

KATHMANDU UNIVERSITY
End Semester Examination
July/August, 2024

Marks Scored:

Level : B.Sc.
Year : III

Course : COMP 341
Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date 08 AUG 2024

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose and encircle in the most appropriate option from each set of choices

1. A persona in the context of goal-oriented interaction design _____.
 - a. is used to role-play through an interface design
 - b. is a real person
 - c. represents a particular type of user
 - d. should represent an average user

2. A prototype is _____.
 - a. The first working version of a system released.
 - b. Always done using software to avoid errors and evoke the real system
 - c. A limited representation of a design.
 - d. Only ever done using disposable paper-based mock-ups.

3. Unlike Traditional observation, guided observation _____.
 - a. Sets strict guidelines for session activities
 - b. Reduces error introduced by the experimenter
 - c. Sets strict guidelines for session length
 - d. Includes some interaction with participants

4. You drag a folder to make a copy of its contents. An animation appears on the screen, showing files moving from one folder to another. This is an example of which of the following?
 - a. Visibility
 - b. Mapping
 - c. An affordance
 - d. Feedback

5. Your new lead acid battery is packaged in a plastic anti-static bag. The bag is sealed with a yellow sticker with a written warning not to expose the phone to static electricity. This sticker is an example of _____.
 - a. Perceptual constraints
 - b. Cultural constraints
 - c. Physical constraints
 - d. Logical constraints

6. Which of the following statements is FALSE?
 - a. Norman's logical constraints are one way to implement Nielsen's principle of error prevention
 - b. Norman's principle of feedback is one way to implement Nielsen's principle of "recognition rather than recall."
 - c. The help and documentation called for by Nielsen's useability principle form part of Norman's definition of the system image.
 - d. All of the above statements are true.

7. Which statement best reflects interaction design?
 - a. Interaction design is a new discipline
 - b. Interaction design is multidisciplinary
 - c. Interaction design combines the disciplines of software engineering and psychology
 - d. Interaction design is an application of common sense.
8. What is an “affordance” according to Norman (1999):
 - a. Property of an object that indicates to people how to use the object.
 - b. The return on investment of the user centered design process.
 - c. The opportunity cost of not using user centered design.
 - d. An instruction on an interface signaling how to use the interface.
9. Which set of properties best characterizes an “ethnographic” study?
 - a. Participant observation, cultural engagement, collection of diverse forms of evidence and data
 - b. Participant observation, scientific objectivity, removal of cultural bias
 - c. “Anthropological strangeness”, collection of audiovisual data.
 - d. Use of the model human processor to analyze findings.
10. What is the most important property that a prototype should have?
 - a. It should support a wide range of user tests.
 - b. It should look like the final product.
 - c. It should allow the key design concepts to be tested with users.
 - d. It should be easy to throw away.
11. Which professional groups are most appropriately involved in preparation and performance of the classic kind of cognitive walkthrough?
 - a. End users and designers
 - b. Designers and usability experts
 - c. Usability experts and marketing personnel
 - d. Designers and marketing personnel.
12. In human computer interaction, primary role for sending input is played by _____.
 - a. Eyes
 - b. Ears
 - c. Fingers
 - d. Head
13. What techniques can be used to guide the user's attention to important information on the interface?
 - a. Layouts and animations
 - b. Colour
 - c. Flashing
 - d. Auditory warning
14. What is the best description of a conceptual model?
 - a. A high-level description of how a system is organized and how it operates
 - b. Interaction paradigms and interaction modes
 - c. A diagram showing the mental model of the user and the system image
 - d. The problem space faced by the designer when gathering user requirements
15. What is a “participant observer”?
 - a. An observer who partly participates in the activity they are observing.
 - b. A participant who observes the activity they are participating in.
 - c. An observer who watches participants.
 - d. A participant who watches observers.

16. Which of the following models/laws best describe the relationship between speed and accuracy of a pointing device?
a. Fitts b. Key stroke c. GOMS d. Norman's 7 Stages
17. Which of the following sentence is false in case of Think aloud testing?
a. slows down the user by about 17% b. cannot provide performance data
c. cannot provide process data d. is a formative evaluation method
18. Which of the following statements is not appropriate in knowing the user in the usability engineering life cycle?
a. Draw up a user profile
b. Run a think aloud test
c. Assume the role of an apprentice learning from the master craftsman
d. Observe representative users
19. In virtual reality, which of the senses cannot currently be portrayed?
a. Touch b. Hearing c. Sight d. Smell
20. Which one of these is a good reason for taking care to design a good computer human interface?
a. Not every user is a computer expert
b. Well designed HCIs allow the software to be sold at a better price
c. Well designed HCIs allow the computer to run faster
d. Well designed HCIs use less computer resources

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SECTION "B"
[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. "Questionnaire play an important role in the evaluation process". Justify this statement with examples.
2. Explain the concepts of *persona* and *scenario development* in the design process with examples.
3. Identify three types of *disability* and explain how these can cause difficulties when interacting with computer interfaces.
4. Why is it good practice to use *standards* and *guidelines* when designing interface? Give examples to support your arguments.
5. Which is the most effective *design principles* you found during the development of different semester projects so far? Justify your arguments with examples.
6. Identify the *golden rules* you have implemented in your mini research project. Provide the context behind using it.
7. Provide the context when *user observation* is a must during design process. You can relate it with some real-world scenario.

SECTION "C"
[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. You have been asked by a software company to provide a training session on *User Centered Design*. Describe a *user centered design* approach and techniques and develop a training session manual.
9. Air traffic control (ATC) is a service provided by ground-based air traffic controllers (people) who direct aircraft on the ground and through a given section of controlled airspace, and can provide advisory services to aircraft in non-controlled airspace. Choose three *evaluation techniques* which would be appropriate for evaluating the interface of an air traffic control system. Justify your choices.
10. How do you relate *ethnography* and *prototyping* in developing the product? Justify your arguments linking these two concepts with the mini research project you developed to fulfill the requirement of this course.

