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ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

SEMESTER FINAL EXAMINATION
 DURATION: 3 HOURS

SUMMER SEMESTER, 2022-2023
 FULL MARKS: 150

SWE 4833: UI/UX Design

Programmable calculators are not allowed. Do not write anything on the question paper.

Answer all 6 (six) questions. Figures in the right margin indicate full marks of questions with corresponding COs and POs in parentheses.

1. A print dialogue for a certain printing task is given in Figure 1.

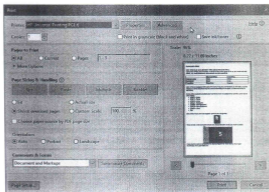


Figure 1: A sample dialogue for Question 1

- a) Identify four Gestalt principles that are evident in Figure 1 and explain their applications. 4 × 2
(CO1)
(PO1)
- b) Explain how segment specific control provides visual structure in Figure 1. 4
(CO1)
(PO1)
2. a) Grinch, a language enthusiast is excited to create LingoQuest, an app that makes learning new languages fun and easy for himself. In LingoQuest, he can pick any language he want to learn and do interactive exercises to build his vocabulary and grammatical skills. He also gets to learn about different cultures and practices speaking. In addition, the app helps him keep track of his progress and provides him personalized study plans.
- Since Grinch wants to develop the app for himself, he initially decides to use a detailed design framework to turn his idea into a polished product. However, his friend Max recommends rethinking his approach, considering his limited resources. Max suggests focusing on an iterative process, where he can quickly build and improve the app.
- i. Identify the initial design framework chosen by Grinch. Describe each step of that framework within the context provided. 2 + 10
(CO3)
(PO2)

ii. Determine the design framework suggested by Max. Outline the steps associated with the design process briefly within the context provided.

iii. Design an information architecture for LingoQuest app.

b) Explain the differences among Universal, Inclusive, and Equity-Focused Design.

3. Imagine your company is gearing up to create a new app called "WeatherWise", which aims to deliver precise and customized weather predictions suited to individual user locations and preferences. Following an interview session, you have just concluded gathering insights to understand user requirements effectively.

Interview Transcript:

I am Dora and work as a freelance photographer. As for my profession, I heavily depend on weather forecasts to plan outdoor photoshoots and events for my clients. Living in a city where the weather is unpredictable, having accurate and up-to-date weather information is crucial for the success of my projects. One of the main challenges I face is the inconsistency in the accuracy of the weather forecasts. There have been instances where I have based outdoor shoots on forecasted weather, only to have it completely wrong, resulting in wasted time and resources. Additionally, I often find myself switching between multiple weather apps to get a comprehensive view of weather conditions, which can be time-consuming and confusing. For my ideal weather app, it is essential that it provides reliable forecasts that I can trust when making important decisions for my work. Additionally, having the ability to customize notifications for specific weather events or conditions would be incredibly helpful in ensuring that I am always prepared for any changes in the forecast.

a) Create an empathy map for Dora to identify the user needs for the app.

b) Suggest end user groups representing various user types in the provided scenario.

c) Create a persona for Dora based on the interview transcript.

d) Write two user stories based on the personas.

e) Create a big picture storyboard to demonstrate how people will use the app and why the app will be useful.

4. Winnie and Tigger are excited to participate in the upcoming best-in-campus project competition with their innovative ideas. As for their ideas—

Winnie proposes "One-Touch SOS", a solution for emergency situations such as road accidents, fires, or medical emergencies. With a single tap, users can send an alert with their location to nearby individuals or designated emergency contacts.

Tigger proposes "Arch Wood's Chat", a comprehensive chatting platform tailored for campus residents. This app enables users to engage in text, voice, or video conversations, along with additional features designed for group communication within the campus community.

2 +
(CO1)
(PO2)

7
(CO3)
(PO2)

6
(CO1)
(PO1)

10
(CO4)
(PO3)

3
(CO2)
(PO2)

5
(CO4)
(PO3)

2 x 2
(CO4)
(PO3)

8
(CO4)
(PO3)

a) What are the benefits of generating a lot of ideas? Outline the situations where utilizing the "Crazy Eights" method is appropriate and the other cases when a "Competitive audit" is more effective.	3 + 2 (CO1) (PO1)
b) Perform a "Crazy Eights" on Winnie's proposal to reveal more features. Draw rough sketches of the ideas and give titles to each of them.	8 (CO4) (PO3)
c) Prepare a "Competitive Audit" of different chatting platform for Tigger's idea.	3 +
i. List down two direct and an indirect competitors with their purposes in the marketplace.	6 + 6
ii. Create a chart comparing competitors based on at least six key features relevant to Tigger's purpose.	(CO4) (PO3)
iii. Identify at least one strength and one weakness for each of the competitors.	
5. Shaggy has recently developed "PetPals", a versatile mobile app tailored for pet owners and animal enthusiasts. With a comprehensive range of features, "PetPals" serves as a go-to solution for all things related to pet care. Its key functionalities include a <i>Pet Adoption Portal</i> for discovering potential furry companions, a <i>Lost and Found</i> feature facilitating reunions between lost pets and owners, <i>Foster Care</i> opportunities connecting pets with temporary shelters, and access to a directory of <i>Vet Services</i> for ensuring pet health and well-being, including routine check-ups and emergency care.	
Now he wants to perform a usability study on the app.	
a) For the given project background, identify the elements of a UX research plan based on the following.	1 + 4 +
i. Identify the research goal.	4 +
ii. List the research questions for each of key feature.	2 + 2
iii. Determine the necessary Key Performance Indicators.	(CO4) (PO3)
iv. Propose the appropriate methodology to collect and analyze the data.	
v. List down candidate participants who will represent various user types in the provided scenario.	
b) Identify and explain any three types of biases that Shaggy should consider that may impact the participants in the study.	3 × 2 (CO2) (PO2)
6. a) As Mickey and Goofy start their UX evaluation journeys, each of them chooses distinct platforms to assess. Mickey sets out to measure the UX performance of Google Maps, a tool widely used by individual consumers for navigation and location-based exploration. Meanwhile, Goofy opts to focus his efforts on Google Classroom, designed specifically for educational institutions.	
i. Determine the appropriate UX performance measurement framework for evaluating Mickey and Goofy's chosen platforms, and explain why do their evaluation methods differ between these distinct platforms?	2 + 4 (CO2) (PO2)
ii. For Mickey's platform, identify goals, signals, and metrics for each relevant category of the suitable framework.	10 (CO4) (PO3)
iii. For Goofy's platform, describe goals, signals, and metrics for two relevant categories of the suitable framework.	2 × 3 (CO4) (PO3)
b) "When a measure becomes a target, it ceases to be a good measure" — do you agree with the statement? Give an example to support your view.	2 + 4 (CO1) (PO1)