UNIVERSITY OF SOUTHAMPTON COMP3016W1

SEMESTER 1 EXAMINATION 2007/08

HYPERTEXT AND WEB TECHNOLOGIES 1

Duration: 120 mins

This exam is conducted at a computer workstation. You will have access to all the course notes and the Web. Any collaboration during the exam through email, chat, file sharing or similar is strictly forbidden.

Answer TWO of the THREE questions,
All questions carry 33 marks.

All answers should be submitted to the ECS handin machine `handin.ecs.soton.ac.uk` *under the COMP3016/Paper1 category. The answer to each question should be submitted separately. Do not try to print out your receipts during the exam!*

Answers to questions should be submitted in a standard document format (i.e. Word, ASCII text, HTML or XML/XSL) for all questions. Where more than one file is required for a single submission, combine them in a TAR or ZIP archive.

Answer books for handwritten answers will be provided on request.

1. The European Research Council (*http://erc.europa.eu/*) is a new European organization that funds scientific research across the whole of Europe and aims to help nurture science-based industry. *(You have previously examined this site in preparation for this question.)*

   a) Describe the site, paying particular attention to the range of information resources, navigation and linking provided, highlighting any shortcomings including accessibility issues. *(9 marks)*

   b) Demonstrate how to redesign the site from scratch using the following parts of WebML
      i) Structural Model *(9 marks)*
      ii) Hypertext Model *(9 marks)*
      iii) Presentation Model *(3 marks)*
      iv) Personalisation Model *(3 marks)*

   (The best answers will include appropriate example diagrams.)

2.

   a) What is the difference between the Internet and the Web? Your answer should include a description of the core components of the Web architecture. (*9 marks*)

   b) Describe the classic hypertext link structures and give examples of their appearance on specific web sites. (*12 marks*)

c) Search engines are not a fundamental part of the Web architecture, but they are a core part of making the Web usable. Describe their ranking algorithms and their relationship to the Web graph. (*12 marks*)

3. Refer to the handout from *Lakeland* Kitchen Utensils Catalogue. This page lists a number of items that you can purchase to use for cooking and food storage. *Note: the symbol* D *means dishwasher-safe.*

a) You are required to create an XML file to represent the important information from this page, that will be suitable for online applications such as a Web site.

i) Design an XML structure for the items as shown on this page and encode it as a DTD. *(9 marks)*

ii) Produce a single XML document for "Margarine Tub Holders" and "Silicone Egg Ring" *(9 marks)*

iii) Create a simple XSL stylesheet that displays the above XML document as an HTML page. *(9 marks)*

b) Consider the role of linking in this magazine. Describe how XLink could allow two different kinds of linking opportunities to be added to an online version of this publication. Use a diagram if necessary. *(6 marks)*

END OF PAPER

UNIVERSITY OF SOUTHAMPTON COMP3016W2

SEMESTER 1 EXAMINATION 2007/2008

HYPERTEXT AND WEB TECHNOLOGIES 2

Duration: 90 mins

This exam is conducted at a computer workstation. You will have access to all the course notes and the Web. Any collaboration during the exam through email, chat, file sharing or similar is strictly forbidden.

Answer all parts of the question. The question is worth 34 marks.

All answers should be submitted to the ECS handin machine `handin.ecs.soton.ac.uk` *under the COMP3016/Paper2 category. Do not try to print out your receipts during the exam!*

Answers should be submitted in a standard document format which supports links (i.e. Word or HTML).

Word limits are provided for each subsection. Students are encouraged to use the time available to develop well-reasoned and evidenced answers.

Copying and pasting text from third parties will be treated as plagiarism unless appropriately cited and quoted. Hyperlinks are an acceptable form of reference

Answer books for handwritten answers will be provided on request.

Number of Pages 2

1. (a) Social Hypertext applications have been the success story of decade. With examples specific to well known applications of your choice, identify their success factors and comment on the extent to which these were a predictable development of previous hypertext and web research.

(max 600 words)
(17 marks)

(b) What is Web Science and how will this research initiative differ from hypertext and Web research up to now?

(max 600 words)
(17 marks)

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(Question total 34 marks)

END OF PAPER