

KOLEJ UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

ACADEMIC YEAR 2017/2018

APRIL/MAY EXAMINATION

INFORMATION TECHNOLOGY BAIT2203
HUMAN COMPUTER INTERACTION

THURSDAY, 26 APRIL 2018

TIME: 9.00 AM – 11.00 AM (2 HOURS)

BACHELOR OF COMPUTER SCIENCE (HONOURS) IN INTERACTIVE SOFTWARE
TECHNOLOGY

BACHELOR OF INFORMATION TECHNOLOGY (HONOURS) IN INTERNET TECHNOLOGY
BACHELOR OF INFORMATION TECHNOLOGY (HONOURS) IN SOFTWARE SYSTEMS
DEVELOPMENT

Instructions to Candidates:

Answer **ALL** questions. All questions carry equal marks.

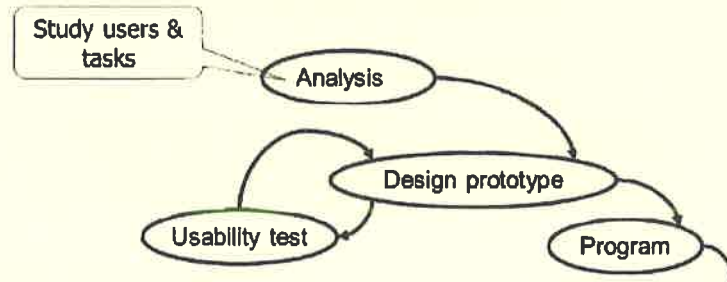
BAIT2203 HUMAN COMPUTER INTERACTION**Question 1**

Figure 1

Figure 1 shows Human Computer Interaction (HCI) iterative design process. Answer the following questions based on Figure 1.

- Why iterative design is important in HCI design process? (5 marks)
 - Explain how to do the study on users and tasks in analysis stage. (10 marks)
 - Formative evaluation* and *Summative evaluation* are the two types of evaluations in HCI iterative design process. Compare the *Formative evaluation* and *Summative evaluation*. (10 marks)
- [Total: 25 marks]

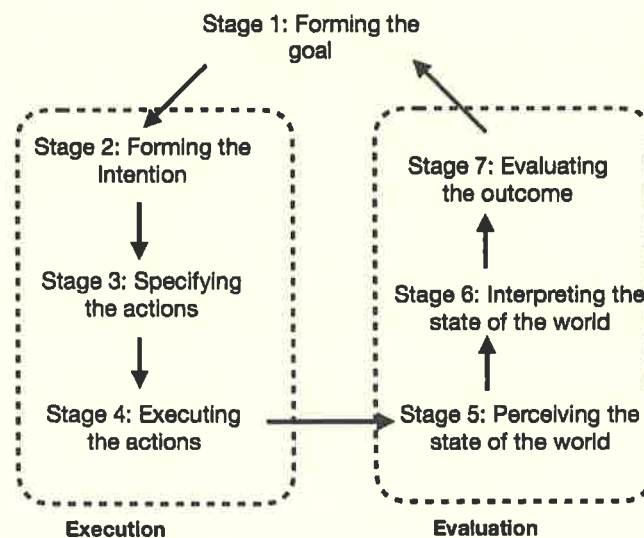
Question 2

Figure 2

Figure 2 shows Donald Norman's interaction model which can be divided into 2 major phases, Execution and Evaluation. Answer the following questions based on Figure 2.

BAIT2203 HUMAN COMPUTER INTERACTION**Question 2 (Continued)**

- a) Explain the Donald Norman's interaction model with **ONE (1)** example which involved a user and a system. (15 marks)
- b) Which stage would the *mistakes* and *slips* happen? Suggest an appropriate prevention for each of them. (6 marks)
- c) According to Donald Norman's interaction model, the existence of *Gulf of Execution* and *Gulf of Evaluation* is causing some systems harder to use than others. Explain *Gulf of Execution* and *Gulf of Evaluation*. (4 marks)
[Total:25 marks]

Question 3

- a) Our peripheral vision performs better at perceiving movement compare to detailed information. With the aid of **ONE (1)** example, explain how you can apply this human capability in user interface (UI) design. (4 marks)
- b) Explain the following interaction styles and give **ONE(1)** example for each of them.
- (i) Instructing (3 marks)
 - (ii) Conversing (3 marks)
 - (iii) Manipulating (3 marks)
 - (iv) Exploring (3 marks)
- c) Explain the importance and the limitation of Mental model in Human Computer Interaction (HCI) design. (6 marks)
- d) Explain how the first Shneiderman's Eight Golden rules, "Strive for consistency" helps the user to learn and adapt to a new system faster. (3 marks)
[Total: 25 marks]

Question 4

- a) Errors can be used as one of the usability measurement units in measuring effectiveness of a system.
- (i) What is effectiveness in the context of usability? (3 marks)
 - (ii) By providing an example of a system, explain how you could measure the effectiveness of the system by using error as measurement unit. (5 marks)

BAIT2203 HUMAN COMPUTER INTERACTION**Question 4 (Continued)**

- b) Compare the style of evaluation between *field study* and *laboratory study*. Explain a factor that you need to take into consideration when choosing the suitable style from the 2 styles of evaluations. (10 marks)
- c) A/B testing is normally used in website evaluation. Explain how A/B testing work and the benefit of using this evaluation technique. (7 marks)
- [Total:25 marks]