

## Exam HCI 2009 -2010

*This exam consists of 12 questions on 1 page.*

*The total amount of points for this exam is 90 points. You get 10 points for free. Final grade is #points/10.*

1. Explain what *learnability* is as an aspect of usability. Name one appropriate metric (i.e. measurement criteria) to measure *learnability*? Explain why it is appropriate. [5 points]
2. Name and describe *two heuristics* from the set of Nielsen's heuristics. Give an example of two corresponding *usability problems/defects*. [5 points]
3. Name and explain two limitations to conducting *heuristic evaluation/inspection*? [5 points]
4. Name and explain two out of the 4 *psychological principles* for HCI design? Give a short example for each of the two principles. [5 points]
5. Name two of the *Gestalt laws* applicable as guidelines for UI design? [5 points]
6. What is the purpose of the *Cognitive Walkthrough*? What are the steps you need to follow in the protocol? [5 points]
7. What is the purpose of a *content diagram*? What are the elements of a content diagram? Draw a content diagram for the main page/screen, (e.g. home page of the social TV site or the main navigation screen of the multi-touch remote control) of the prototype you designed in the assignments. [10 points]
8. How are *metaphors* used to develop accurate mental models? Name *two benefits* and *two problems* with the use of metaphors. Name one metaphor that you have used in the design of the (a) the Social TV website or (b) the multi-touch remote control? [10 points]
9. Explain what *tolerance* and *recoverability* mean as design principles? Give example UI solutions for each of them? [10 points]
10. Consider the research question: "Can we improve visitor's satisfaction in an online music store with a CD and DVD recommender system?" Formulate one corresponding hypothesis for this research question. Indicate the *dependent, independent and controlled variables* in this hypothesis. What are appropriate *metrics* to measure them? [10 points]
11. Define and explain the characteristics of *affordance* and *feedback* as design principles. Give one example for each of them. How did you address these two principles in your assignment prototype? [10 points]
12. What is the definition and characteristics of *mental models*. Give examples of two different mental models for the same application. [10 points]