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Question Paper Code: 49220

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Elective

Computer Science and Engineering

14UCS920 - HUMAN COMPUTER INTERACTION

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- Which of the following fields is not an influence on HCI?
(a) ergonomics (b) cognitive psychology
(c) computer science (d) all of the above
- _____ have two orthogonal dials to control the cursor position.
(a) Mouse (b) Joystick (c) Thumbwheels (d) Trackballs
- The network diagram shows
(a) what leads to what (b) what happens when
(c) Branches and loops (d) All of the mentioned
- _____ is a graphical depiction of the outward appearance of the intended system, without any accompanying system functionality.
(a) Animation (b) Storyboard (c) Simulation (d) HyperCard
- _____ attempts to deal with some of these problems by including elements such as parameterized grammar rules to emphasize consistency and encoding the user's world knowledge.
(a) Task action grammar (b) Backus–Naur Form
(c) Cognitive complexity theory (d) None of the mentioned

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) The help and documentation called for by Nielsen's usability principle form part of Norman's definition of the system image
 - (c) Norman's principle of feedback is one way to implement Nielsen's principle of "Recognition rather than recall".
 - (d) All of the above statements are true
7. _____ platforms are designed and developed by device makers for use on their devices.
- (a) Licensed platforms
 - (b) Proprietary platforms
 - (c) Open source platforms
 - (d) None of the mentioned
8. _____ is the design of how the user can participate with the information present, either in a direct or indirect way.
- (a) Information design
 - (b) Navigation design
 - (c) Interface design
 - (d) Interaction design
9. What is the relationship between tasks, actions, and goals?
- (a) a task is composed of goals and actions to accomplish those goals
 - (b) an action reifies a task into a goal
 - (c) a goal is composed of a set of actions that accomplish a task
 - (d) none of the above
10. The _____ overlay allows an overlay to present additional information when the user clicks or hovers over a link or section of content.
- (a) Dialog Overlay
 - (b) Detail overlay
 - (c) Input Overlay
 - (d) Output overlay

PART - B (5 x 2 = 10 Marks)

- 11. Write note on gestalt theory of problem solving.
- 12. Write the principles of software life cycle.
- 13. Classify stakeholders of an airline booking system.

14. What is mobile HCI?

15. List the various page elements.

PART - C (5 x 16 = 80 Marks)

16. (a) Explain in detail about human input and output channels (16)

Or

(b) (i) Identify input and output devices used for digital cartographic system. For each, compare and contrast alternatives, and indicate why conventional keyboard, mouse and CRT screen may be less suitable? (8)

(ii) Explain the stages in Norman's model of interaction.

17. (a) (i) Write a scenario for the personal movie player. (8)

(ii) Illustrate application functional hierarchy with neat block diagram. (8)

Or

(b) Create a Software process with design rules, principles and standards. (16)

18. (a) (i) Explain Effective Technical and Human Implementation of Computer- based Systems (ETHICS) and how the design groups then address the following issues and activities. (8)

(ii) Describe and discuss about many applications of hypermedia. (8)

Or

(b) Explain in detail about communication and collaboration models. (16)

19. (a) Compare and Contrast below Application Frameworks in detail (16)

(a) Java

(b) Flash Lite

(c) Windows Mobile

(d) Android SDK

Or

(b) Discuss in detail about the Elements of Mobile Design. (16)

20. (a) Elaborate the patterns that support virtual pages. (16)

Or

(b) Simplify the following Direct Selection elements (16)

- (i) Toggle Selection
- (ii) Collected Selection
- (iii) Object Selection
- (iv) Hybrid Selection