Graduate HCI Test 1   Name _____

October 1, 2018

Closed Book, Open Notes (one handwritten page), 75 minutes. ***Please answer concisely.***

1. [14 points] True or False:
    a. __ Evaluation heuristics (golden rules) are more specific than guidelines.
    b. __ Informed consent is required when doing experiments on people.
    c. __ "Usability testing" is essentially just checking compliance with guidelines.
    d. __ "Retrospective think aloud" increases user's cognitive load while performing the task.
    e. __ It's good to keep in mind that usability-test subjects are doing you a favor.
    f. __ "Allocation of functions" refers to the problem of deciding which aspects of a task to automate.
    g. ___ There should never be any reason to invent new heuristic evaluation questions, in addition to Nielsen's existing 10.
    h. __ It's generally good to design an interface to prevent users from making errors.
    i. __ The aim of a cognitive walkthrough is to prove (informally) that the interface is usable.
    j. __ The aim of a cognitive walkthrough is to prove (informally) that the interface is not usable.
    k. __ The aim of a cognitive walkthrough is to find implementation errors.
    l. __ The aim of a cognitive walkthrough is to reject the null hypothesis.
    m. __ The aim of a cognitive walkthrough is to estimate the average speed of performance.
    n. __ A MS in CS degree is necessary for a career in usability engineering.

2. [2] In each pair, which is typically faster?

    a. Mouse movement time __ or mouse click time __

    b. Time to do ^C __ or time to select *copy* from a menu __

3. [4] Characterize each of the following as: 1. a guideline, 2. a heuristic, 3. a requirement, or 4. something else:

    a. The mobile device shall be able to save draft text messages when out of the service area.

    b. In general, use a single font throughout your app. Mixing several different fonts can make your app seem fragmented and sloppy. Instead, use one font and just a few styles and sizes. Use the UIFont text styles API to define different areas of text according to semantic usage, such as body or headline.

    c. Provide predictable and reasonable behavior for computer-controlled (AI) units.

    d. Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.

4. [1] Hierarchical Task Analysis usually includes which 3 of the following:
    __ a. The subtasks and the sub-subtasks
    __ b. The dependencies among the subtasks
    __ c. A description of the user's cognitive state during each subtask
    __ d. The resources required for each subtask

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5. [2] To develop a set of evaluation heuristics in a new domain (for example, for wearable computers, or for interfaces for pet hamsters, or for factory equipment operators), there are several things you could do. From the following, pick the two most important.

    a. Review the semiotic literature.
    b. Do some initial usability studies in this domain and generalize over the issues found.
    c. Look at examples of past products in this domain that failed and discover why.
    d. Hold a focus group with the members of the intended user population.
    e. Ask the salespeople what the customers want.

6. [2] Of the following
    a. The mismatch between the designer's specification and the actual implementation
    b. The mismatch between the user's intentions and the allowable actions
    c. The mismatch between the system's representation and the user's expectations

    ___ refers to the Gulf of Evaluation and ___ refers to the Gulf of Execution.

7. [3] Which three of the following are most important to include in the final report of a usability study?

    a. The average number of user errors made per task.

    b. Relevant characteristics of the users studied.

    c. The names and contact information of all participants

    d. Components of the times spent on each task, including user reaction times and system response times

    d. The exact conditions in which users made errors

    e. An overall rating of the interface, for example 4 starts out of 5

    f. The tasks the users were given

8. [4] Name two differences between a usability study and an ethnographic observation.

9. [4] Observing users seems simple, but many things can go wrong. For each of the following common situations, give two things you could do to avoid the problem.

      A. Users get tense and nervous.

      B. Users play around instead of using the interface properly.

10. [4] Imagine a co-worker says, "user-observation studies are unnecessary. We should just ask users the simple question `how useful do you think this interface is?' That will get us all the information needed." Note at least two things that he is overlooking.

11. [4] Explain and illustrate one or more reasons for using User-centered Design.

13. [10] To: you
    From: The Boss
    Date: Oct 1, 3:01 pm
    Subject: do this right away
    Here at Megacorp we receive about 100,000 resumes a year and about 6000 people are involved in reviewing those resumes and making hiring decisions…. nobody likes our current processes … we need to design/implement/deploy a new workflow/solution/toolset. But first, before any of that, step 1 is we need to figure out the needs and the issues. Give me an outline for how we should do this first step: what kinds of activities we need to do and why. I need this by 4:20. ☺☺☺.