overs and speech to grab the audience and sound effects to add subtle elements to the interface. Candidates were not particularly expected to agree with this statement although most did. No candidate provided any real counter argument based, for example, on the problems sound can add in a busy office or indeed to the deaf.

Question Five

Answer Pointers

Candidates were directed towards the three broad areas of structural design, visual design and problems of media inclusion in the context of a brief scenario. Candidates were expected to treat content and navigational design as typical structural elements. They should sensibly have included diagrams in the form of JSP, structure-charts or flow-charts. For the visual design section story boards, screen designs, icons, buttons, navigation bars should have been discussed or presented. Only a minority of the candidates chose to present a design for the scenario described in the question. Many discussed the concepts of design in general. Some missed the opportunity to present actual examples of structure-charts or story boards. While most addressed the issues and problems associated with media inclusion in multimedia, most failed to address this question in the context of distance learning on the Internet.

Question Six

Answer Pointers

This question was based around authoring tool selection and product development.

(a) Candidates were expected to describe the range of authoring and multimedia editing tools for a variety of application areas and presentation media. Actual examples were expected, although some chose to describe classes of tools without actually mentioning any real product. Tool selection (based on horses for courses, known by developer, media inclusion etc.) was generally well tackled.

(b) There are a number of general issues, which relate to the implementation of any design using almost any authoring tool. A number of other elements depend on the application area and the choice of authoring tool. This was tackled well by some, often using examples from a real development project. A minority failed to identify any ONE tool and gave an account of development approaches or software engineering methods.