Comments regarding the grading of the exam 2010-03-19 in HCI, advanced course

1. From the perspective of Activity theory, there may be several reasons for a designer to make sure that so called breakdowns occur in an interaction situation. Explain why, using the theory, and give at least two specific examples of situations where breakdowns are wanted and also what we want to achieve in each of these situations by integrating breakdowns into the situations. 5p

   Answers given talk about internalized methods that are no longer enough, a breakdown occurs. Might result in the need to learn new methods, or even a new system. This development might then result in a new situation that could be internalized.

2. Use The Distributed Cognition framework to describe the activity of borrowing books from the library. Relate what you describe to the characteristics of the framework. 5p

   Good result. Answers covered characteristics such as distribution, redundancy, computation, information flow and transformation

3. What are the main goals for Participatory Design and how are they reached? 4p

   Answers given: Designers and users narrowed, Mutual learning, Users highly involved in design process, Handle conflicting goals between workers/users and management, realistic expectations, reduce resistance, improve productivity. This is reached when users participate in the entire process. Some have described workplace visits, future workshops, organizational games and embodying ideas.

4. If you where to conduct a task analysis, what are the reasons for choosing each one of the methods we have covered in this course? What circumstances make you choose each one of them? 6p

   Answers given:
   GOMS - routine tasks, expert users, time is crucial
   HTA - complex tasks, deals with tasks on any level, qualitative aspects
   KLM - when the task can be described on "pressing keys"-level, time is crucial

5. Within the field of motor behaviour there are models that are descriptive and others that are predictive. Illustrate each of these two model types with examples of your choice and account for the characteristics of each type. 4p

   Predictive: Fitts’ Law, which predicts how long it takes to point at a particular item with a pointing device. Also KLM and Hick-Hyman.
   Descriptive: Buxton’s model, where the model is a description of what can happen when using the mouse or another pointing device (also touchpad). Key-Action model, Guiard’s model.

6. Design rationale is considered to raise the understanding of interaction situations. What are the main arguments for this standpoint? Motivate your answer! 5p
In short, every design proposal is reviewed with claims and their pros and cons. Hence it identifies the causes of the design choices one makes with reference to various theories in order to strengthen the arguments. Once this is documented and spread within the HCI community we get a better understanding of what works and what does not.

7. Formulate three design principles based on the Gestalt laws, and account for how they relate to the theory. 6p

To show that items are connected, place them close to each other (the law of proximity). Give items the same shape and colour in order to show that they are of the same kind, such as buttons and links (the law of similarity).

8. Describe the Ethnographic method thoroughly and account for the circumstances in which it should be used. 5p

We are studying human behavior in their natural context. We want to understand their daily work and the technology used in their daily work. We use different data collection methods based on what is appropriate. As work progresses, one can understand more and more about what to learn. Holistic perspective, with many different perspectives and factors taken into account.

9. Show how a (limited) interaction situation, that you know well, can be illustrated using a state transition network, and use the network to establish what might happen. What is the purpose of using such a formal tool when analysing an interaction situation? 5p

Most answers use the examples in lecture 10, slides 9-12. The purpose is to make clear all actions that have to be considered and designed.

10. Describe the fifth level, Worker Competencies Analysis, within the Cognitive Work Analysis framework. 5p

Answers given build on necessary activities and different levels of competencies:
- skills
- rule-based
- knowledge-based