Look, Learn, Ask, Try

Agenda

- Announcements
- Lecture – End of Usability (Robustness)
- Sketching Critiques
- Lecture – User Research
- Design Activity
- Next Week
- Group Project Work Time

Announcements, Questions

- A1 & S2 due today
- Questions?

Robustness

- Observability
- Recoverability
- Responsiveness
- Task conformance

Robustness: observability

- Can the user evaluate the internal state of the system based on its external and perceivable representation?
  - Browsability – allows user to explore more about system
  - Reachability – understand possible interactions/ states of a system
  - Persistence – allow user to understand and act on effect of a system (after some duration)

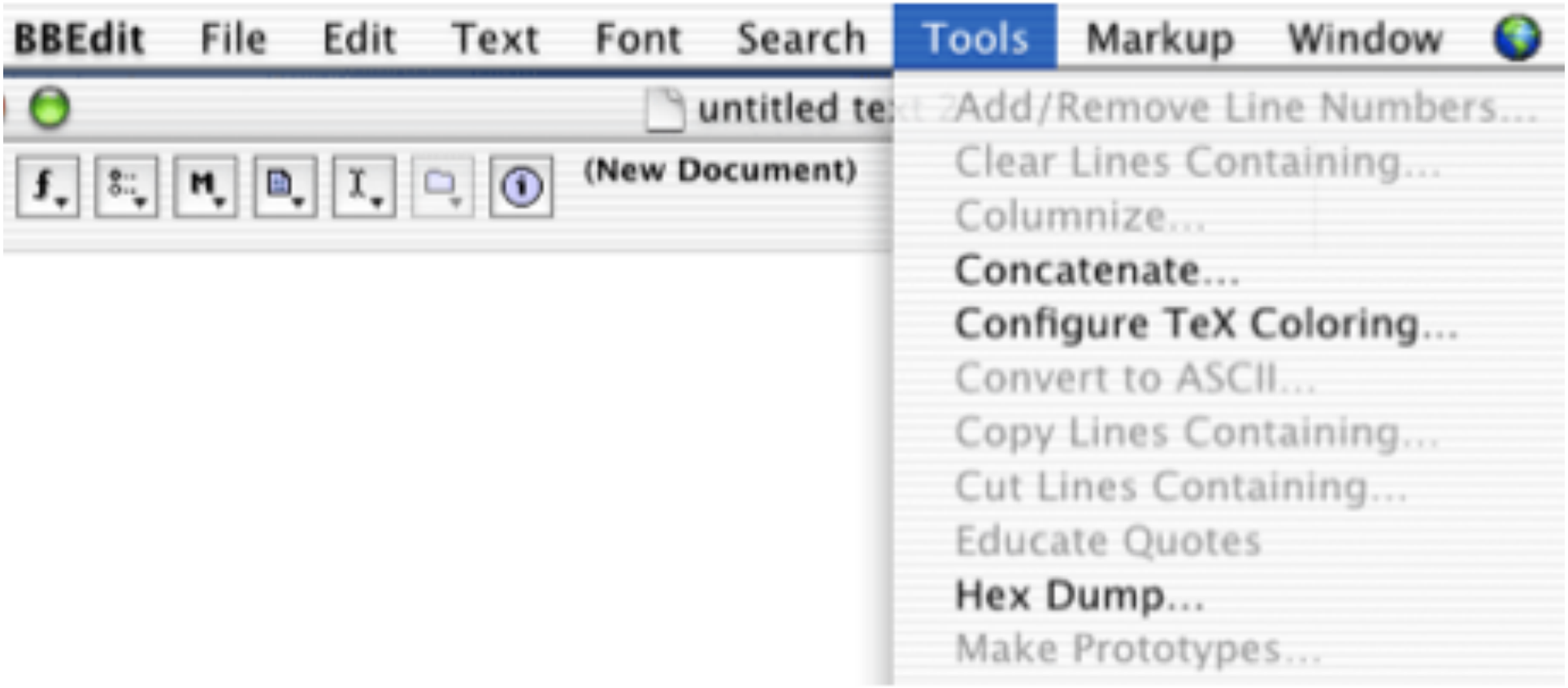
PID	Process Name	User	% CPU	Threads	Real Mem
3317	Flash Player (Safari Internet plug-in)	gillianrh	5.7	20	291.2 MB
3303	Safari Web Content	gillianrh	3.2	12	510.6 MB
3305	AdobePDFViewerNPAPI (Safari Internet plug-in)	gillianrh	2.3	13	82.3 MB
3528	screencapture	gillianrh	1.8	5	3.4 MB
3523	Dashboard	gillianrh	1.8	8	24.0 MB
167	distnoted	gillianrh	0.8	9	4.1 MB
3525	Activity Monitor	gillianrh	0.8	7	14.7 MB
3248	Microsoft PowerPoint	gillianrh	0.5	11	238.6 MB
3294	Safari	gillianrh	0.1	14	122.8 MB
186	Finder	gillianrh	0.1	11	114.7 MB
249	Google Drive	gillianrh	0.1	18	76.2 MB
185	SystemUIServer	gillianrh	0.1	7	22.8 MB
3522	Dashboard	gillianrh	0.0	10	20.3 MB
218	CalendarAgent	gillianrh	0.0	6	56.1 MB
227	cookied	gillianrh	0.0	3	3.7 MB
3524	mdworker	gillianrh	0.0	3	7.3 MB
250	Dropbox	gillianrh	0.0	17	42.4 MB
52	loginwindow	gillianrh	0.0	2	20.7 MB

CPU | System Memory | Disk Activity | Disk Usage | Network

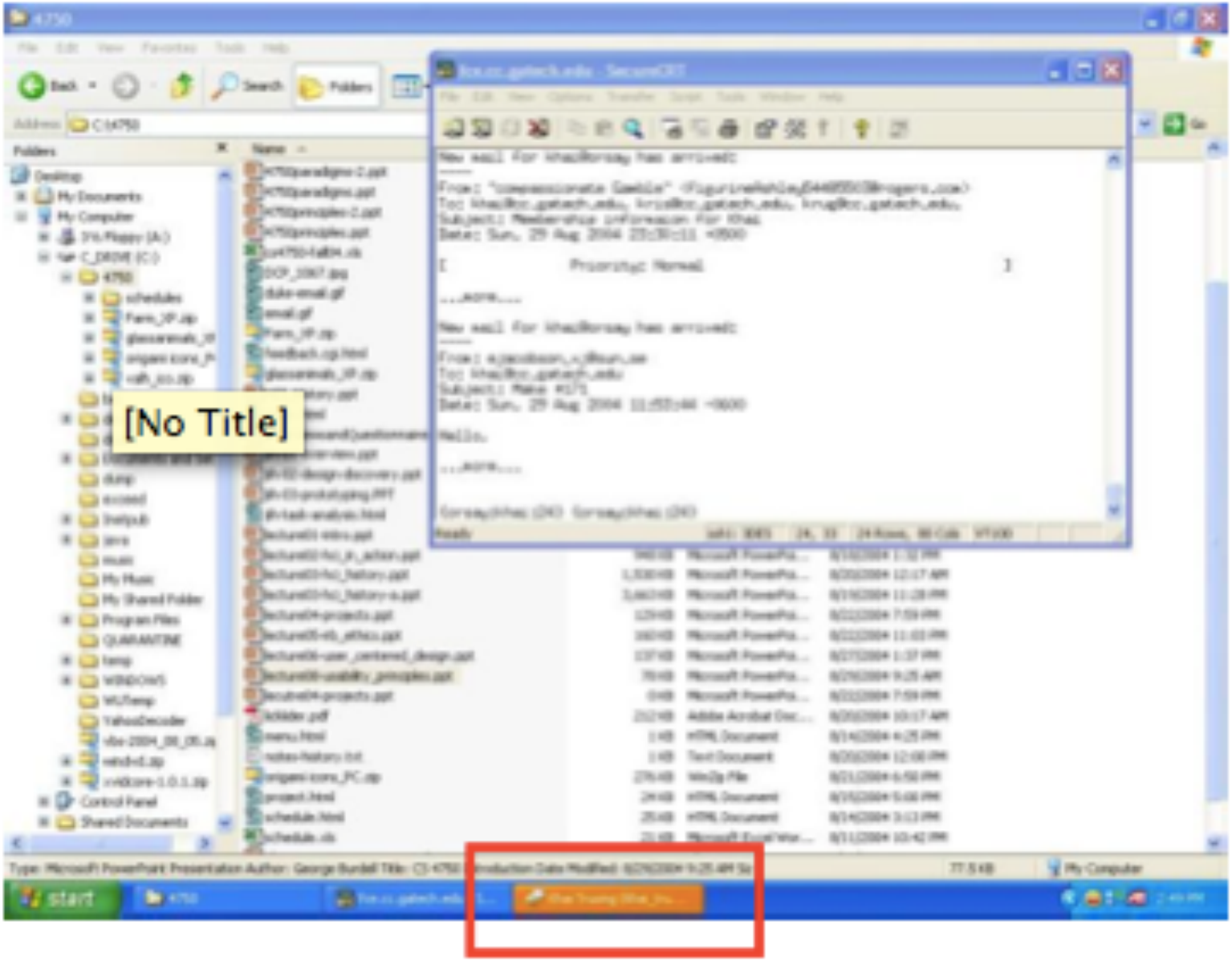
Peak: 86 bytes/sec

Packets in: 1675052 Data received: 652.2 MB

Packets out: 2908046 Data sent: 3.44 GB



Reachability

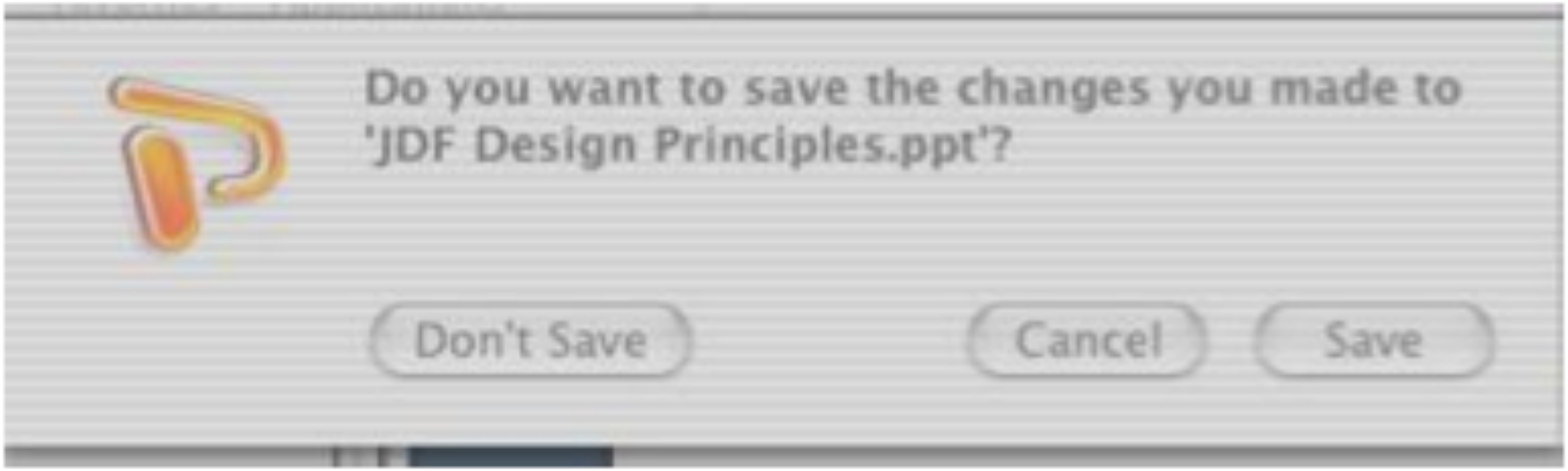


Persistence

Robustness: recoverability

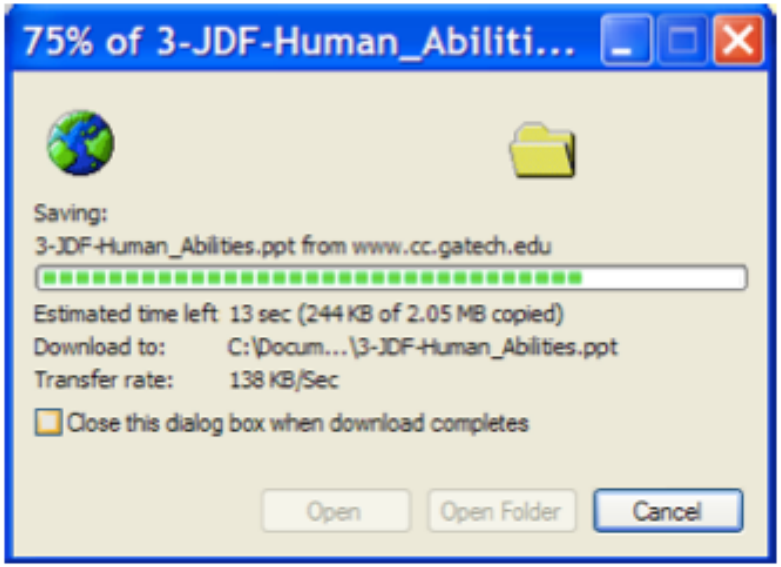
- Can the user reach the desired goal or accomplish the task after recognizing that s/he has made an error in a previous interaction?
- Backward recovery: undo previous error(s)
- Forward recovery: ability to fix when user can not undo

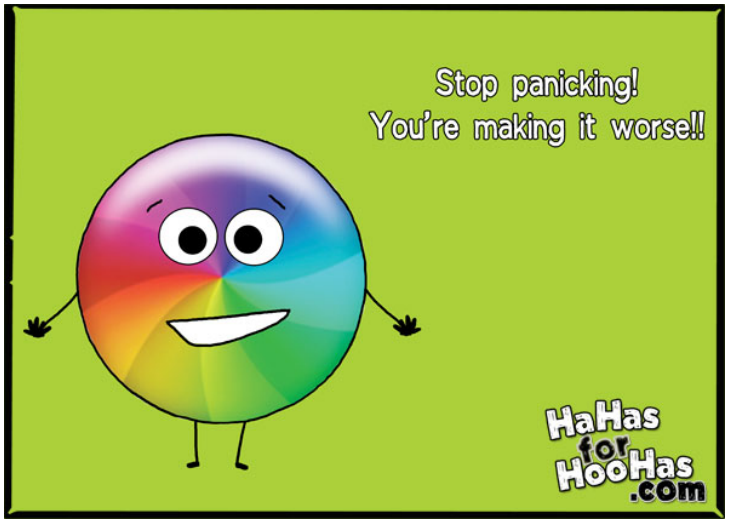
Error Prevention



Robustness: responsiveness

- Is the rate of communication between the system and the user fast enough/appropriate for the interaction?
- Response time: time for system to respond in some way to user action(s)
- Response should match user expectations

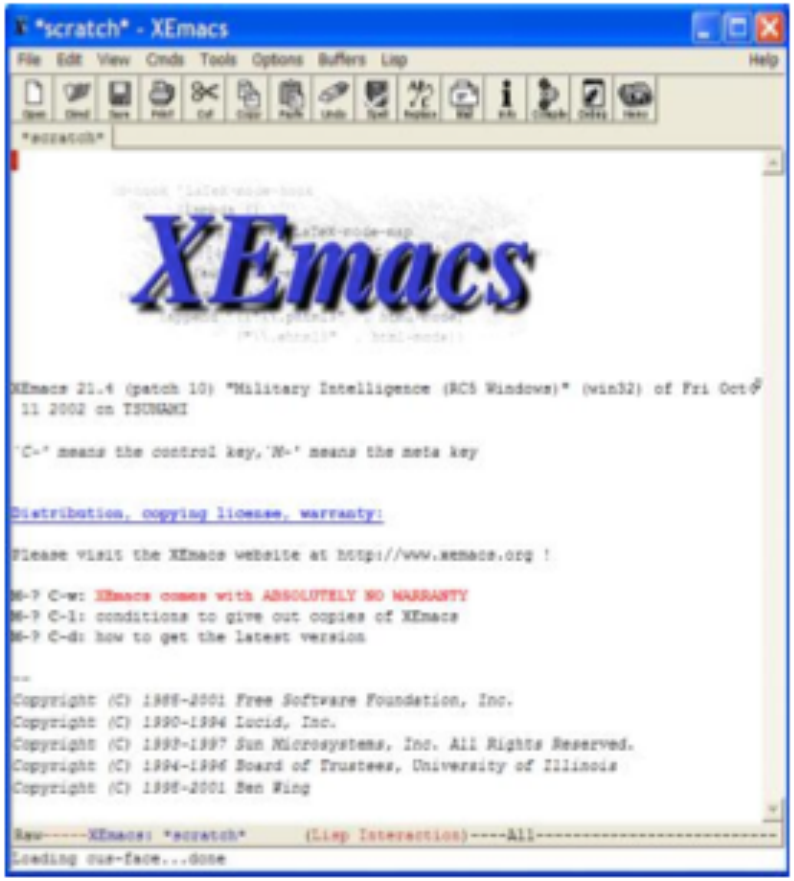




Robustness: task conformance

- Does the system support the tasks that the user wants to accomplish, and does the system support these tasks in the way that the user wants it to?
- I.e., mapping between system services and all the user tasks
- Task completeness: can system do all tasks of interest?
- Task adequacy: can user understand how to do tasks?

Robustness: Task Conformance



Sketching Critiques – 20 minutes

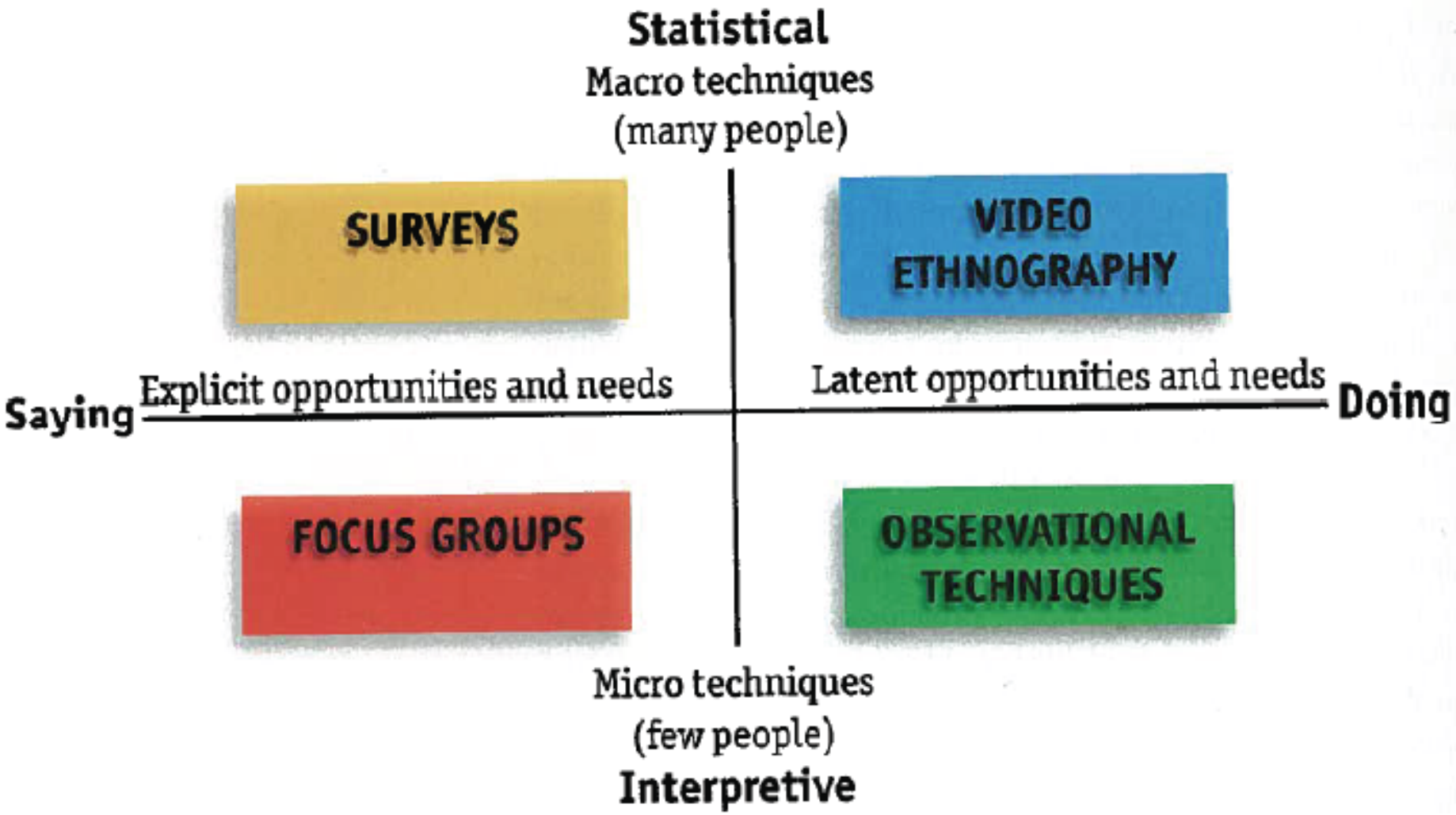
- Break into groups of 3 people
- Take turns showing and explaining your 3 sketches with each other
- Critics should offer advice and feedback about the idea
  - Strengths, Weaknesses, Originality, Feasibility
  - Sketcher: take notes about what feedback was offered
  - Critic: be critical, but constructive and courteous!
  - Each critic should sign and date the page after the sketches

LECTURE – USER RESEARCH

Laboratory for Ubiquitous Computing and Interaction
Donald Bren School of Information and Computer Sciences | University of California, Irvine

Observing People

- What do we "see"?
  - Opportunities for new designs
  - Breakdowns
  - Workarounds
  - Mismatches between what users say and do


Statistical
Macro techniques
(many people)
SURVEYS
VIDEO ETHNOGRAPHY
Saying
Explicit opportunities and needs
Latent opportunities and needs
Doing
FOCUS GROUPS
OBSERVATIONAL TECHNIQUES
Micro techniques
(few people)
Interpretive

Relying on what users *say*

- Can we rely on what users *say about* what they want in a new design?
  - Very carefully
    - Henry Ford: “If I had asked my customers what they wanted, they would have said a faster horse."
- It is better to watch what they *do than to go* only on what they *say*
  - Mismatches may hold keys to new designs

Users' words can be unreliable

- People are notoriously bad at predicting what they *would use or would prefer when* it is only hypothetical
- They can much better respond to actual, concrete things, or make comparisons
- This highlights the importance of *observation and of prototypes*

On the other hand, people are pretty good at

- Telling you what they are doing right now
- Telling you how they are feeling right now
  - Or at least how they would like you to think they are feeling right now
- Telling you what their goals are right now
  - Or at least what they wish their goals were

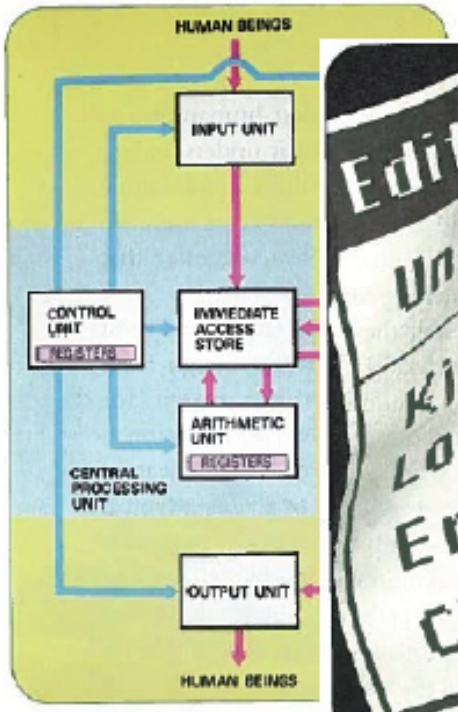
Observation

- In the user's own environment
- Observation of *everyday tasks*
- Why are *work-arounds* opportunities for new designs?
- Why are *breakdowns* opportunities for new designs?
- Why are *unexpected uses* opportunities for new designs? User *customization?*

IDEO Method Cards

- Available from William Stout publishers ($49)

LEARN from the facts you gather



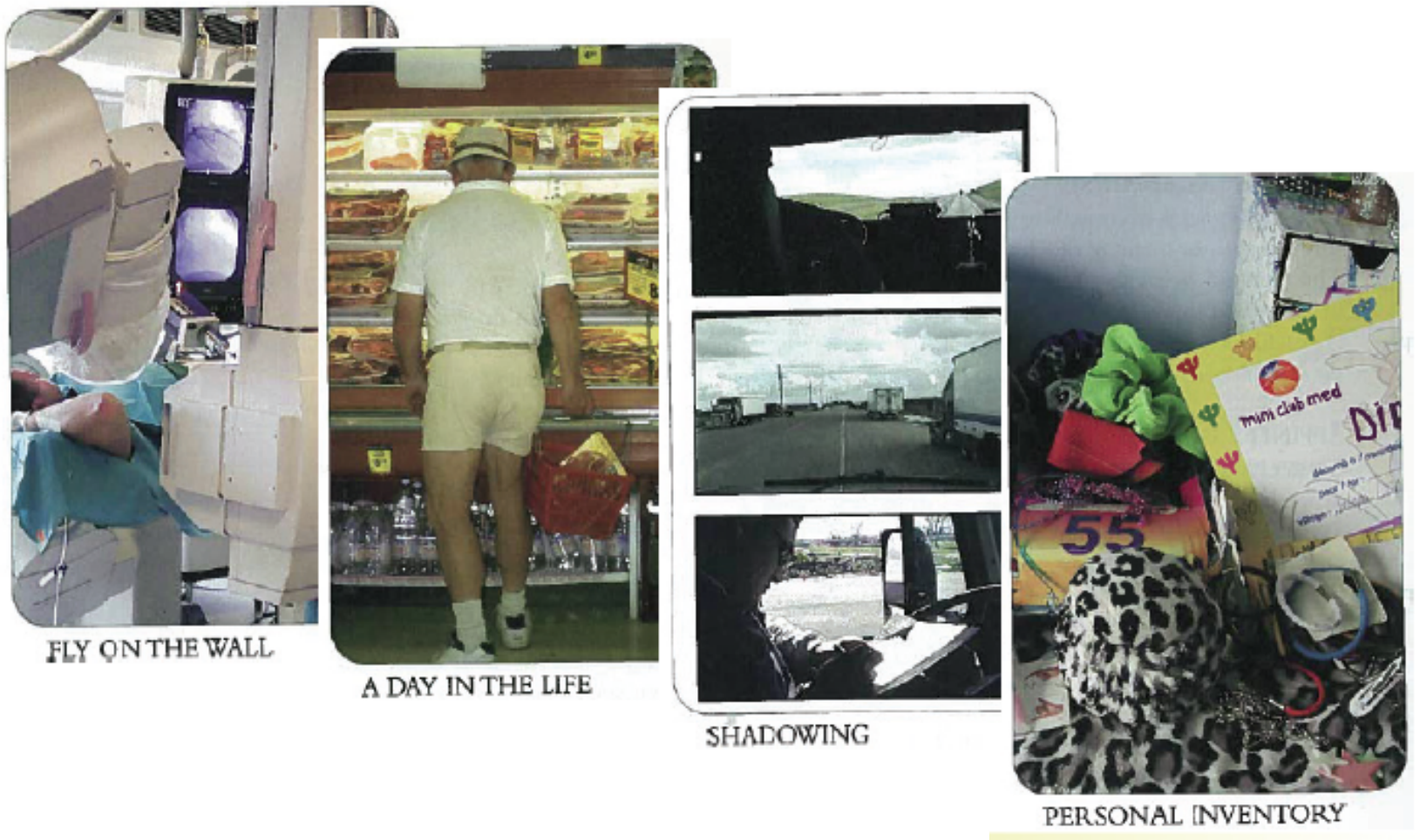
FLOW ANALYSIS

COGNITIVE TASK ANALYSIS

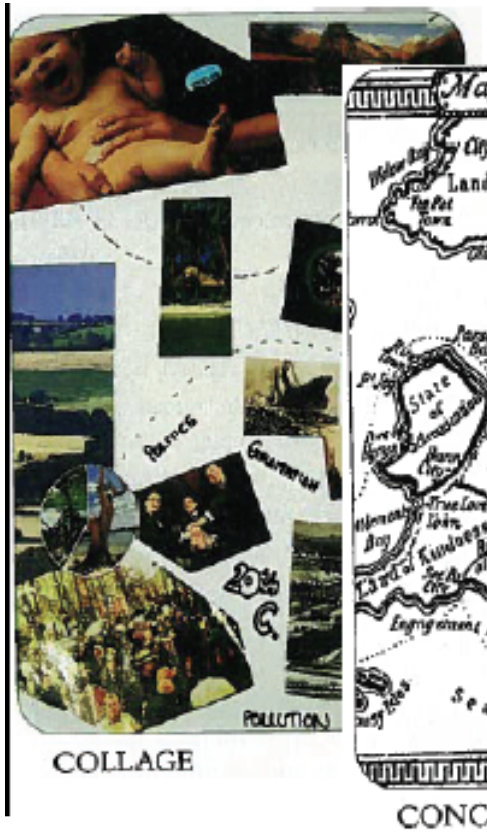
HISTORICAL ANALYSIS

AFFINITY DIAGRAMS

LOOK at what users really do



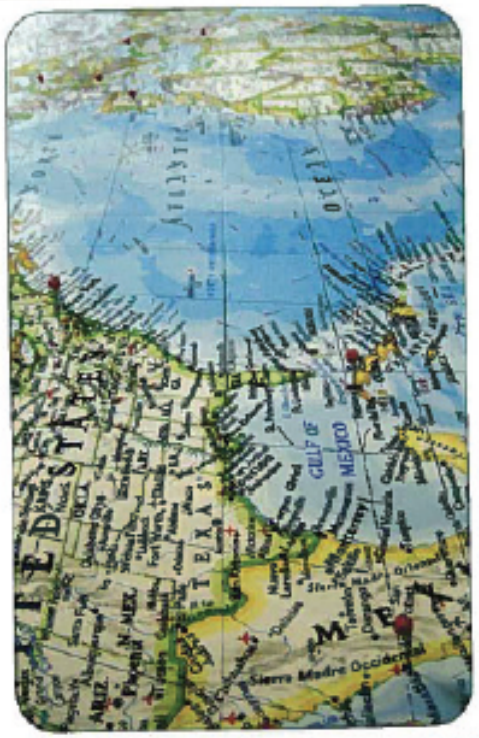
ASK users to help



COLLAGE

CONCEPTUAL LANDSCAPE

CARD SORT



FOREIGN CORRESPONDENTS

TRY it yourself (we won't do this quite yet)

Design Activity – 20 minutes

- Using the Method Cards, come up with **two** methods that could be *useful* in each of the following contexts, and **two** that would *not be useful* for each of the two design scenarios

  - Helping air traffic controllers communicate with pilots
  - Helping older adults communicate with their young grandchildren over a distance

Discussion: What did you come up with?

- Helping air traffic controllers communicate with pilots

- Helping older adults communicate with their young grandchildren over a distance

A2 – Look, Learn, Ask, Try

- Similar to what you just did!
- You'll be given 3 design scenarios and you'll be asked to come up with 4 methods that would be appropriate and 1 that would not
  - How can a new system support communication for primary care physicians?
  - How can a mobile system help hikers find resources they need, sights that are interesting, and monitor environmental conditions?
  - How can a video game help students with autism learn social skills?
  - You'll be asked to explain your choices
- Due next Thursday (October 25)

Next Week

- Guest lecture from Paul Dourish on ethnography
- Upcoming Work
  - R3: Due Tuesday; What are the differences and similarities in ethnography, contextual inquiry, and design ethnography? When would you use each?
  - S3: Due Thursday *Theme: Recreation, Fitness & Sports:* Sketch three ideas relating to playing sports, moving your body, exercising, spectator sports, outdoor activities, etc.
  - A2: Due Thursday Look, Learn, Ask, Try

GROUP PROJECT MEETING TIME