

OLLSCOIL NA hÉIREANN
THE NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER 2 EXAMINATIONS 1999-2000

HIGHER DIPLOMA (SOFTWARE DESIGN AND DEVELOPMENT)

CT863 INTERACTIVE MULTIMEDIA TECHNOLOGIES

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Time allowed: TWO hours
Answer 4 questions. All questions carry equal marks

- Q1 (a) (i) Define what is meant by the term *multimedia*. (3)
(ii) Define animation and describe the ways it can be used in multimedia applications (5)
- (b) (i) What are the goals of digital video? (5)
(ii) Outline the problems associated with digitised video and how they are overcome by multimedia developers (5)
(iii) A 20 second video clip is captured at 30 frames per second in true colour at a resolution of 300 x 200 pixels. Calculate the final size of the digital file if a compression ratio of 40:1 was achieved. (7)
- Q2 (a) Describe, with the aid of a diagram, the phases of multimedia development, outlining how it differs from traditional software development. (10)
- (b) (i) Describe the issues involved in identifying and obtaining the skills necessary for the development of a multimedia project. (8)
(ii) Describe the skills needed by the creative team members in multimedia development and write short notes on each member. (7)

- Q3 (a) Describe what is involved in the planning of a multimedia project. (9)
- (b) Write notes on multimedia development tools, describing the options available to the multimedia developer. (12)
- (c) Describe briefly 2 main types of multimedia authoring systems. (4)

Q4 Write notes on 3 of the following: (25)

- (a) Multimedia development methodologies
- (b) Interface design guidelines
- (c) Creating multimedia web pages using HTML.
- (d) Legal & technical considerations when adding images to a project
- (e) Quality Assurance in multimedia application development

Q5 (a) Describe the 4 main problems with the original Internet and how the invention of the World Wide Web overcame them. (10)

(b) Describe briefly the main constraints on the multimedia web developer. (7)

(c) A multimedia web page comprising of the following elements is to be made more accessible to modem users.

- 24 bit colour graphic, resolution of 400x250 pixels
- 24 bit colour graphic, resolution of 200x120 pixels
- 5kb of text
- 250kb CD quality background audio clip

Assuming the following:

- The graphics resolution is to be halved & the colour depth reduced to 8 bit.
- The audio clip reduced to 11kHz 8 bit mono.
- Use of 56Kbps modem.

Calculate:

- (i) The initial download time for the page (4)
- (ii) The final download time after optimisation (4)