



**UNIVERSITY OF COLOMBO, SRI LANKA**

**UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING**

**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY ( EXTERNAL)**

*Academic Year 2022 – 2<sup>nd</sup> Year Examination – Semester 4*

***IT4106 – User Experience Design***  
***Part 2 - Structured Question Paper***

**(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 **2 questions** and **6 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 questions appear on both sides of the paper.  
If a page is not printed, please inform the supervisor immediately.
- Calculators are **not** allowed.
- *All Rights Reserved.*

**Questions Answered**

Indicate by a cross (x), (e.g. 

X
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) the numbers of the questions answered.

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

1)

(25 Marks)

- (a) List the five (5) stages of design thinking process in order.

[5 Marks]

**ANSWER IN THIS BOX**

empathize, define, ideate, prototype and test

- (b) User research is conducted with or without an artefact. Name three (03) User-research methods for each of the above categories

[06 Marks]

**ANSWER IN THIS BOX**

With Artefact

Usability-Lab Studies: Ethnographic Field Studies: Participatory Design: Eyetracking:  
Usability Benchmarking: Moderated Remote Usability Studies:  
Unmoderated Remote Panel Studies: Concept Testing: Diary/Camera Studies: Customer  
Feedback Desirability Studies: Clickstream Analysis: A/B Testing Unmoderated UX  
Studies: True-Intent Studies, Intercept Surveys

Usability-Lab Studies: Ethnographic Field Studies: Participatory Design: Eyetracking:  
Usability Benchmarking: Moderated Remote Usability Studies:

Without Artefact

1. Focus Groups: Interviews: Card Sorting: Email Survey

- (c) Assume that as a newly recruited UX engineer, you are tasked to compare two features of a mobile application and evaluate design flaws. State the most appropriate evaluation method for this task and explain how you would design this evaluation task.

[10 Marks]

**ANSWER IN THIS BOX**

A/B testing

Student must explain how two features are divided in to A and B and how experients are conducted within a controlled environment . Also must mention the type of metrics that can be used... ex.. Time to complete

- (d) List four (4) low fidelity prototyping techniques.

[04 Marks]

**ANSWER IN THIS BOX**

Paper Prototyping

Wireframing

Mockups

Card Sorting

Storyboarding

2)

(25 marks)

- (a) Briefly explain the difference between the cognitive walkthrough and the pluralistic walkthrough.

[05 Marks]

**ANSWER IN THIS BOX**

the main difference between cognitive walkthrough and pluralistic walkthrough lies in their approaches and participants. The cognitive walkthrough emphasizes the cognitive processes of users and is typically conducted by usability experts or evaluators. On the other hand, the pluralistic walkthrough involves a diverse group of stakeholders and aims to gather a broader range of perspectives to identify usability issues and make collective decisions for improvement.

- (b) There are different types of interactions where a person can interact with a product. Describe (04) such interaction types. [08 Marks]

**ANSWER IN THIS BOX**

- Instructing The user wants to see the location of a specific shop.
- Conversing The user wants to find one particular branch out of several; the app might ask them to pick one from a list. Or, the user might want to find a particular kind of shop, and the app will display a list from which to choose.
- Manipulating The chosen route could be modified by dragging the path to encompass other shops or specific walkways.
- Exploring The user might be able to walk around the shopping center virtually to see what shops are available.
- Responding The app asks whether the user wants to visit their favorite snack bar on the way to the chosen shop

- (c) The Following techniques are commonly used for evaluating user interfaces and systems in human-computer interaction (HCI).

**Cognitive Walkthrough, Direct Observation, Focus Group, Online Survey,  
Heuristic Evaluation**

Assuming you are an HCI consultant, choose ONE most appropriate evaluation method for each of the following scenarios from the list above. Justify your answer.

[12 Marks]

- i. Evaluation of the navigation and menus on a hotel booking website.
- ii. Troubleshooting of a computerized control system for a fire brigade service after a critical failure during a major emergency.
- iii. Evaluation of the effectiveness of the help system in a Municipal Council online Assessment Tax payment system.

**ANSWER IN THIS BOX**

- i. Heuristic evaluation.

This is a usability inspection method mainly used to identify any design issues associated with the

user interface. The design is examined by experts to see if usability criteria (heuristics) are violated.

- ii. Cognitive walkthrough.

Cognitive Walkthrough is an expert analysis of a series of tasks. Cognitive Walkthrough aims to

look at how easy and obvious goals and actions are and to highlight areas of possible confusion.

For each task walkthrough considers

- what impact will the interaction have on the user.
- what cognitive processes are required?
- what learning problems may occur?

iii. Online survey:

Online questionnaires can be used to ask questions to evaluate the experience of users and the tasks.

The questions can be also asked to evaluate the effectiveness of the help guide (video/documented)

when problems are encountered, and how successful the help system was in resolving the problem.

The advantages of using an Online survey are that it quick and reaches a large user group, and can be analyzed more rigorously

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