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Department of Computer Science
College of Engineering
University of Nevada, Reno

CS 791m Human-Computer Interaction

Midterm Test

November 15, 2006

Test type: Closed-book examination
Number of questions: 12
Total points: 32
Test weight in course grade: 18%
Time: 70 minutes
Notes:

- For questions **1 to 7** indicate the correct answer (only one) on the answer sheets provided by the instructor. Each of the questions **1 to 7** has a one point value for a group total of 7 points.
- Questions **8 to 12** require that you elaborate your answers. You must also write these answers on the sheets provided by the instructor. The total value of questions **8 to 12** is 25 points.

Questions:

- 1** Which of the following lines contains an item that is not a *usability goal* (as defined in the textbook)?
 - a. Learnability, safety
 - b. Adaptability, efficiency
 - c. Memorability, effectiveness
 - d. Utility, safety[1 point]
- 2** Which of the following is an HCI *design principle* (as indicated by Donald Norman)?
 - a. Abstraction
 - b. Composition
 - c. Visibility
 - d. Scaling[1 point]
- 3** Which of the following is a type of *conceptual model* based on activities?
 - a. Manipulating and navigating
 - b. Conversing
 - c. Instructing
 - d. All of the above[1 point]
- 4** What is meant by *cognitive tracing*?
 - a. Using a tool in conjunction with an external representation to carry out a computation
 - b. Externally manipulating items into different orders or structures
 - c. Modifying external representations, such as underlining items
 - d. None of the above[1 point]

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- 5** *Animated agents* are best described by which of the following statements:
- Play a collaborating role at the interface
 - Have predefined personality and set of emotions that can be changed by users
 - Appear as first-person avatars
 - Emulate human conversation
- [1 point]
- 6** Which of the following contains an item which is not a guideline for physical design?
- Permit easy reversal of actions
 - Support internal locus of control
 - Reduce short-term memory load
 - Enable external locus of control
- [1 point]
- 7** Hierarchical task analysis (HTA) is about:
- Breaking a task into subtasks and grouping subtasks in plans
 - Finding errors in the way a user performs a task
 - Evaluating the time needed by a user to complete a task
 - All of the above
- [1 point]
- 8** Indicate the *four basic activities of interaction design* (hint: one of the activities is “identifying needs and establishing requirements”). Briefly describe each of them (3 to 5 lines each).
- [6 points]
- 9** Explain what is meant by *low fidelity prototyping* and what is meant by *high-fidelity prototyping*. Describe *three types of low-fidelity prototyping* (hint: one of the four types presented in the book is “storyboarding”).
- [6 points]
- 10** Write four brief recommendations for *physical interface design*. Consider menu design, icon design, and screen design. An example of such recommendation is “in pull-down menus the most commonly used functions should be at the top”.
- [3 points]
- 11** Describe four *data gathering techniques* used for identifying needs and establishing requirements in interaction design (3 to 5 lines each). Indicate at least one advantage and one disadvantage for each technique.
- [6 points]
- 12** Indicate three possible *causes of user frustration* when using a computer (causes related to poor interaction design). Briefly indicate how to avoid each of them.
- [4 points]