CMSI 370-01

Interaction Design

Fall 2013

Assignment 0926

This assignment aims to give you some firsthand experience with collecting usability measurements and assessing how well a device or system complies with its associated guidelines document.

Outcomes

This assignment will affect your proficiency measures for outcomes *1a*, *1b*, *1c* (max |), *2a*, *2b* (max |), *4d*, *4e*, and *4f*.

Background Reading

If the course texts are available to you, the following readings will shore up the current material.

- Norman Chapter 1
- Shneiderman/Plaisant Chapter 2

For Submission

With your class-assigned teams and systems, perform the following interaction design activities. Although you will have the same results and findings, please report your conclusions *individually*.

Commit your reports (LaTeX source files preferred) to your private GitHub repositories under the folders *usability-study/*.

Usability Metrics

Record some usability metrics for your assigned system. You can take measurements from as many people as you like, classmates or otherwise.

First, write down 3 concrete tasks that you would your test subjects to perform (e.g., "place a call to (424) 555-1978"). These form the basis of your measurement activities. Pick the most appropriate 3 metrics for your system from:

- *Learnability*—Make sure that your subjects are not familiar with the particular system they are about to use (interface knowledge), but understand the tasks in your list (domain knowledge). Remember that this metric is about time to accomplish tasks *without prior training*.
- *Efficiency*—For this metric, use subjects who *are* familiar with the system they are about to use (the more proficient, the better). If such subjects are hard to find, you can opt to give them some training and/or practice time in order to gain some level of expertise.
- *Errors*—Remember that in IxD, an error is not a bug, exception, or crash, but an incident where the user does something whose result is not what he or she expected.
- *Satisfaction*—We will stay very simple here. Just ask your subjects to rate, on a scale of 1 to 10, how much they enjoyed performing each task on their respective devices or systems.

In your submission, report the results of your studies and make a judgment call on which device or system you feel performed best. State and explain the priorities you gave to each metric.

Heuristic Evaluation

For the second part of your report, explore *why* you think your assigned systems performed the way they did. Base your discussion on one or more of the following:

- Mental model of the system from its developers' and users' perspectives.
- Guidelines documents that correspond or apply to your assigned devices or systems (i.e., how well [or badly] your assigned device or system complies with those guidelines).
- A well-chosen subset of interaction design principles or theories.
- The effectiveness or appropriateness of the predominant interaction style(s) used by the systems.

Be as concrete and grounded as possible. For example, you can provide screenshots from the actual system to illustrate your points. Refer to specific guideline statements or principles. Connect statements about mental models to specific artifacts of the system image (screenshots again). Et cetera.

And of course, write clearly, with the appropriate style and voice. Proofread a lot—your proficiencies will reflect both *what* you say and *how effectively* you say it.