FINAL EXAMINATION
FIRST SEMESTER SESSION 2011/2012

COURSE CODE / NAME : STIV3103 USER CENTERED DESIGN
DATE : 10 JANUARY 2012 (TUESDAY)
TIME : 9.00AM–11.30AM (2 1/2 HOUR)
VENUE : DSB K.TM

INSTRUCTIONS :
1. This book script contains ELEVEN (11) printed pages excluding the cover page.
2. It contains EIGHTEEN (18) questions.
3. Answer ALL QUESTIONS in the space provided.
4. You are NOT ALLOWED to remove this question booklet from the examination hall.

MATRIC NO : ____________________________ (in word) ____________________________ (in number)
IDENTIFICATION CARD NO : ____________________________
LECTURER : ____________________________
GROUP : _______ TABLE NO : _______

DO NOT OPEN THIS EXAMINATION PAPER UNTIL INSTRUCTED

CONFIDENTIAL
STIV 3103 User Centered Design

ANSWER ALL QUESTIONS

1. What is the definition of User Centered Design (UCD)?
   (3 marks)

2. List EIGHT (8) stages in UCD methodology.
   (4 marks)

3. List FOUR (4) approaches used to measure usability.
   (4 marks)
4. List FIVE (5) principles to organize things into meaningful unit based on Gestalt psychology.  

(5 marks)

5. What is mental model?  

(2 marks)

6. Complete this diagram.  

(3 marks)

The hierarchy of human memory.
7. Users can be characterized into two categories. Complete the table below.

(10 marks)

<table>
<thead>
<tr>
<th>Categories of Users</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) ________________ User</td>
<td>(i) ________________ User</td>
</tr>
<tr>
<td>(ii) ________________</td>
<td></td>
</tr>
<tr>
<td>Example: how the users learn?</td>
<td>Example: how users perform their work?</td>
</tr>
<tr>
<td>(iii) ________________</td>
<td></td>
</tr>
<tr>
<td>Example: prefer using keyboard rather than mouse</td>
<td>Example: novice or advanced beginner</td>
</tr>
<tr>
<td>(iv) ________________</td>
<td></td>
</tr>
<tr>
<td>Example: age, sex</td>
<td>Example: end users, managers, customers</td>
</tr>
<tr>
<td>(v) ________________</td>
<td></td>
</tr>
<tr>
<td>Example: profession, workplace</td>
<td>Example: word processing operatives, accounts clerks and children</td>
</tr>
</tbody>
</table>
8. Complete the diagram of basic human needs proposed by Maslow. (5 marks)
9. Explain about the phases in needs analysis. (10 marks)

   a) Functional Requirement

   b) Data Requirement

   c) Environment Requirement

   d) User Requirement

   e) Usability Requirement
10. List **FIVE (5)** types of interaction styles to be considered into software design.  
    (5 marks)

11. The following questions are about prototyping.

   a) What is a prototype?  
      (2 mark)

   b) What is the purpose of prototyping?  
      (2 marks)
c) Illustrate the navigational hierarchies of horizontal and vertical prototypes.  

(4 marks)

<table>
<thead>
<tr>
<th>Horizontal prototype</th>
<th>Vertical prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>


d) Compare the characteristics between a paper prototype and a computer-based prototype.  

(4 marks)

<table>
<thead>
<tr>
<th>Paper prototype</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Computer-based prototype</th>
<th></th>
</tr>
</thead>
</table>
12. Explain the following evaluation techniques:

a) Heuristic evaluation

(3 marks)

b) Usability walkthrough

(3 marks)

c) Software Usability Measurement Inventory (SUMI)

(3 marks)
13. The next questions are about navigation design.
   a) What is breadcrumb navigation? (1 mark)
   
   b) List ONE (1) example of a breadcrumb. (2 marks)

14. List THREE (3) rules of text and background colours for legibility? (3 marks)
15. List **FOUR (4)** guidelines of body type on the web. (4 marks)

16. What is the purpose of content organization? (2 marks)

17. You are given a task to design a website for School of Multimedia Technology and Communication (SMMTC) of Universiti Utara Malaysia (UUM). Study the content below and propose the organizational structure for the web.

<table>
<thead>
<tr>
<th>Loans</th>
<th>Courses</th>
<th>Event Calendar</th>
<th>Vision &amp; Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Programs</td>
<td>News Article</td>
<td>Scholarships</td>
<td>Majoring</td>
</tr>
<tr>
<td>About the School</td>
<td>Assistantships</td>
<td>Organization Chart</td>
<td>Spotlight</td>
</tr>
</tbody>
</table>

(8 marks)
18. Ali is a blind person but he speaks and hears very well. He loves to make friends and to socialize but rarely goes out of his home. Hence, you are given a task to propose a social network design for Ali. Describe FOUR (4) design suggestions for Ali.

(8 marks)