

# Quiz 3, on Chapter 6, With Answer Hints

Tuesday, May 15th, 2012

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Answer each of the following questions concisely, within the number of sentences specified in parentheses after the question. Any text that goes beyond these limits will be ignored.

There are 6 questions. The first counts for 1 point, each of the others for 1/2 point. The maximum score is 3 points, even if you earn all 3.5 possible points. Good luck!

Note about answer hints: Answers that seemed to the tutor to be possibly plausible even though they did not exactly fit the pattern specified by Antti Oulasvirta (which is given below) were discussed with Anthony Jameson, who made the final decision about grading.

- 1 The chapter presents 20 interface types. List 10 of them using the terminology of the book. (Full mark for 10 or more correct types. Order does not matter. There are 20 slots in case you want to provide more than 10 answers to be on the safe side.)

This is the Table of Contents (i.e., list of 20 types) in this chapter.

- 2 What are some claimed benefits of graphical user interfaces over command language interfaces? (2 sentences)

- Visibility of options -> supports exploration and helps avoiding errors .
- Less reliance on memory recall -> easier to learn.

- 3 You are an interaction designer in a large car manufacturing company. The engineering team proposes a brain-computer interface to control the car's media system while driving. They insist that this solution is perfect, because it requires no manual interaction (hands can be kept on the steering wheel) and the gaze can be kept on the lane. How could you respond to them in just 2 sentences, indicating the main issues that could arise in this setting?

Two of the following:

- Using the BCI requires concentration and therefore actually distracts focusing on driving.
- Expressive capacity is low, i.e. we can only do very simple things with BCI. Controlling a media center would be a challenge.
- Would be very slow with the present technologies.

4 Provide a good example of a haptic user interface. (1 or 2 sentences)

- E.g., the violin example given in the book: providing tactile feedback (nudges) when playing incorrectly.
- The PHANTOM example given in the slides: exploration and manipulation of 3D objects in virtual reality.

5 One of the key design issues of the post-WIMP era (i.e., concerning the novel user interface types that appeared after the WIMP paradigm) is how to present information to users so they can carry out an ongoing activity or task. You are working for a software company and designing an email application for mobile information workers. The goal is that users are able to use the application when doing something else, such as walking or attending meetings. Name 2 alternative interface types that would be basically suitable for this task. (2 sentences)

A good answer gives two types (of the 20) and provides some justification for them. The answer requires understanding that some of the "interface types" in the list can be implemented on a mobile device and some not. We discussed this in the lecture. The obviously correct answers are:

- Multimodal - e.g., presenting emails auditorily to the walking user, yet allowing to read them on the display.
- Speech - e.g., dictating emails to the application.

Note by Anthony Jameson: Since a justification was not explicitly requested, it was not required for assignment of credit, as long as the answer given was reasonably plausible.

6 Which of the following interface types utilize direct manipulation? Command-based, speech, tangible, wearable, robotic, WIMP, and graphical user interface. (List the correct ones.)

Command-based, speech, tangible, wearable, robotic, WIMP, and graphical user interface