Questions?

- Project #4
- HW #6
- Reading for next class is online

Qualitative evaluation

- Methods
  - Introspection
    - *Walkthrough*
  - Direct observation
    - *Simple observation*
    - *Think-aloud*
    - *Constructive interaction*
  - Query via interviews and questionnaires

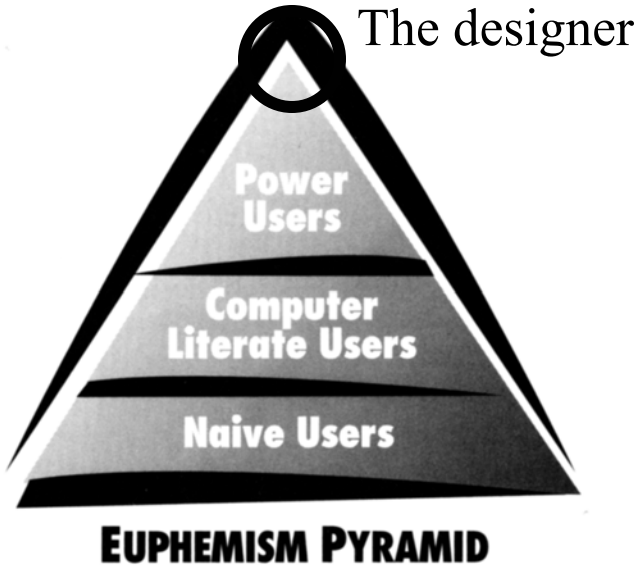
Be prepared!

- Hardware
  - Computer, video equipment…
- Software
  - Up and running, properly debugged…
- Tasks
  - Realistic
  - Informative
- Facilitator
  - Using a checklist might be useful
  - Practice!

Walkthrough

- Designer tries the system (or prototype) out
  - Does the system "feel right"?
  - What if?

- Problems
  - Completely subjective
  - Designer is a non-typical user



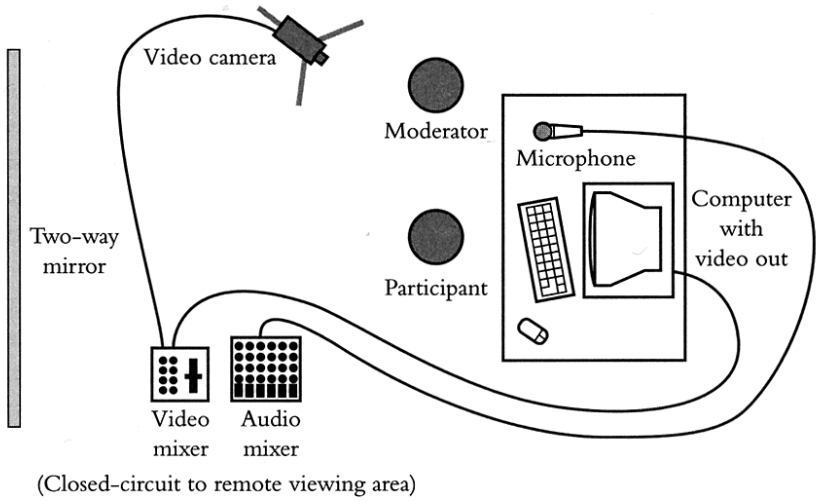
From "The inmates are running the Asylum (A Cooper)

Direct observation

- Observing (and recording) users interacting with the system
  - In lab or in the field
  - For a set of pre-determined tasks or through normal duties
- Excellent at identifying gross design/interface problems
- Three general approaches:
  - simple observation
  - think-aloud
  - constructive interaction

Recording observations

- Need a record
  - Further analysis
  - Proofs during discussion
- Techniques
  - Paper and pencil
    - *Simple to set up*
      - Free form
      - Coding scheme
    - *Might be biased*
  - Audio/Video recording
    - *More accurate*
    - *Time consuming to analysis*
      - Encoding is a time consuming process



From "Observing the user experience" (Kuniavsky)

Coding scheme example

- Tracking activity in the office

	Desktop activities			Absences		Interruptions	
Time	Computer	Desk	Telephone	Desk	Room	Visitor	Telephone
9:00	s						
9:02	e					s	
9:05					s	e	
9:10			s		e		
9:13							

Simple observation method

- Evaluator observes users interacting
  - Sometime behind a half-silvered mirror

- Drawback
  - No insight into the user decision process or attitude

The think aloud method

- Subjects are asked to say what they are thinking/doing
  - What they believe is happening
  - What they are trying to do
  - Why they took an action
- Widely used in industry
- Drawbacks
  - Awkward/uncomfortable for subject (thinking aloud is not normal!)
  - “Thinking” about it may alter the way people perform their task
  - Hard to talk when they are concentrating on problem

The constructive interaction method

- Two people work together on a task
  - Normal conversation between the two users is monitored
    - *removes awkwardness of think-aloud*
  - Variant: Co-discovery learning
    - *Use semi-knowledgeable "coach" and naive subject together*
    - *Make naive subject use the interface*

- Drawback
  - Need a good team

Interviews

- Method
  - Pick the right population
    - *Individual or group discussion*
  - Be prepared
    - *Plan a set of central questions*
  - Probe more deeply on interesting issues as they arise
    - *Focus on goals not technology*
    - *Find the root of the problem*
- Pros and cons
  - Very good at directing next design phase
    - *Provide many constructive suggestions*
  - Subjective
    - *Do not ask leading questions*
  - Time consuming

Debriefing

- Post-observation interviews
  - Questions from users diary
  - Questions from your notes
  - Questions from a video footage

- Pros and Cons
  - Avoids erroneous reconstruction
    - *Provide many constructive suggestions*
  - Time consuming
    - *But extremely valuable*

Questionnaires and surveys I

- Method
  - Pick the population
    - *Demographics and sample size*
      - Between 10 and 1000 subjects
  - Establish the purpose of the questionnaire
    - *What information is sought?*
    - *How would you analyze the results?*
  - Establish the means of deliver/collection
    - *On-line*
    - *Direct interaction with users*
      - Walking in the street
      - Post-user testing
    - *Surface mail*
      - including a pre-addressed reply envelope gives far better response

Questionnaires and surveys II

- Method
  - Design the questionnaire
    - *Don't forget to debug it!*
  - Deliver
  - Collect and analyze the data
  - Establish the main findings

- Example
  - Brainstorming tool

Closed questions

- Supply possible answers

  Characters on the computer screen are:

  hard to read easy to read

  1 2 3 4 5

  – Easy to analyze
  – More difficult for respondents
  – Be sure to be specific

  Do you use computers at work:

  O often O sometimes O rarely

  vs

  Do you use computers at work:

  O more than 4 hrs O between 1 and 4 hrs O less that 1 hrs

Style of closed question: Scalar

Characters on the computer screen are:

hard to read				easy to read
1	2	3	4	5

- Be sure to pick odd numbers of choice
  - *Often between 5 and 7*

Style of closed question: Multi-choice

Which types of software have you used? (tick all that apply)

O word processor

O data base

O spreadsheet

O compiler

– Can be exclusive on inclusive

Style of closed question: Ranked choice

Rank the usefulness of these methods of issuing a command

(1 most useful, 2 next most useful..., 0 if not used)

__2__ command line

__1__ menu selection

__3__ control key accelerator

– Helpful to understand users preference

Open ended questions

- The user answers in his/her own words

  Can you suggest any improvements to the interfaces?

  - Good for general information
  - Difficult to analyze
  - Can complement closed questions

Questionnaires and surveys

- Pros and cons
  - Preparation is expensive
    - *Need to design and debug the questionnaire*
  - Can reach a large population
    - *But often a low return rate*
  - As good as the questions asked
  - Data collection can be tedious
    - *Use automatic forms for large volume*