

MAKERERE UNIVERSITY

SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

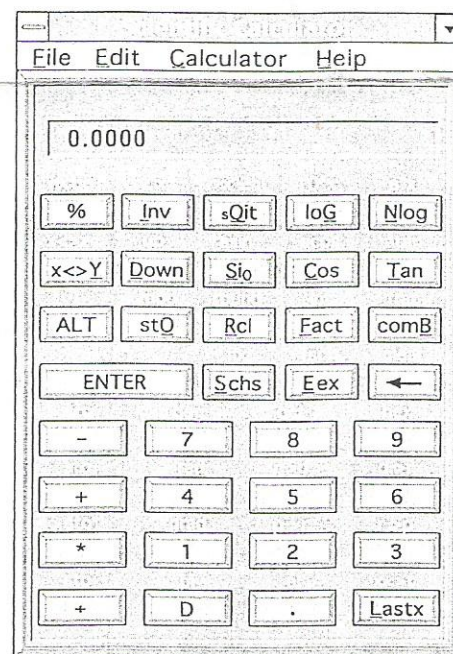
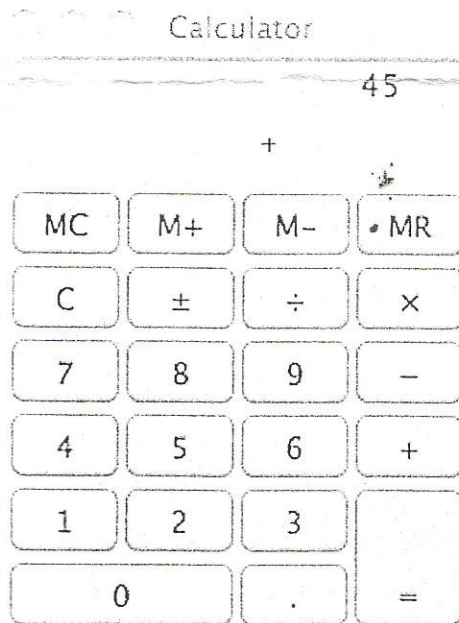
Round 1 TEST: CSC 3106 – USER INTERFACE DESIGN BSE, BIT, And BSC Year 3 Venue: Block B

Instructions: Attempt all questions and give clear and concise answers to all questions.

Duration: 1 (One) Hour. Total score 25 Marks. Date: SAT – 24th, Oct, 2015. Time: 12:00 - 13:00

Question 1

- A) The process of Interaction Design involves four basic activities. List them. (4 Marks)
- B) A popular word processor previously contained an anthropomorphic character to assist you while using the product. Briefly describe any 2 disadvantages that are associated with this design (2 Marks).
- C) Consider the Scientific calculator and the normal calculator interfaces below and answer the question that follows. With justification, compare these two interfaces using any three usability goals/aspects. (3 Marks)



- D) Define the term Conceptual Model (1 Mark)
- E) You have been hired to develop a wireless information system to help people find their way around a very large shopping mall. What kind of information would you need to find out in order to develop a conceptual model? (Briefly describe this in not more than 1 paragraph of 3 Lines) (3 Marks)

F) In Practice, the make-up of any design team depends on the kind of interactive product being built. Who do you think would need to be involved in developing:

~~i) A public kiosk providing information on the location of for instance restaurants, coffee shops, the cinema or any other exhibits available in a large shopping mall. (2 Marks)~~

~~G) Face-to-face interaction to maintain social order has been migrated to social media interactions. Explain two awareness mechanism built into the interface of one of the common social media applications to enhance social interaction. (4 Marks)~~

H) List any 2 benefits of direct manipulation interfaces

(2 Marks)

END!!!

Das

SCHOOL OF COMPUTING & INFORMATICS TECHNOLOGY

END OF SEMESTER I EXAMINATION 2012/2013

PROGRAMME: CS, BIT, BIS, Bsc Flat

YEAR OF STUDY: III

COURSE NAME: User Interface Design

COURSE CODE: CSC3103

DATE: 29th November 2012

TIME: 4:00pm-7:00pm

EXAMINATION INSTRUCTIONS

1. ATTEMPT ALL QUESTIONS IN SECTION A (40 MARKS)
2. ATTEMPT THREE (03) QUESTIONS IN SECTION B (60 MARKS)
3. DO NOT OPEN THIS EXAM UNTIL YOU ARE TOLD TO DO SO
4. ALL ROUGH WORK SHOULD BE IN YOUR ANSWER BOOKLET



SECTION A [40 Marks]

QUESTION ONE

- a) How relevant is Consistency and Standardization in User Interface Design? (2 Marks)
- b) The main goal of heuristic evaluations is to identify any problems associated with the design of user interfaces. As a usability consultant discuss at-least 4 (four) heuristics that you can use to evaluate the usability of a system. (8 Marks)
- c) The severity of a usability problem is a combination of three factors: Describe them. (3 marks)
- d) Describe Nielsen's Severity rating scale for usability problems (3 marks)
- e) Differentiate between Symmetric and Asymmetric balancing in graphic design (2 Marks)
- f) No designer purposely sets out to confuse or irritate users, Give the two major reasons why it still happens (2 Marks)

QUESTION TWO

- a) Differentiate between User Centered Design and Interactive Design (4 Marks)
- b) It is always important to understand some of the properties of the human that you are designing a system for; how can you design for the following human characteristics?
 - 1. Perception (2 Marks)
 - 2. Long and Short term memory (2 Marks)
 - 3. Visual Acuity (2 Marks)
- c) Define the following concepts and explain their application in system usability thinking.
 - i) Chunking (2 marks)
 - ii) Perceptual Fusion (2 marks)
 - iii) Spotlight (2 marks)
- d) Describe any two approaches of visual perception. (4 marks)

SECTION B [60 Marks]

QUESTION ONE

- a) How do you integrate User Centric Design if you work with innovative Information Technology? (5 marks)
- b) Naggy has been developing software for ten years now with Golola group of Companies. He has appreciated the water fall approach of software systems development and wishes to take on a user centric approach in software development. Correctly advise Naggy. (4 marks)

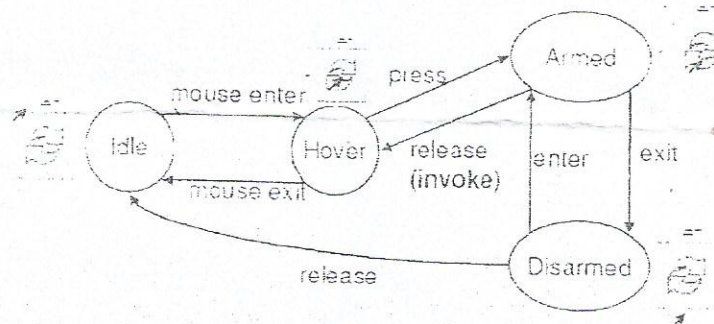
QUESTION FOUR

- While giving examples, discuss at least four interactive mode based activities in conceptual modeling. (8marks)
- Discuss the paper prototyping process line. (9marks)
- How do you use story boards and form builders in computer prototyping? (3marks)

QUESTION FIVE

EITHER

- Describe the two major categories of input events. (4marks)
- Explain the auto repeat mechanism of the input model. (6marks)
- Explain at least two properties of an input event. (2marks)
- Consider the Finite state machine below for a push button controller (mouse input). Discuss it. (8marks)



OR

User interface designers enforce order and beauty on the formless void of our blank computer screen. Using **Gestalt Principles**, how is this possible? (12 Marks)

- In graphic design, simplicity forces you to have a good reason for everything you add, and to take away anything that can't survive hard scrutiny. As a graphic designer, how can you achieve simplicity? (4 Marks)
- How do you use selectivity and associatively techniques to achieve contrast in graphic design? (4 Marks)

Good Luck!



MAKERERE UNIVERSITY

SCHOOL OF COMPUTING & INFORMATICS TECHNOLOGY

END OF SEMESTER I EXAM, 2015/2016

PROGRAMME: Bachelor of Science - Computer Science, Bachelor of Information Technology, Bachelor of Science – Software Engineering

YEAR OF STUDY: III

COURSE NAME: USER INTERFACE DESIGN

COURSE CODE: CSC 3119, BIT 3103, CSC 3208

DATE: 18th December 2015

INSTRUCTIONS

- I. ATTEMPT ALL QUESTIONS IN SECTION A (40 MARKS)**
- II. ATTEMPT ANY THREE QUESTIONS IN SECTION (60 MARKS)**
- III. DO NOT OPEN THIS EXAM UNTIL YOU ARE TOLD TO DO SO**

A handwritten signature in blue ink, consisting of a circular loop followed by several horizontal strokes.

A small, stylized handwritten signature or mark in blue ink.

Section A (40 Marks)

- I. Write short notes on any two Evaluation Techniques used in Interaction Design [4 Marks]
- II. Differentiate between low fidelity prototyping and high fidelity prototyping [4 marks]
- III. Define the term Conceptual Model [1 Mark]
- IV. Differentiate between Synchronous and Asynchronous communication. [2 Marks]
- V. Participatory design is one of the ways one can gather User interface requirements, state two disadvantages of Participatory Design. [2 Marks]
- VI. As user interfaces have become more prominent, serious legal issues have emerged. State three Legal Issues that may affect the design and implementation of User Interfaces. [3 Marks]
- VII. State any three expert review methods used to evaluate user interface Designs [3 Marks].
- VIII. Briefly describe any three principles of direct manipulation [3 Marks]
- IX. Give four benefits of direct manipulation over command line interfaces. [4 Marks]
- X. Describe any two advantages of an Asynchronous Distributed Interface over an interface that is Synchronously Distributed [2 Marks]
- XI. In certain interfaces, it is necessary to inform users of an abnormal condition or time-dependent information. It is important that the display of this information catches the user's attention. Suggest any two ways a designer can successfully attract attention [4 Marks]
- XII. Define the following terms as far as user interface design is concerned.
 - a. Usability [1 Mark]
 - b. Ethnographic Observation [1 Mark]
- XIII. List any three guidelines for organizing the display of a user-interface [3 Marks]
- XIV. Briefly describe the term Triangulation as used in Interaction Design [3 Marks]

Section B [60 Marks]

- 1 (i) Define the term Evaluation Paradigm as used in Interaction Design [2 Marks]
- (ii) Write short notes on any two core evaluation paradigms as used in Interaction [4 Marks]
- (iii) You have been recruited as User Experience consultant for Ramos Inc. and tasked to develop a Web based ticketing system. Discuss how you would use the **DECIDE** framework to plan its evaluation [14 Marks]

2(a) Differentiate between effectiveness, efficiency, and satisfaction by giving examples of each from your experiences with software interfaces. [6 Marks]

(b) Is each of the following examples from word processing software a test of effectiveness, or of efficiency? Justify each answer.

- i) Number of keystrokes and mouse movements needed to copy a section of text. [2 Marks]
- ii) Ability to change page margins [2 Marks]
- iii) Maximum limit on the size of document files [2 Marks]
- iv) The fact that the computer must be rebooted in order for changes in default settings to take effect [2 Marks]
- v) Availability of a feature to sum up the numbers in a table's columns [2 Marks]

(c) There are various good reasons for investing in user testing. Briefly describe any four [4 Marks].

3(a) An airline company is designing a new on-line reservation system. They want to add some direct-manipulation features. For example, they would like customers to click a map to specify the departure cities and the destinations, and to click on the calendar to indicate their schedules.

From your point of view,

- i) Explain three benefits of the new idea compared with their old system, which required the customer to do the job by typing text. [6 marks]
- ii) Explain three problems of the new idea compared with their old system, which required the customer to do the job by typing text. [6 marks]

(b) Briefly describe any four of the phases for conducting Usability testing [8 Marks]

JK

- 4 (a) What is a prototype? [2 Marks]
- b) Explain two instances where you as a designer would use Low-fidelity prototyping instead of High-fidelity prototyping. [4 Marks]
- c) The way we design the physical interface of an interactive product must not conflict with the user's cognitive processes involved in achieving the task. Researchers and Usability practitioners such as Ben Shneiderman have developed guidelines intended to inform design, namely the eight golden rules of interface design. Explain any five. [10 Marks]
- d) A User-centered approach to interaction design is emphasized along with iterations. Explain two reasons why it is important to involve users at all phases? [4 Marks]
5. The four basic activities of interaction design are: 1. Identifying needs and establishing requirements, 2. Developing alternative designs, 3. Building interactive versions of the designs, and lastly 4. Evaluating designs
- a) Explain two ways in which a designer can generate alternative designs? [4 Marks]
- b) Suggest one key functional, data, environmental and usability requirement for each of the following scenarios:
- i. A system for use in a university's self-service cafeteria that allows users to pay for their food using a credit system. [8 Marks]
 - ii. A system to support distributed design teams, e.g., for car design. [8 Marks]

—END—

8