6.813/6.831 • User Interface Design and Implementation

Massachusetts Institute of Technology
Department of Electrical Engineering and Computer Science
Spring Semester, 2011

RS3: Analysis

Due Session 23

This problem set is for the graduate 6.831 class only.

This problem set is the final in a series (RS1, RS2, RS3) about reproducing a controlled experiment from a published paper. In this problem set, you will analyze your results and write them up.

Experiment Analysis (50%)

Analyze your data. Was there a significant difference in performance among your conditions? To answer this question, you should first graph your data in an informative way, including error bars. Next, perform a test for statistical significance. Use the paper you're replicating to guide you in how to display and analyze your results. Note, however, that you did fewer conditions than the paper did, so the details of your test (the number of factors in the ANOVA, for example) may differ from theirs.

Report (50%)

Write up your results in a brief report, at most 3 pages long. Your report should have the following parts:

- Method
    - Apparatus: the physical equipment you used
    - Conditions: the independent variables
    - Measures: the dependent variables you measured
    - Procedure: a description of what participants did in your study
    - Participants
- Results: graphs and statistical tests and discussion of your results

Follow the model of the paper that you're replicating; pay close attention to how it describes the study and how it presents its results. Be sure to clearly state where your replicated study differs from the original, both in experiment design and in outcomes. Also, if you had to drop any participants or discard some data, state that explicitly and provide reasons.

What to Hand In

Submit your report as a **PDF file**. Include a list of the people you discussed this assignment with (you can put this at the top of your report). This is an individual assignment, so be aware of the course's collaboration policy.

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