**Infrastructure University** Kuala Lumpur

**SUNWAY** INT'L BUSINESS SCHOOL

# FINAL EXAMINATION
# MARCH SEMESTER 2019

## HUMAN COMPUTER INTERACTION
## (CSC 2200)

## (TIME : 3 HOURS)

| | |
|---|---|
| **MATRIC NO.** | : |
| **IC. / PASSPORT NO.** | : |
| **LECTURER** | : SUDEEP LAL BAJIMAYA |

### GENERAL INSTRUCTIONS

1. This question booklet consists of 7 printed pages including this page.
2. Answer **ALL questions** in the **ANSWER BOOKLET**.
3. **PLEASE DO NOT TURN THIS PAGE AND START THE EXAM UNTIL YOU ARE TOLD TO DO SO.**

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**INSTRUCTIONS:**

TIME: *3 HOURS*

**SECTION A** (60 MARKS)

There are TEN (10) questions in this section. Answer ALL Questions in the Answer
Booklet.

1.
    a) Define Human Computer Interaction (HCI)

    b) Highlight the main goal of HCI. (2 mark)

(1 mark)

(CLO1:PLO1:C1)

2. List THREE (3) different senses perception used as the base of human computer
interaction.

(3 marks)

(CLO1:PLO1:C1)

3. Describe THREE (3) human factors that affect how people interact with computer
system.

(6 marks)

(CLO1:PLO1:C2)

4.
    a) Elaborate the "User Interface metaphors" concept.

    b) Give an example to support your answer. (2 marks)

(2 marks)

(CLO1: PLO1: C3)

5. Explain FOUR (4) Categories of stakeholder according to HCI theories.

(8 marks)

6. Assuming the interface developer is required to develop an android application for
Mobile library system, Give TWO (2) examples for each category/classification of
stakeholder as per describe in Q5.

(4 marks)

(CLO1:PLO1:C1)

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7. *"Ergonomics good at defining standards and guidelines for constraining the way we design certain aspects of systems – to suit the environments/users"*

Describe ergonomic features for the following design perspective, give an example each to support your answer.

a) health issues

(2 marks)

b) arrangement of controls and displays

(2 marks)

c) surrounding environment

(2 marks)

(CLO1:PLO1:C3)

8. Describe the following data gathering techniques.

a) Workshops or focus groups

(3 marks)

b) Naturalistic observation

(3 marks)

(CLO2:PLO1:C3)

9. Prepare a Hierarchical Task Analysis (HTA) in textual representation for the following scenario. Your HTA should consist of at least 5 steps.

*"It is Saturday morning and Marwan plan to clean his three stories house"*

(10 marks)

(CLO2:PLO2:C6)

10.

a) Discuss TWO (2) problems that user interface design has in common with traditional Software Engineering.

(4 marks)

b) Explain how the following interaction design principles normally violated by command line interaction style.
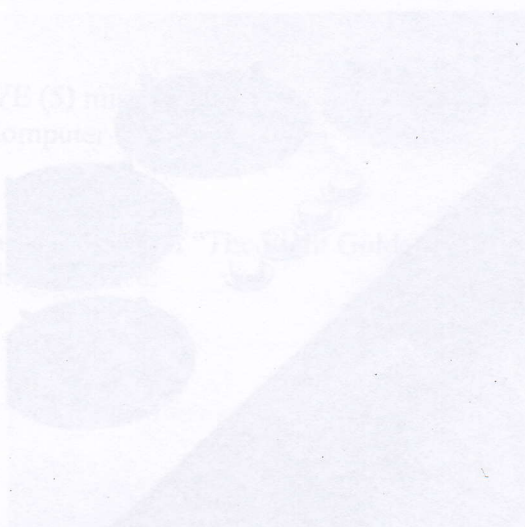
    i.   Feedback

(2 marks)

    ii.   Consistency

(2 marks)

    iii.   Visibility

(2 marks)
(CLO2:PLO2:C6)

**SECTION B**                                               **(40 MARKS)**

There are **THREE (3)** questions in this section. Answer **ANY TWO (2)** questions in the
Answer Booklet.

1. Interactive Design Concepts.

   a) List FOUR (4) Common Interaction Style

                                                                (4 marks)

   b) Propose a design for the specification below by implimenting the interaction style
      concepts:
         i. An elevator panel will require buttons for four floors (parking, main
            floor,second and third floor), door open, door close, stop, and activate
            emergency intercom.

                                                                (8 marks)
                                                             (CLO2:PLO1:C3)

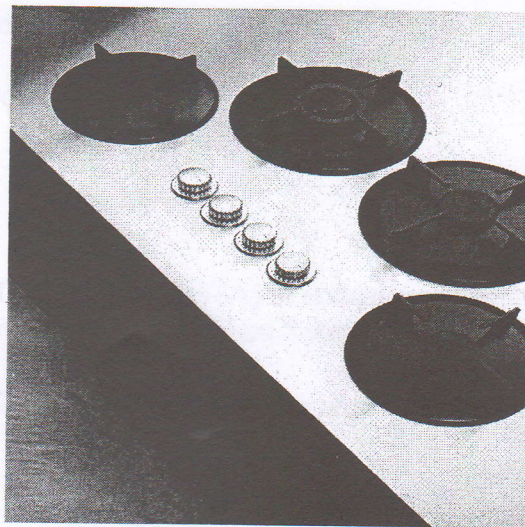   c) Refer to Figure 1. The design violated one of the design principle.



Figure 1: Kitchen stove design

   i.   Describe the design principle.

                                                                (2 marks)

   ii.  Suggest a better layout

                                                                (4 marks)

   iii. Justify your design based on the design principle

                                                                (2 marks)
                                                             (CLO3:PLO2:C5)

2. Refer to figure 1.0 to answer:



Figure 1.0

a) Describe FIVE (5) mistakes that can be identified from the interface above, based on Human Computer Interaction design perspective.

(10 marks)

b) Briefly explain FIVE (5) of "The Eight Golden Rule" of design that have been violated by this interface.

(10 marks)
(CLO3:PLO2:C5)

3. Refer to Figure 2.0 below.



Figure 2.0

a) Describe the FOUR (4) principles of direct manipulation that should have been implemented by the interface design.

(8 marks)

b) Choose TWO (2) of the principles from your answer in question 3(a) that can be applied in order to update the interface above. Use TWO (2) example to support your answer.

(4 marks)

c) Draw a sketch of improved the design and justify your design.

(8 marks)

(CLO3:PLO2:C5)

\*\*\*   END OF QUESTIONS   \*\*\*