

## CS 790M Human-Computer Interaction

### Study questions for midterm test

April 2, 2008

<b>Test type:</b>	Closed book exam, written, 70-min long
<b>Date &amp; time:</b>	Thursday April 17, 2008 @ 9:30 am
<b>Weight in course grade:</b>	20%
<b>Textbook:</b>	Benyon, D., Turner P., and Turner S., Designing Interactive Systems, Addison-Wesley, 2005.
<b>Chapters covered:</b>	1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 16

#### Chapter 1: Designing interactive systems: A fusion of skills

- [ 1] Give three examples of *interactive systems* commonly used in daily life (other than those presented in the textbook) and explain why you think they are good representatives of this type (interactive).
- [ 2] Describe and compare two possible views that can be taken in interaction design: *machine-centered* and *people-centered*.
- [ 3] Explain why being *human-centered* is important in interaction design.

#### Chapter 2: The PACT framework

- [ 4] Explain what the *PACT framework* is and indicate why its four components are important.
- [ 5] Describe the most relevant aspects considered in PACT regarding *People*.
- [ 6] Describe the most relevant aspects considered in PACT regarding *Contexts*.
- [ 7] Describe the most relevant aspects considered in PACT regarding *Technologies*.

#### Chapter 3: Principles and practices of interactive systems design

- [ 8] Explain what *usability* is and indicate 4 characteristics of a system with high degree of usability.
- [ 9] Explain what *accessibility* is and briefly describe four of its key features.
- [10] *Visibility, consistency and affordance* are three principles of good interactive systems design. Explain what is meant by each of them and indicate why they are important.  
[Please study all 12 principles presented in Sec. 3.6; the question may include any 3 of them].

#### Chapter 5: An introduction to cognitive psychology

- [11] Indicate and briefly explain three of the *Gestalt laws* of perception.
- [12] Explain what *secondary depths cues* are and briefly describe three of them.
- [13] Explain what a *mental model* is and indicate three of Don Norman's general observations about the nature of mental models of interactive systems.

#### Chapter 6: Supporting single user interaction

- [14] Explain what is meant by *WIMPS* and briefly describe its components.
- [15] Explain what *form filling* is and indicate when it is recommended to use this interaction style.
- [16] Explain what is meant by *virtual reality* and compare *immersive VR* with *non-immersive VR*.

## Chapter 8: Scenarios

- [17] Enumerate the four types of *scenarios* presented in Section 8.2 and describe two of them.
- [18] Describe the *scenario-based design method* presented in Section 8.4 and enumerate the four types of artifacts produced with this method.
- [19] Describe what is meant in section 8.4 by *scenario corpus* and explain the rationale for developing such corpus.

## Chapter 9: Requirements

- [20] Explain what *requirements* are and describe what is meant by *functional requirements* and by *non-functional requirements*.
- [21] Briefly describe four practical considerations for *interviewing*.
- [22] Describe two methods for obtaining *information from people at a distance*.

## Chapter 10: Envisionment

- [23] Describe the three main types of *storyboarding*.
- [24] Describe what *mood boards* are and explain what are they useful for.
- [25] Explain why a *navigation map* is important in the design process. At what point in the design process should navigation maps be considered?

## Chapter 11: Prototyping

- [26] Explain the differences between *high-fidelity* and *low-fidelity prototypes*. Also, indicate in what stage of development is each typically used.
- [27] Discuss the dangers of building *functionality* into *prototypes*.
- [28] Explain the differences between *horizontal* and *vertical prototyping*.

## Chapter 12: Evaluation

- [29] Factors to take into account in user testing can be summarized as *IMPACT*. Briefly describe each of the components of the IMPACT model (2-4 lines each).
- [30] Choose three *usability objectives* and indicate the common *usability metrics* associated with them.
- [31] Why is *learnability* more important for some applications than for other? Give a couple of examples where it might not be a significant factor in usability.

## Chapter 13: Conceptual and physical design

- [32] Indicate what is the main concern of *conceptual design* and explain the *distinction* between conceptual and physical design.
- [33] Explain what is meant by *physical design* and briefly describe its three main components.
- [34] Indicate the components of a *design language* and explain why design languages are useful.

## Chapter 16: Hearing and haptics

- [35] Briefly describe three types of *auditory interfaces*.
- [36] Describe possible problems with *sound* in user interfaces.
- [37] Briefly explain three of the following terms related to *haptics*: haptic, proprioceptive, vestibular, kinaesthetic, cutaneous, tactile, force feedback.
- [38] Briefly describe four desired attributes of *wearable computing*.