



Midterm Examination Cover Sheet

First Semester: 1435-1436 / 2014-2015

Course Instructor:	_____	Exam Date:	12/11/2014
Course Title:	Human Computer Interaction	Course Code:	IT-201
Exam Duration:	1 Hour	Number of Pages: (including cover page)	6

Exam Guidelines

- Mobile phones are not permitted.
- Calculators are permitted.

Marking Scheme

Questions	Score
Q1	20/2 = 10
Q2	10/2 = 5
Q3	5
Q4	5
Total	25

Student Name: _____	Student ID: _____
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Question 1: Multiple Choice Questions

Circle the correct choice. There are a total of 20 MCQs.

20/2 =10 marks

1. The Four Pillars of Design are
 - a. User Interface Requirements
 - b. User interface software tools
 - c. Experts review & usability testing
 - d. **All of the above**

2. Teleoperation has two parents:
 - a. **Direct manipulation in a computer and process control**
 - b. 3D interface and process control
 - c. Direct manipulation in a computer and 3D interface
 - d. none of the above

3. Expert review methods includes
 - a. Heuristic evaluation
 - b. Cognitive walkthrough
 - c. Consistency inspection
 - d. **All of the above**

4. Which of the following is NOT true about menu selection?
 - a. **Encourages exploration**
 - b. Shortens learning
 - c. Reduces keystrokes
 - d. Provides a clear structure to decision making

5. How well users maintain their knowledge is called _____.
 - a. Time to learn
 - b. Usability motivation
 - c. Speed of Performance
 - d. **Retention over time**

6. Short-term memory load can be reduced for users by:
 - a. Making sure users understand the nature of their errors.
 - b. Reducing the time required for each step.
 - c. Giving them sufficient information about current status and activities.
 - d. **Avoiding interfaces in which users must remember information from one screen and then use that information on another screen.**

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7. Which one of the following is NOT an advantage of WYSIWYG word processors:
- Display a full page of text
 - Show cursor action
 - Offer reversible actions
 - Use high level flowchart**
8. Which one of the following is NOT a goal of language design:
- Compactness
 - Ease of retention over time
 - The convenience in speaking**
 - Speed in learning
9. Which of the following statements is NOT true about feedback?
- Feedback is usually distracting and annoying to users.**
 - For every user action, there should be system feedback.
 - Harsh sounds are appropriate for rare emergency feedback.
 - Informative feedback at the completion of a group of actions gives operators the satisfaction of accomplishment
10. Participants for usability testing should be chosen
- Background in computing
 - Experience with the task
 - Ability with the natural language used in the interface
 - All of the above**
11. Lengthy training periods are most acceptable for _____.
- Home and entertainment applications
 - Exploratory, creative, and collaborative interfaces
 - Sociotechnical systems
 - Life-critical systems**
12. All of the following are good guidelines for use of icons except _____.
- Represent the object or action in a familiar and recognizable manner.
 - Carefully consider three-dimensional icons; they are eye-catching but also can be distracting.
 - Limit the number of different icons.
 - Make the icon blend in with its background.**

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13. Augmented reality is _____.
- The same thing as virtual reality
 - A type of dashboard displaying a large volume of information at one time.
 - An innovation in which users see the real world with an overlay of additional information.**
 - The use of haptic interaction skills to manipulate objects and convert the physical form to a digital form.
14. Participatory Design has the following sequence
- Design partner, Tester, User, Informant
 - User, Tester, Informant, Design partner**
 - Tester, Design partner, User, Informant
 - None of the above
15. which one of the following is NOT a guideline of using abbreviation:
- Truncation should be used
 - Users should be familiar with the rules
 - choose meaningful, distinctive, and specific names**
 - none of the above
16. Use of eye-tracking devices is a way to do
- Black box testing
 - White box testing
 - Usability Testing**
 - Story board
17. Extensive user involvement may
- be more costly
 - lengthen the implementation period
 - build antagonism with people not involved or whose suggestions rejected
 - All of the above**
18. Which one of the following is an example of virtual reality:
- flight simulator**
 - video games
 - Microsoft Office
 - X-ray eyeglasses

19. Identifying and observing the user community in action
- Theories & Models
 - Algorithms & Prototypes
 - Ethnographic Observation**
 - Controlled Experiments
20. Can-You-Break-This tests _____.
- Provide a quick approach to task analysis, prototype development, and testing with as few as three to six test participants.
 - Are used for testing interfaces with highly diverse users, hardware, software platforms, and networks.
 - Put new interfaces to work in realistic environments or in a more naturalistic environment in the field for a fixed trial period.
 - Are a type of testing in which the users try to find fatal flaws in the system or otherwise destroy it.**

Question 2: True/False Questions

Write T for True and F for False against every question. **10/2 =5 marks**

- Successful design is usually the result of thorough task analysis and careful specification of the user communities [**T**]
- Since design is inherently creative and unpredictable, there are no methods available to guide a designer [**F**]
- In a think-aloud evaluation, HCI experts are asked to talk out loud while evaluating the usability of an interface so that the experimenter can efficiently record their observations. [**T**]
- When using experts for an expert review, it is important that the expert selected have little knowledge of the project and no meaningful relationship with the organization [**F**]
- One of the principles of direct manipulation is Physical actions or presses of labeled buttons, instead of complex syntax [**T**]
- One of the basic goals of language design is Speed in learning [**T**]
- Characteristics of a well-structured command language is choosing meaningful, specific, distinctive names [**T**]
- Designing interfaces to help meet the needs of disabled users will inevitably hurt normal user's productivity. [**F**]
- Successful spatial data-management system does not depend on choosing appropriate icons [**F**]
- Flexibility to accommodate novice and expert users is not one of the higher level goals of language design [**F**]

Short Essay Questions

Elaborate in your own words and give appropriate explanation, model and example if necessary. **3+2+5=10 Marks**

Q3:

A. Explain Six Potential Abbreviation Strategies. [3]

1. **Simple truncation:** The first, second, third, etc. letters of each command
2. **Vowel drop with simple truncation:** Eliminate vowels and use some of what remains.
3. **First and last letter:** Since the first and last letters are highly visible, use them.
4. **First letter of each word in a phrase:** Use with a hierarchical design plan.
5. **Standard abbreviations from other contexts:** Use familiar abbreviations.
6. **Phonics:** Focus attention on the sound.

B. What are the three principles of direct manipulation? [2]

- Continuous representations of the objects and actions of interest with meaningful visual metaphors
- Physical actions or presses of labeled buttons, instead of complex syntax.
- Rapid, incremental, reversible actions whose effects on the objects of interest are visible immediately.

Q4: Explain acceptance testing. Why acceptance testing plays an important role in successful project completion? [5]

Answer: Acceptance Test: For large implementation projects, the customer or manager usually sets objective and measurable goals for hardware and software performance. Acceptance test is the activity where the finished product and its interfaces are evaluated against these defined objectives. If the completed product fails to meet these acceptance criteria, the system must be reworked until success is demonstrated. Rather than the vague and misleading criterion of "user friendly," measurable criteria for the user interface can be established for the following:

- Time to learn specific functions
- Speed of task performance
- Rate of errors by users
- Human retention of commands over time
- Subjective user satisfaction