The purpose of this exercise is to understand how to evaluate the usability of software by fairly informal testing of real people doing real tasks. This has two phases: analysis—finding problems—and synthesis—solving them. This will again be done in four teams of three persons each.

**PART ONE: Usability Evaluation**

**Procedure:**
This will be done in teams of three persons. One of you will be the “tester” and the other two the “observers”. *You might find it useful to audio or videotape the session.*

By October 16, Professor Douglas ([douglas@cs.uoregon.edu](mailto:douglas@cs.uoregon.edu)) will contact the observers by email and will give instructions on what software and tasks to do. This information must be kept secret from the third person who will perform the usability test.

During the evaluation session:

1) *Learn the software.* One observer briefly explains how the software works and demonstrates the software. The learner can explore and practice. No user's manuals are available. The second observer takes notes on usability problems. How much time did the tester spend learning? What are the learning problems due to design? Other problems?

2) *Do real-life tasks.* The learner will then be given several tasks to do. The two observers take notes. How much time does it take to do each task? What are the usability problems due to design?

3) *Critique the system: Ranking.* Using a ranking from 0 (terrible) to 5 (excellent), the observers ask the learner to evaluate the system compared to other software she/he has used. Here are the performance measures: functionality, learnability, quality of output, errors, performance time, acceptability, enjoyableness, fatigue. What is this rating? Explain?

4) *Critique the system: Explanation.* At the end of the session, the observers should ask the learner several questions about what problems he/she experienced and why. These are usually a follow-up to sections 1-3 above. What problems did the user experience and why?

**Deliverables**
Please write a report (3-5 pages) answering the questions above. Your analysis and recommendations will be aided by conceptualizing the problems in terms of categories such as functionality, control, feedback and context (See Lecture #2, slide 21.) This is Part ONE of the Report due on October 30.
PART TWO: Redesign Command Language

Procedure:
This part of the exercise will be done by the same team as PART ONE. If you have read this far, you will guess that the user interface we will use for PART ONE involves a command language. In the second part of this exercise, you will be asked to redesign the command language based on problems you uncovered in the usability evaluation, by additional user studies and by careful thinking and analysis on your own. Please read the textbook chapter on Command Languages and try to implement a better, more usable design given the issues in that chapter. Reading #1 might also be helpful.

Studio Design Presentation (Design Crit) and Report

Deliverables
Add a new section PART TWO to the previous report (+3 pages) to hand in to the instructor for grading on October 30.

5) Improve the system. All members of the team should answer these questions: What would you do to change the interface to make it more learnable and usable for the core functions of the tasks? Try to make general recommendations about the overall design as well as specific recommendations that address the problems you documented in sections 1 & 2. Develop an improved command language for the core functions and describe it completely. Justify the changes you have made in terms of usability.

Your team should prepare a 10-15 minute presentation of your new command language design for the class on October 30. Expect to engage in a lively class discussion about your design for another 5-10 minutes after your presentation. This will be briefer than your report. Don’t try to cover everything. Hit the main points.

Your 10-15 minute presentation should cover:
1) What is wrong with the usability of the current command language and UI? Use evidence from your usability evaluation in Part One and the textbook. (2 minutes)
2) What are the core functional requirements this language must do given the tasks? (3 minutes)
3) Present an initial design, demonstrating with one task how it meets the requirements. (5 minutes)
4) Any problems that you encountered in the design. (5 minutes)

You can prepare either overhead slides or large poster-size sheets of paper (which we can tape to the classroom walls) to show the various aspects of your redesign.
Here is the list of team members and their preferred emails for Exercise #2.

Please note that the Exercise is posted on the website under "Assignments".

Please contact as needed.

Team 1:
Hastings, Jimmy    jimmyh@cs.uoregon.edu    OBSERVER
Gardner, Craig     cgardner@uoregon.edu     OBSERVER
Moser, Zachary     zmoser@uoregon.edu      TESTER

Team 2:
Stradling, Nick     nickstradling@gmail.com   OBSERVER
Maricle, Peter      pmaricle@uoregon.edu    OBSERVER
Brown, Ben          bbrown5@cs.uoregon.edu   TESTER

Team 3:
Cerkas, Roger       rcerkas@cs.uoregon.edu   OBSERVER
Murphy, Mike        mmurphy1@uoregon.edu    OBSERVER
Kahlert, Patrick    kahlert@uoregon.edu    TESTER

Team 4:
David Teach         dteach@uoregon.edu      OBSERVER
McCraw, Justin      jmccraw1@uoregon.edu    OBSERVER
Deng, Duheng        ddh33@cs.uoregon.edu    TESTER