Questions?
Being fair with participants

• Testing is a distressing experience
  – Pressure to perform
  – Feeling of inadequacy
  – Looking like a fool in front of your peers, your boss,…

• Seek approval from the Institutional Review Board
  http://www.umresearch.umd.edu/IRB/

• Follow human participant protocols
  – Individual test results will be kept confidential
  – Users can stop the test at any time
  – Participants are aware (and understand) the monitoring technique
  – Their performance will have not direct implication on their life
  – Records will be made anonymous
Conducting the experiment

• Before the experiment
  – Have participants read and sign the consent form
  – Explain the goal of the experiment
    • In a way accessible to users
    • Be careful about the demand characteristic
    • Answer questions

• During the experiment
  – Stay neutral
    • Never indicate displeasure with participants performance

• After the experiment
  – Debrief participants
    • Inform participants about the goal of the experiment
  – Answer any questions they have
Managing subjects

• Don’t waste participants time
  – Use pilot tests to debug experiments, questionnaires, etc…
  – Have everything ready before participants show up

• Make participants comfortable
  – Keep a relaxed atmosphere
  – Allow for breaks
  – Pace tasks correctly
  – Stop the test if it becomes too unpleasant
Being fair with Science

• Dirty tricks
  – Fabricating
  – Falsifying

• Questionable tricks
  – Poor experimental design
  – Poor data collection
  – Poor data analysis
  – Misleading data presentation

• Neat tricks
  – Focusing on what conveys the most information
    • But be sure to do your homework!
  – Reorganizing
  – Reformulating

But be sure to do your homework!
Between or Within subject design?

• Possible problems
  – Different participant backgrounds
  – Irreversible effects
  – Non-linear confounding variable
  – Symmetric skill transfer
  – Asymmetric skill transfer
  – Range effect

• What to do about them?
  – Change design
  – Counterbalancing
  – Matched-group design
Experimental designs

• Single Variable
  – 2-levels
  – Multiple levels

• Multi-variables
  – Factorial design
  – Converging-series designs

• Other approaches
  – Non-experimental designs
  – Quasi-experimental designs
  – Interrupted time-series designs
  – Baseline design
  – Surveys