

OLLSCOIL NA hÉIREANN, GAILLIMH

National University of Ireland, Galway

Semester One Examinations, 2001/2002

Bachelor of Commerce - Final Year

INTERNET AND MULTIMEDIA DEVELOPMENT (MS312)

Professor B. O'Keefe

Professor J. F. Collins

Mr. M. A. Lang

Time allowed: **TWO** hours

Candidates are required to answer **THREE** questions

All questions carry **EQUAL** marks.

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1. The development of hypermedia information systems raises significant challenges for systems developers, in so far as hypermedia systems are fundamentally different from "traditional" systems and present new difficulties.

Critically discuss this statement.

**33 marks**

*(Suggested time: 35 minutes)*

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2. Web and multimedia systems design involves the collaborative work of many individuals with diverse specialised skills. Discuss the implications of this, in terms of how the development process is managed and co-ordinated.

**33 marks**

*(Suggested time: 35 minutes)*

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3. Bandwidth, network congestion, and computer processing power persist as significant hindrances to the delivery of Web-based television-quality multimedia. Describe the main technologies and data formats for delivering animation, sound, video, and three-dimensional (3D) media objects via the Web. In your answer, you should refer not just to current technologies but also to emerging and future trends.

**33 marks**

*(Suggested time: 35 minutes)*

4. (a) Using examples, explain the difference between “absolute” and “relative” addresses in specifying the Uniform Resource Locator (URL) of a Web document i.e. `<A HREF="xxxxxx"> hyperlinked object </A>`
- 10 marks**  
(Suggested time: 10 minutes)
- (b) Describe, with examples, **any two** of the following Web form input types in the Hypertext Markup Language (HTML):
- RADIO buttons ☐ **9 marks**
  - SELECT drop-down lists **9 marks**
  - CHECKBOX boxes ☒ **9 marks**
- (Suggested time: 20 minutes i.e. 10 minutes each)
- (c) Briefly outline the difficulties that can arise if Web sites are organised as file-based systems, as opposed to database-driven systems.
- 5 marks**  
(Suggested time: 5 minutes)
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5. Briefly describe **any two** of the following:
- (a) Graphic image file formats for the World Wide Web. **16.5 marks**
  - (b) Cascading Style Sheets (CSS). **16.5 marks**
  - (c) Synchronised Multimedia Integration Language (SMIL). **16.5 marks**
- (Suggested time: 36 minutes i.e. 18 minutes each)
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6. Human beings in their natural everyday behaviour use multimedia signals to communicate information to one another. Multimedia computing therefore promises to greatly enhance the way humans interact with computers, moving away from crude devices such as keyboards and mice towards more natural means of input and output.

Discuss the prospects for multimedia human-computer interaction.

**33 marks**  
(Suggested time: 35 minutes)

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7. A startup multimedia development company with a team of five developers is considering the purchase of a number of high-end multimedia workstations, as well as a server machine which shall host a shared repository of multimedia objects. Advise them.

**33 marks**  
(Suggested time: 35 minutes)

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