



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2015/2016 – 2nd Year Examination – Semester 3

IT3405: User Interface Design
PART 2 - Structured Question Paper

8th May, 2016
(ONE HOUR)

To be completed by the candidate

BIT Examination Index No:

Important Instructions:

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- This paper has **3 questions** and **10 pages**.
- **Answer all questions.** All questions **do not** carry equal marks.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the Examination Hall by a candidate.
- Note that the questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.

Questions Answered

Indicate by a cross (×), (e.g.

×

) the numbers of the questions answered.

To be completed by the candidate by marking a cross (×).	Question numbers		
	1	2	3
To be completed by the examiners:			

- 1) (a) Explain Direct and Indirect interaction types when you use an application. Give one example for each interaction style considering a word processing software. (10 marks)

ANSWER IN THIS BOX

Direct: a dialog with feedback and control throughout the performance of the task. Ex: Changing fonts, font sizes, font colours in a word processor.

Indirect: Batch processing or intelligent sensors controlling the environment
Ex: Some misspelled words are automatically corrected, Grammar/ spelling mistakes are highlighted.

- (b) Customization is a method to extend a user interface. How does the customization affect the user? Give an example for customization in office applications. (10 Marks)

ANSWER IN THIS BOX

Customization gives the user the ability to change certain aspects of a system according to one of a pre-defined set of profiles in the system.

The interface of a system will be more flexible to user needs or is user friendly compared to a one without customization. This situation will affect the users to perform better.

Users could select different tools from tool bar/ribbon according to his/her preferences and requirements in an office application. These toolbars contain different icons according to default design in the system. Users could easily customize these toolbars by adding or removing icons using facilities in the menu of office application.

- (c) Explain how the work of Mr. Tim Berners Lee affected the human-computer interaction. (10 Marks)

ANSWER IN THIS BOX

He is the Father of the world wide web (WWW). It is based on the Hyper Text Markup Language (HTML) and the Hypertext Transfer Protocol (HTTP). This mechanism created a different metaphor to access information.

.

- (d) Compare and contrast **Short Term Memory (STM)** and **Long Term Memory (LTM)**. (10 Marks)

ANSWER IN THIS BOX

STM is the Scratch-pad for temporary recall where LTM could hold things for a long period

In STM:

Information is retained automatically and is kept in place by a rehearsal

Rapid access which is around 70ms, is faster than LTM

Therefore, things are always and easily retrieved

However, the rapid decay which is around 200ms, affects badly.

Therefore, information in STM is quickly and easily lost, unless processed continuously compared to LTM.

Continued...

Information capacity is severely limited at a time, it is around 7±2 chunks at a time (denoted as 7±2 chunks at a time) ems'

In LTM:

It is the memory of past, and facilitates someone one to access for a longer period.

It could be considered as the repository of all our knowledge
The main issue is slow access which is around 1/10 second
However, the decay of information is slower than STM
Capacity is considered to be huge or unlimited.
However, the Problem is retrieval, not really the storage.

Compare **Usability** and **Accessibility**. (10 Marks).

2) (a)

ANSWER IN THIS BOX

Accessibility is concerned with removing the barriers that would otherwise exclude some people from using the system at all.

Usability refers to the quality of the interaction in terms of parameters such as

- Efficiency (time taken to perform tasks),
- Effectiveness (number of errors made),
- Satisfaction (feelings after using it, memorability, pleasant).

Continued...

[illegible]

(b) Describe the **Gulf of Execution** and **Gulf of Evaluation** when using a system. (5 Marks)

ANSWER IN THIS BOX

Gulf of execution would be difficulties of interpreting features of the system to execute a particular task.

Gulf of evaluation would be difficulties of interpreting results/output of the system based on user's expectation.

Identify ways to reduce the gulf in a software system. (5 Marks)

ANSWER IN THIS BOX

- Present functions/facilities in a system according to his understanding. *Continued...*
- Inform him or let him visualize what possible actions are.

- Facilitate easy mapping from intention to the outcome of the system.
- Recognize the status of the system easily.
- Facilitate/Determine the mapping from system state to interpretation.

List **three (3)** menu types and briefly state how each menu type behaves. (10 Marks)

(d)

ANSWER IN THIS BOX

Pull-down menu - mouse hold and drag down menu

Drop-down menu - mouse click reveals menu

Fall-down menus - mouse just moves over the bar!

Pop-up menus - actions for selected object

Pie menus - arranged in a circle

- Easier to select item (larger target area)
- Quicker (same distance to any option)
- ... but not widely used!

Cascading menus

- Hierarchical menu structure
- Menu selection opens new menu

Scrolling menu

When a full choice list cannot be displayed within the menu area, scrolling of the menu items is required to identify/locate data/commands. *Continued...*

Walking menu

Walking menu is very commonly used to structure a large collection of menu items. In this technique, when a menu item is selected, it causes further menu items to be displayed adjacent to it in a sub-menu.

Hierarchical menu

In this technique, the menu items are organized in a hierarchy or tree structure. Selecting a menu item causes the current menu display to be replaced by an appropriate sub-menu.

- 3) Following is the top part of a prototype home screen developed for a local hotel in Sri Lanka. Both local and foreign customers are welcome to this hotel.

Sunset View
Resort & Spa

About Us Gallery

HOME | Accommodations | Location | Rates | Facilities

Description about the hotel,
Sunset View is a 5-star hotel for foreign visitors located in
down south of Sri Lanka.

Make a Reservation DD/MM/YYYY DD/MM/YYYY Select Your Country ▼ **BOOK NOW**

Continued...

- (a) Identify **at least two (2)** design errors in the above screen design. (6 Marks)

ANSWER IN THIS BOX

Main functions like Contact Us, Search are missing.

Buttons and labels are not easy to differentiate. Both look alike.

There are two fields with dates which are not labelled.

No images to attract the users.

(b) Identify **two (2)** good design considerations in the above screen. (6 Marks)

ANSWER IN THIS BOX

- Menus are there for proper navigation
- Select country link as shown
- The main functionality of a hotel website is hotel reservation and it is shown in the home screen so the users do not have to navigate to any other page

Continued...

(c)

What are the possible usability issues in this screen? Identify **at least two (2)** issues. (6 Marks)

ANSWER IN THIS BOX

Both buttons “Make a reservation” and “Make a booking” have similar labels, and users may be confused when they want to reserve/book the hotel.

When someone clicks “About us” or “Gallery” links, they do not know what their current page in the navigation is.

Two date labels are not meaningful.

Continued...

(d)

Draw a sketch of redesign interface based on your suggestions. (12 Marks)

ANSWER IN THIS BOX*Sunset View*

Resort & Spa

[HOME](#) | [Accommodations](#) | [Location](#) | [Rates](#) | [Facilities](#)

Attractive picture that shows the site of Resort.

Enter

DD/MM/YYYY

DD/MM/YYYY

Select Your
Country ▼**BOOK
NOW**
