

EE4717

NANYANG TECHNOLOGICAL UNIVERSITY

SEMESTER 1 EXAMINATION 2012-2013

EE4717 – WEB APPLICATION DESIGN

November / December 2012

Time Allowed: 2 hours

INSTRUCTIONS

1. This paper contains 1 question and comprises 2 pages.
 2. Answer 1 question.
 3. This is an open-book examination.
 4. Unless specifically stated, all symbols and acronyms have their usual meanings.
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1. An engineering society in Singapore would like to engage you to design a website for its members who are engineers working in the industry. The website should publish information to introduce the society and to attract engineers to join the society as members. The website will also post information about events organized by the society, such as short courses, seminars, social events, etc., and allow both members and non-members to register for the events. The slides of a short course or a seminar are stored on the web-server, and they can be downloaded by the attendees of the respective event only. Other information such as the rules and regulations of the society, membership fees and the list of current committee members of the society should also be included in the website. Your design should take into account the general requirements described above and the specific additional requirements listed below:
 - There should be a banner on the home page, which is a 600×120 image, showing the logo and the full name of the society.
 - There should be a row of buttons on the home page which provide the navigation links to other pages in the website.
 - On the home page, there should be a content area showing the list of events with brief descriptions. For each event, there should be a link to the respective page of the event. In each event page, there should be a link to the event registration page (a common page for event registration). These event pages should be created using the data stored in the database through server-side scripts or programs.
 - There should be a page for the membership registration.
 - The visual appearance of the pages should be consistent.

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- (a) Analyse the requirements and list the tasks that a user can perform on the website.
(10 Marks)
- (b) Design the website structure and present it using a site map to show the overall structure of the website. Show the storyboards to illustrate the navigations in the site for accomplishing the various tasks identified in question 1(a).
(10 Marks)
- (c) Design the page layouts of the home page and the event registration page. Write the scripts in HTML and CSS to implement your designs.
(30 Marks)
- (d) Design the database table to support the event registration. Choose the appropriate data types for the field names of the table. Underline the primary key in the table.
(10 Marks)
- (e) Write the Java servlet codes to implement the event registration. The user's data entries including email, name, job, etc. are to be validated by the servlet. Draw the hierarchy of all classes used in your Java servlet implementation. Briefly give the explanation of polymorphism based on your code.
(40 Marks)

END OF PAPER

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Please read the following instructions carefully:

- 1. Please do not turn over the question paper until you are told to do so. Disciplinary action may be taken against you if you do so.**
2. You are not allowed to leave the examination hall unless accompanied by an invigilator. You may raise your hand if you need to communicate with the invigilator.
3. Please write your Matriculation Number on the front of the answer book.
4. Please indicate clearly in the answer book (at the appropriate place) if you are continuing the answer to a question elsewhere in the book.