Mansoura University
Faculty of Computer & Information Sciences
Information Technology Dept.

Final Exam – May 2014
IT326P - Human-Computer Interaction
3rd year, IT Dept.

1- Choose the correct answer (10 points)

I. To help users remember your design.
a. Provide them with easy to read manuals.
b. Provide them with handy shortcuts for important tasks.
c. Design for recognition.
d. None of the above.

II. Users get frustrated with your applications because:
a. An application doesn't work as perceived.
b. Too many error messages.
c. The appearance of an interface is patronizing.
d. All of the above.

III. A good interactive design:
a. Abide by all design principles as well as usability guidelines.
b. Capitalizes on users familiarity with previous experience.
c. Satisfies users' needs and help them work out their idea in an effective and efficient way.
d. b + c.

IV. The following techniques are used to grasp the user attention except for:
a. Overuse of Colors.
b. Sound effects.
c. Grouping.
d. Underlining

V. To help users recognize rather than remember an interface.
a. We can provide them a full detailed manual with visual examples.
b. We can provide many interactive features they want in the system.
c. We can provide them with a list of shortcut keys they can use while interacting with an interface.
d. None of the above.

VI. Which of the following fields is not an influence on HCI?
a. ergonomics
b. cognitive psychology
c. computer science
d. all of the above are an influence on HCI

VII. Scripting (the ability to record and play back programmable sequences of actions) is an example of:
a. speaking the user's language
b. allowing the user model to grow
c. the "recognition rather than recall" principle
d. a mode in the user interface design

VIII. 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

IX. 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 lengths
d. includes some interaction with participants

X. 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

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2 - An elevator panel will require buttons for four floors (parking, main floor, second and third floor), door open, door close, stop, and activate emergency intercom.
   a- Propose a design for these buttons. Draw them in a single row. **(5 points)**
   b- Comment on the use of layout and other elements in the control panels; including the way in which various visual elements support or hinder logical grouping and sequence. (**5 points)**

3- **Choose an appropriate evaluation method for each of the following situations. In each case identify**: **(10 points)**
(i) The participants
(ii) The technique used
(iii) Representative tasks to be examined
(iv) measurements that would be appropriate
(v) an outline plan for carrying out the evaluation.

a- You are at an early stage in the design of a spreadsheet package and you wish to test what type of icons will be easiest to learn.

b- You have designed and implemented a new game system and want to evaluate it before release.

4- From the following questions answer maximum 30 points:

a- Define what is meant by heuristic evaluation and explain how and when this method is performed, suitability and other factors that can come in to play when performing this type of evaluation. Compare this method to another method that involves users. What are the differences? **(15 points)**

b. Describe three populations of users with special needs. For each of these populations, suggest three ways current interfaces could be improved to better serve them. **(15 points)**

c - Distinguish between principles, guidelines and standards **(5 points)**

d- What are the design principles for **Universal design? (5 points)**

e- What are (i) *auditory icons* and (ii) *earcons*? How can they be used to benefit both visually impaired and sighted users? **(5 points)**

f- List two of Norman's interaction design principles that are often violated by command line interfaces in practice. For each explain how it is violated. **(5 points)**

g- Describe (in words as well as graphically) the interaction framework introduced in Human– Computer Interaction. Show how it can be used to explain problems in the dialog between a user and a computer. **(10 points)**