# FINAL EXAM
**FIRST SEMESTER SESSION 2011/2012**

<table>
<thead>
<tr>
<th>COURSE CODE / NAME</th>
<th>STIV2013 HUMAN COMPUTER INTERACTION</th>
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</thead>
<tbody>
<tr>
<td>DATE</td>
<td>10 JANUARY 2012 (TUESDAY)</td>
</tr>
<tr>
<td>TIME</td>
<td>2.30 – 5.00 P.M. (2½ HOURS)</td>
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<tr>
<td>VENUE</td>
<td>DSB K.T/WD, KTB</td>
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**INSTRUCTION:**

1. This exam paper contains **TWO (2)** sections in **SEVENTEEN (17)** printed pages, excluding the cover page.
2. Answer **ALL QUESTIONS** in the space provided.
3. You are **NOT ALLOWED** to take the exam paper out from the examination hall.

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<table>
<thead>
<tr>
<th>MATRIC NO:</th>
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<tbody>
<tr>
<td>IDENTIFICATION CARD NO.:</td>
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<td>LECTURER:</td>
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<td>GROUP:</td>
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<td>TABLE NO.:</td>
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**DO NOT OPEN THIS EXAMINATION PAPER UNTIL INSTRUCTED**

CONFIDENTIAL
SECTION A: STRUCTURED QUESTIONS (60 MARKS)

1. Persona is a powerful, multi-purpose design tool that helps overcome several problems in product design. Briefly describe TWO (2) other strengths of personas as a design tool. (2 marks)

2. Nielsen developed the most used usability heuristics for user interface design. List FIVE (5) issues he covered. (5 marks)
3. What makes a design solution good? The answers to this question lie in the use of interaction design principles and patterns.

   a) Briefly differentiate between design principles and design patterns. (2 marks)

   b) Give ONE (1) purpose of using interaction design principles (IxD) for digital products. (1 mark)

4. The first question to answer as you begin to design an interactive product is, “What platform and posture are appropriate?”

   a) Which desktop application posture must adhere to these design principles?

       • Simple, clear, to the point
       • No abbreviation
       • Direct and explicit feedback
       • Single window, no dialog box, no second view

       ANSWER: ____________________________________________ (1 mark)
b) Name the posture of the following desktop applications (i, ii, and iii).  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>i)</td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td></td>
</tr>
<tr>
<td>iii)</td>
<td></td>
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</table>
STIV2013 Interaksi Manusia Komputer / Human Computer Interaction

5. Navigation is excise.

   a) Give **ONE (1)** reason why navigation is considered as excise?  

   (1 mark)

   b) Name **TWO (2)** situations where navigation occurred when a user is interacting with an interactive product.  

   (2 marks)

   c) Give **ONE (1)** solution to improve navigation when a user is interacting with an interactive product.  

   (1 mark)
6. Briefly describe each of the three dominant paradigms in the conceptual and visual design of user interface in the table below.

   (3 Marks)

<table>
<thead>
<tr>
<th>Interface Paradigm</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Implementation centric</td>
<td></td>
</tr>
<tr>
<td>b) Metaphoric</td>
<td></td>
</tr>
<tr>
<td>c) Idiomatic</td>
<td></td>
</tr>
</tbody>
</table>

7. Define the following terms:

   (3 Marks)

<table>
<thead>
<tr>
<th>Term</th>
<th>Brief Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Positional retrieval</td>
<td></td>
</tr>
</tbody>
</table>
8. A retrieval system can learn a lot about each document just by keeping its "eyes" and "ears" open. If it remembers some of this information, much of the burden on users is made unnecessary. State **FIVE (5) examples** of such information.

(5 Marks)
9. A dialog box engages users in a conversation by offering information and requesting some input.

a) Differentiate between modal and modeless dialog boxes. Give ONE (1) example for each type.

   (4 marks)

b) List TWO (2) different purposes for dialogs

   (2 marks)
c) Sketch TWO (2) examples of dialogs which meet any two of the purposes that you have mentioned in Question 9(b).

(4 marks)


(1 Mark)
11. Differentiate the following with appropriate example of design.

   a) Error Dialog

   (3 Marks)

   b) Alert Dialog

   (3 Marks)

   c) Confirmation Dialog

   (3 Marks)
12 Evaluating an interactive product is compulsory.

a) Can both formative and summative evaluation be performed for a product? (1 mark)

b) State ONE (1) reason for your answer in 12(a). (1 mark)

c) Usability evaluation is made easier with various automated usability tools such as Tobii studio and iTRE tools. State TWO (2) types of data that you can obtain from the heatmap as shown in Figure 2: After.

![Figure 1: Before](image1)

![Figure 2: After](image2)

(2 marks)
d) Most of the time, semantic differential scale (such as Likert Scale) is used in evaluation questionnaires. Show an example of such scale. (Draw your answer for only ONE (1) evaluation question)

(2 marks)
13. Fill up the empty boxes in the following tree-chart.

Define formative evaluation

Define summative evaluation

Give ONE (1) type of expert review

Give ONE (1) technique of active user evaluation

Give ONE (1) benefits of usability testing

(5 marks)
SECTION B: APPLICATION QUESTIONS (40 MARKS)

14. Consider four objects on one display as below. Redesign the objects to show the importance or the dominance of object 3 in your visual design.

1  2  3  4

(2 marks)
15. Undo is the remarkable facility that lets us reverse a previous action. Simple and elegant, the feature is of obvious value. However, undo is not quite as simple as it may appear at first glance. We can see considerable variation in its purpose and method.

Briefly discuss the following type of undos and their limitations:

<table>
<thead>
<tr>
<th>Types of Undo</th>
<th>Discussion</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Single undo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Multiple undo</td>
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(8 Marks)
16. Confirmations illustrate human behavior: They only work when they are unexpected. That doesn’t sound remarkable until you examine it in context. If confirmations are offered in routine places, users quickly become accustomed to them and routinely dismiss them without a glance.

Discuss the following design principles for better confirmation dialogs. Give TWO (2) example for each answer.

<table>
<thead>
<tr>
<th>Design Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use captions</td>
</tr>
<tr>
<td>2. Provide means to cancel and refresh.</td>
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</tbody>
</table>

[12 Marks]
17. Sketch the following and label it appropriately.

<table>
<thead>
<tr>
<th>a) Breadcrumb</th>
<th>b) List controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>c) Spinner control</td>
<td>d) Combutcon</td>
</tr>
<tr>
<td>e) Combo boxes</td>
<td>f) Clue boxes</td>
</tr>
<tr>
<td>g) Earmerking</td>
<td>h) Bounded control</td>
</tr>
<tr>
<td>i) Cursor hinting</td>
<td>j) Metafora</td>
</tr>
</tbody>
</table>
18. Figure below shows a component for visual interface design. You are required to design a screen based on the components provided with the correct grouping and layout, so that the screen will be more manageable and easy to be used. Please use appropriate technique and label properly. Draw your design in the space given below.

- Label → Name
- Longer label → Country of origin
- Even longer label → Address on campus
- One more label → 2 radio buttons for male/female
- One save button

(8 marks)