EVALUATION BEFORE DATA COLLECTION: DEVELOPING THE EXPERIMENT

• Developing tasks
  * Structured use: Identification of representative and critical tasks
    - Benchmark tasks: tasks a user performs, written out in detail; metrics (for usability specifications) are taken
    - Informal tasks: other tasks a user may perform, also written out in detail; no metrics are taken
  * Exploratory use
  * Training materials
    None should be needed for calendar
  * Procedures
    - Usability lab and field evaluation
      Lab: more control, but conditions more artificial
      Field: less control, but more realistic
      Alpha and beta testing NOT usability evaluation
    - Equipment
  * Design should not have ‘show stopper’ usability problems, if possible

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Eval before 1
DEVELOPING THE EXPERIMENT

• Participant selection
  
  * Representative users
    - Knowledgeable of target system domain
    - Know what they don't like, but don't usually know how to fix
  
  * User interaction design expert
    - Broadly knowledgeable in interaction development and use
    - Can find subtle problems
    - Can offer alternative suggestions for fixing problem
  
  * "Someone old, knows company, context, how it's done now

  someone new, from outside

  someone borrowed, knows company, but from different department

  someone blue" never likes anything, always wants it different
DEVELOPING THE EXPERIMENT

• Participant selection continued

  * Focus not on large number of experiments with large number of users, but rather on extracting as much information as possible from *every* user

  * Optimum number of participants is 3 to 5 per user class per major version/iteration

  * 1 participant is too few, more than 10 not worth it

  * 80% of usability problems detected with 4 to 5 participants [Virzi, 1992]

  * More severe usability problems are typically detected by the first few participants

• Expected number of iterations per version is 3

• In subsequent cycles of evaluation, keep "best" participant from previous cycle, add 2 (or more) new participants

  *Best protocol, found most problems; best match to representative user*
DEVELOPING THE EXPERIMENT

• Preparing for participants

  * Develop instructions
  \[\text{(see p. 299-300 in book)}\]

    "You are helping us evaluate the system — we are not evaluating you!"

    Evaluator can say: "I didn't design this; you can't hurt my feelings.

  * Develop informed consent form
  \[\text{(see p. 300 in book)}\]

    Biggest danger is to evaluator, not user!

• Pilot testing

  * Rehearsal is essential

• Preliminaries with participants

  * Explain protocol to participant, including any compensation

  * Show participant the lab and experimental set-up if they are interested

  * Have participant sign informed consent form