Re-Exam HCI 2009 -2010

This exam consists of 12 questions on 1 page.
The total amount of points for this exam is 90 points.

1. Give the definition and explain what is the purpose of *Cognitive Walkthrough*? What are the steps you need to follow in the protocol and what is their purpose? [5 points]

2. Give the definition and explain 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 of the prototype you designed in the assignments *(e.g. the main navigation screen(s) and elements of a TV remote control, or the main navigation screen(s) for the online TV social site)*. Explain the function and purpose of <u>each</u> diagram element and their relationships to each other. [10 points]

3. Name and give the definition of two of the *Gestalt laws* applicable as guidelines for UI design? [5 points]

4. Give the definition and explain what *memorability* is as an aspect of usability. Name one appropriate metric (i.e. measurement criteria) to measure *memorability* of user interface? Explain why this metric is an appropriate one. [5 points]

5. Name and explain the purpose and function of <u>two</u> out of the *4 psychological principles* for HCI design? Give an example for <u>each</u> of the two principles. [5 points]

6. How are *metaphors* used to develop accurate *mental models*? Name <u>two benefits</u> and <u>two problems</u> with the use of metaphors. Name one metaphor that you have used in the design of the (a) the Social TV website <u>or</u> (b) the multi-touch remote control? [10 points]

7. Name and give the definition of <u>two</u> heuristics from the set of *Nielsen's heuristics*. Give an example of <u>two</u> corresponding usability problems/defects. [5 points]

8. Name and explain <u>two</u> limitations to conducting *heuristic evaluation/inspection*? [5 points]

9. Define *mental models* and list at least four characteristics. Give examples of <u>two</u> different mental models for one given application. [10 points]

10. List <u>three</u> design principles. Give their definition, characteristics and one example UI solution for <u>each</u> of them? [10 points]

11. Consider the research question: *"Can we improve visitor's satisfaction in an online travel store with a recommender system about different travel items?"* 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]

12. Define and explain the characteristics of *visibility, affordance* and *feedback* as design principles. Give one *example* for each of them. How did you address each of these principles in you assignment prototype? [10 points]