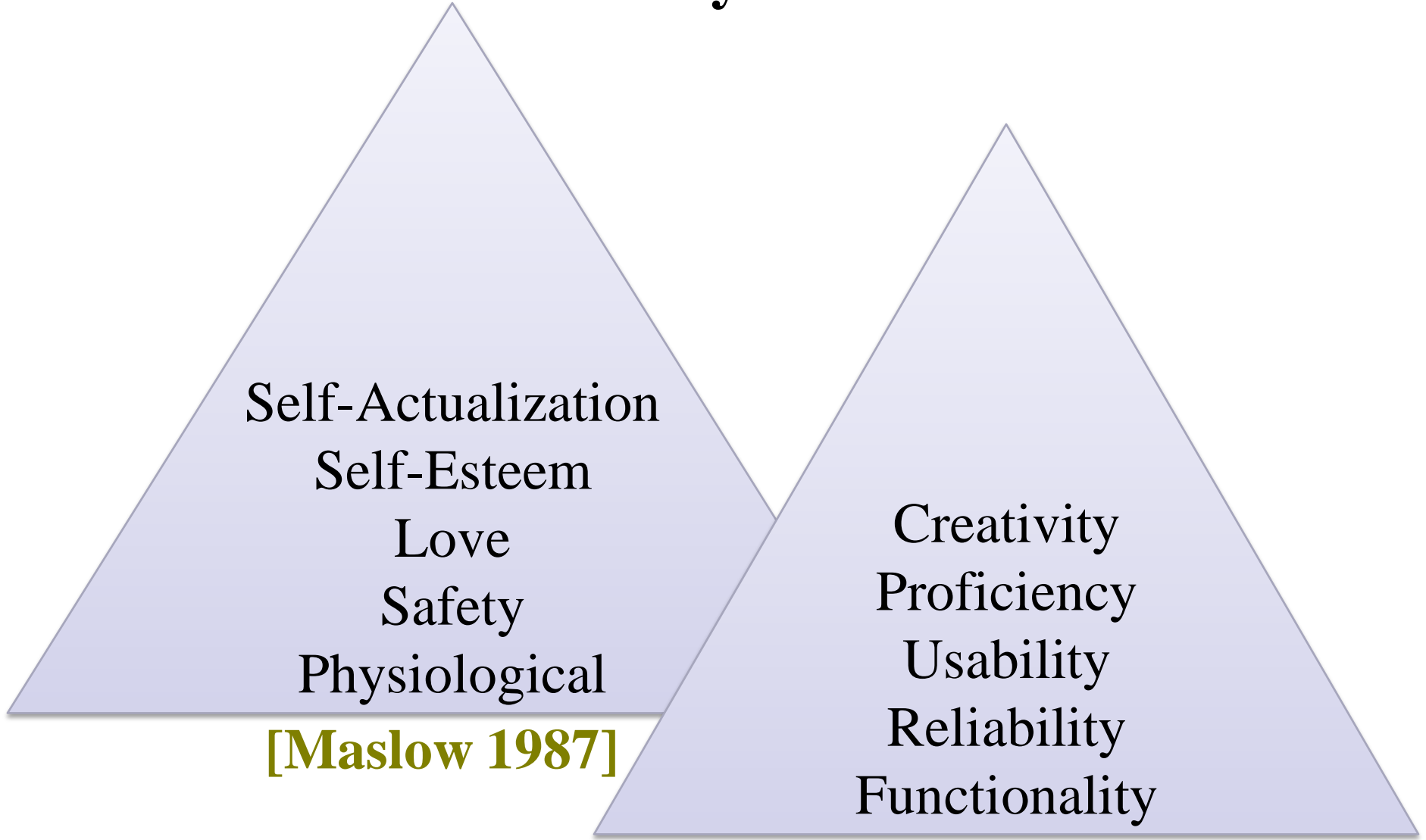


Questions?

- Prototyping
- HW #3
- Project #0

Hierarchy of Needs



Self-Actualization
Self-Esteem
Love
Safety
Physiological

[Maslow 1987]

Creativity
Proficiency
Usability
Reliability
Functionality

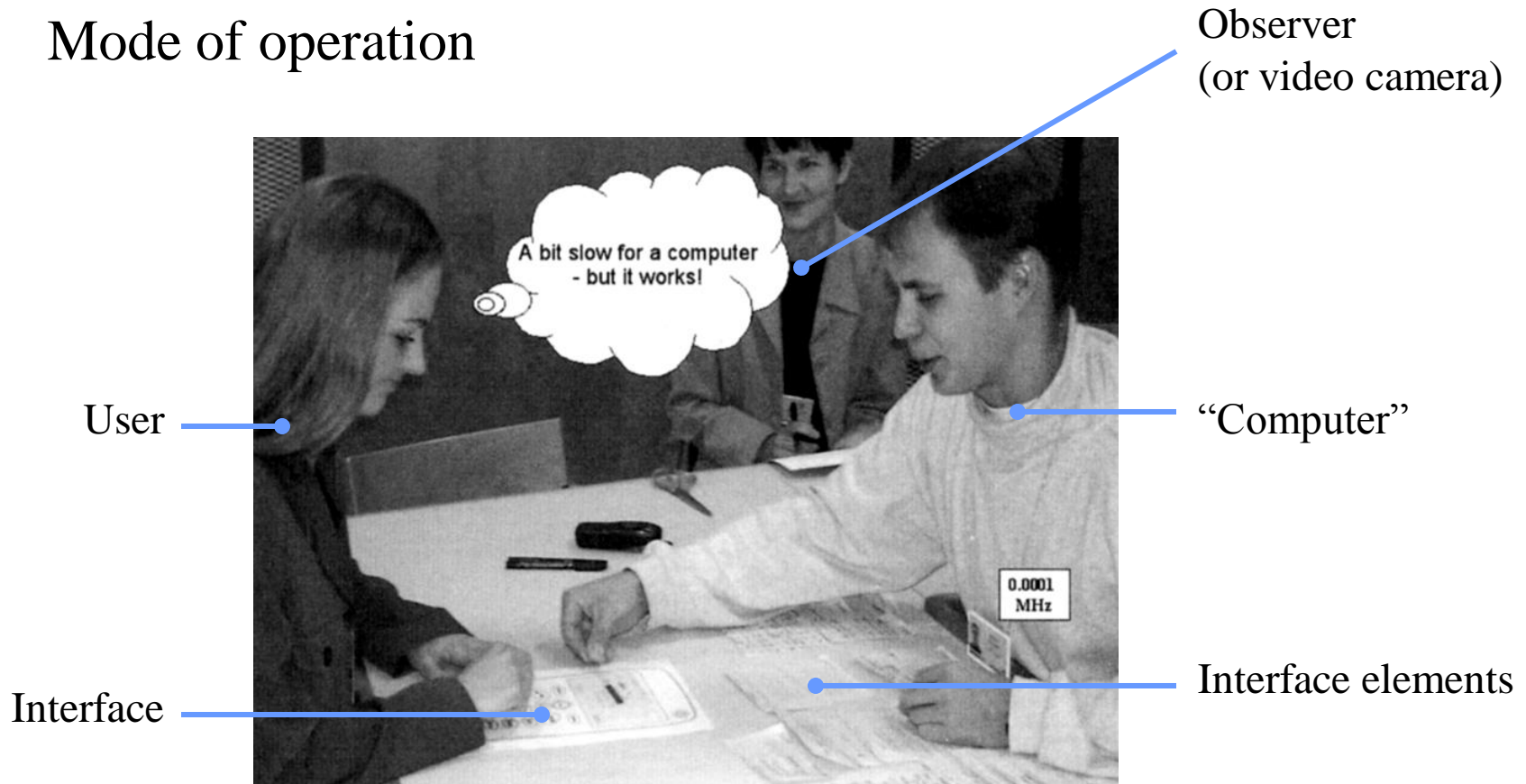
[Lidwell 2003]

Prototypes

- Why prototypes?
 - Design by designers / design with users
 - Early usability testing
- Prototype types
 - Low-tech prototypes are inexpensive, so you can do more of them
 - Pay less now or more later
 - More ideas => good ideas
 - What are they good for?
- Depending of the phase of the project
 - Walk-throughs and paper based interface (I)
 - Simulation of the interface and Wizard of Oz approaches (II)
 - Larger and larger group of users using the real interface (III)
 - Product is shipping (IV)
- “LoFi” prototypes help find as many usability issues as “HiFi” ones. [Virzi et al., 1996]

Low fidelity prototypes

- Paper/plastic based interface simulation
 - Using sketches, foamcore, transparency, and PICTIVE*
- Mode of operation



Paper prototyping (Carolyn Snyder)

Low fidelity tools



Low fidelity prototypes (summary)

- Inexpensive
 - High level feedback about the dynamic of the interface
 - Trigger users reactions
 - Debrief users
 - Might be inaccurate
 - Speed, human-human interferences...
 - What is “**incredibly intelligent help**”? (Snyder)
- => Tells you the smallest bit of information that gets a user past a stumbling back.
- => Ideally gets incorporated into the app, so no help is needed

Wizard of Oz

- Testing a system that does not exist
 - Voice recognition, face identification, handwriting recognition
- Mode of operation
 - Users use the interface as intended
 - A wizard (sometime hidden) responds to users behavior
 - *Follow an algorithm*
 - *Reproduce the expected capability of the system*
 - Example: an shopping cart assistant

Using a Paper Prototype – Example 1

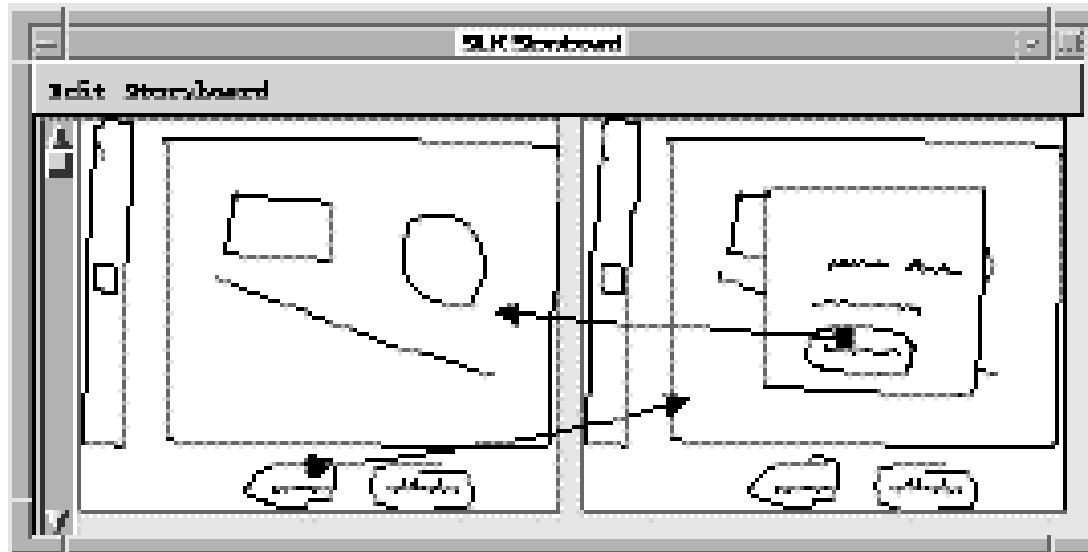


Using a Paper Prototype – Example 2



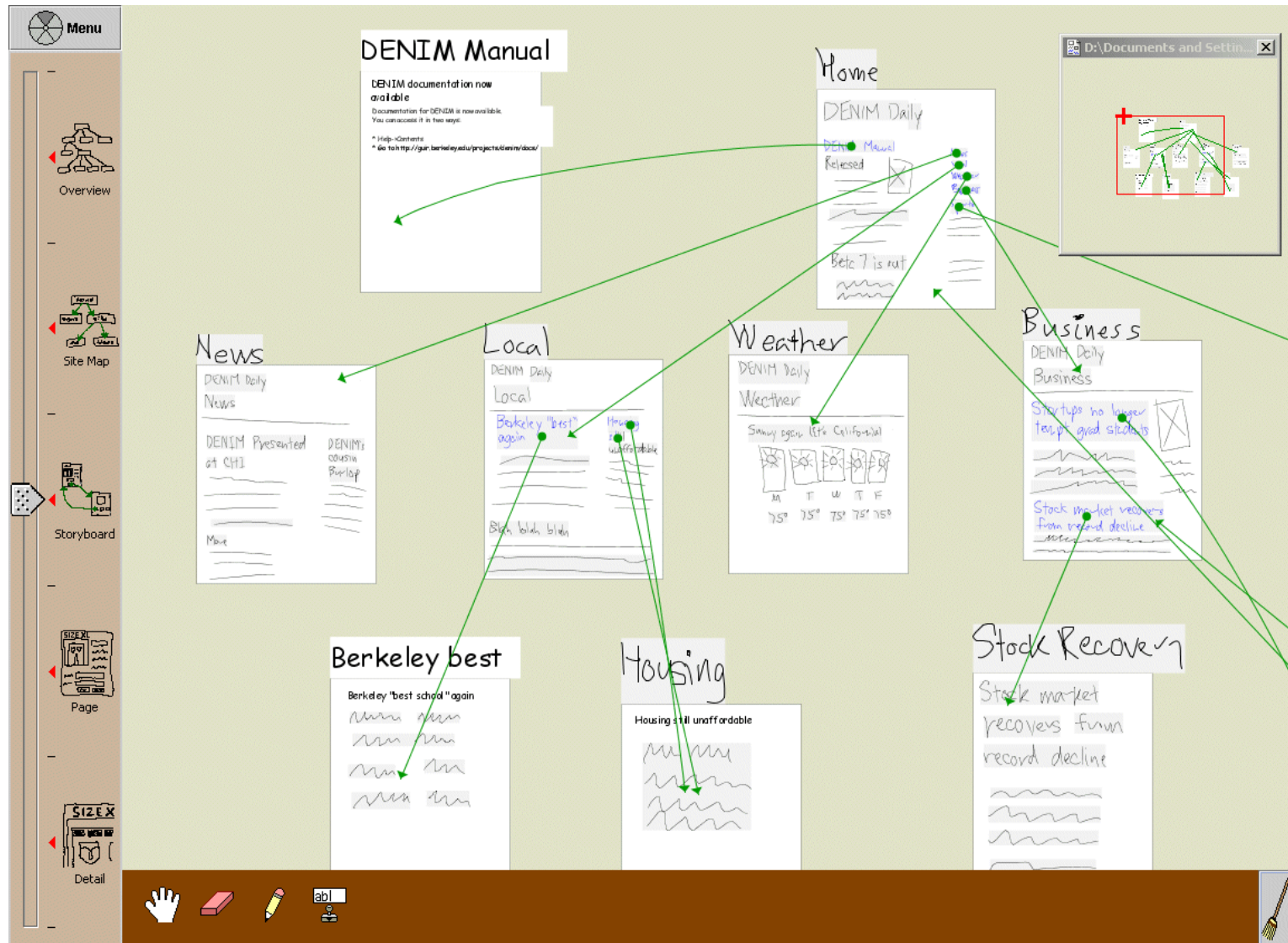
Low-Tech Prototype Problems

- Design changes cumbersome
- Wizard-of-Oz studies requires high cognitive load



[Landay,????]

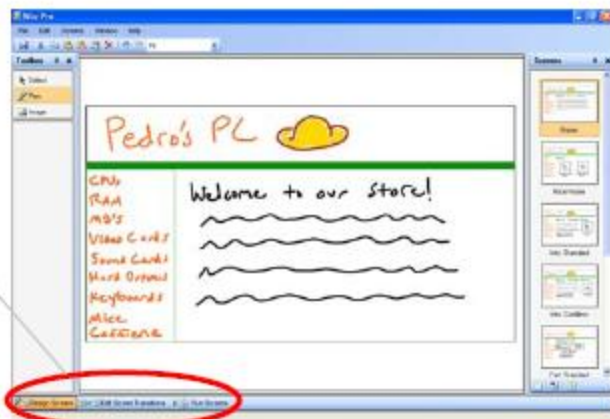
DENIM



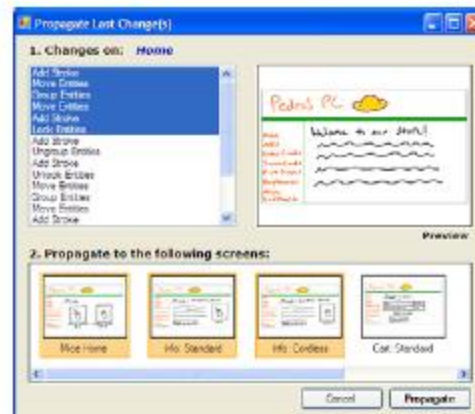
[Lin et al., 2001]

WOZ

Tabs at bottom of interface allow user to switch between three modes: *Design Screens*, *Edit Screen Transitions*, and *Run Screens*

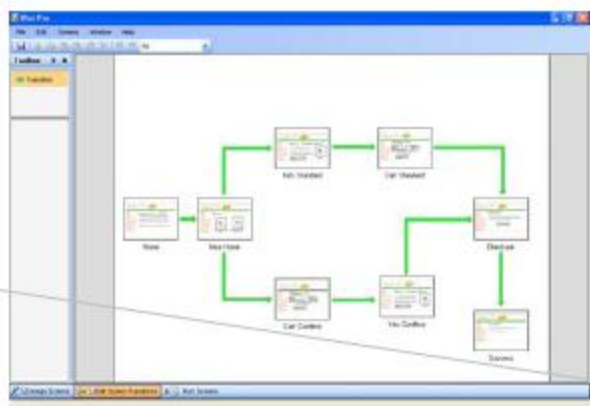


(a) Woz Pro interface

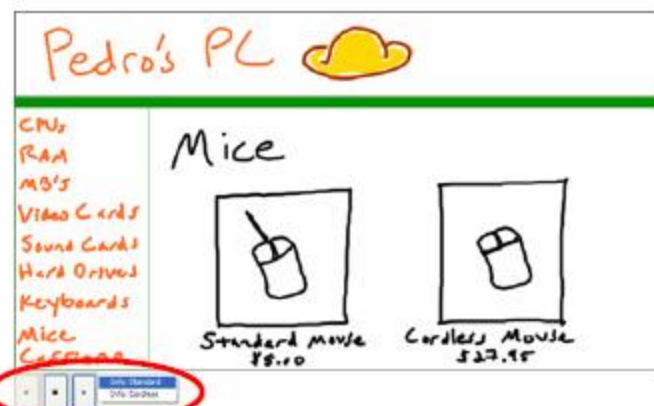


(b) Interface for propagating last change(s)

Pop-up menu constrains possibilities to only valid next screens, thus reducing cognitive load on human wizard



(c) Interface for defining state transition network



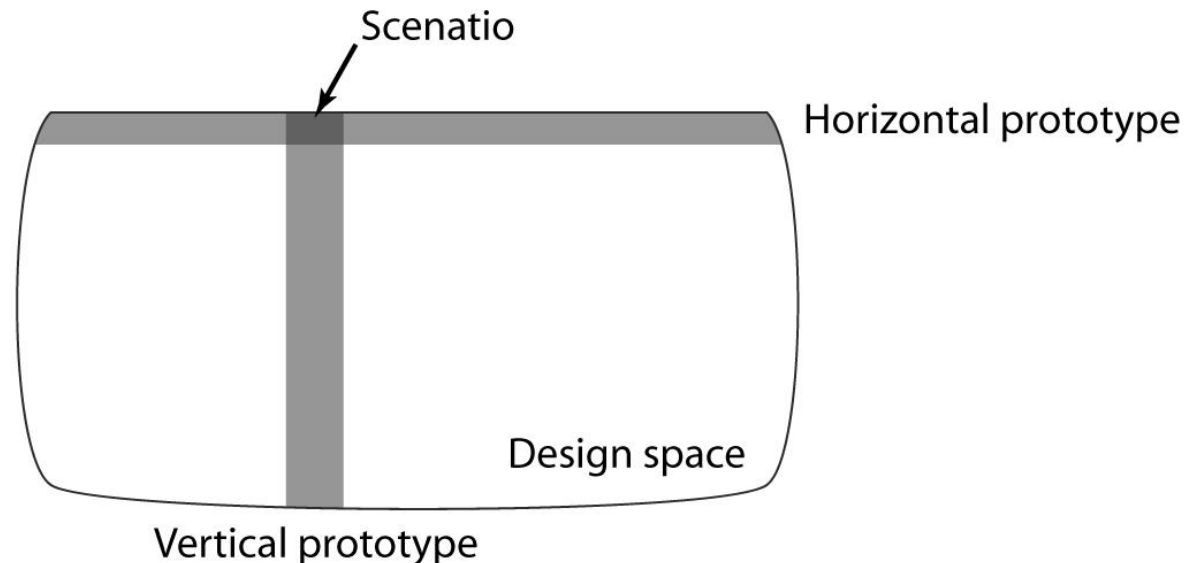
(d) Interface for executing prototype

Figure 1. Screen Shots of the Woz Pro Interface

[Hundhausen et al., 2007]

Medium fidelity prototypes (II and III)

- Using prototyping tools (Flash, Director, JavaScript,...)
 - Vertical prototype: Provide answer about a specific question
 - *Is dialog box design A faster than dialog box design B?*
 - Horizontal prototype: the full interface without the functionality
 - *Is the command structure OK?*
 - Scenario



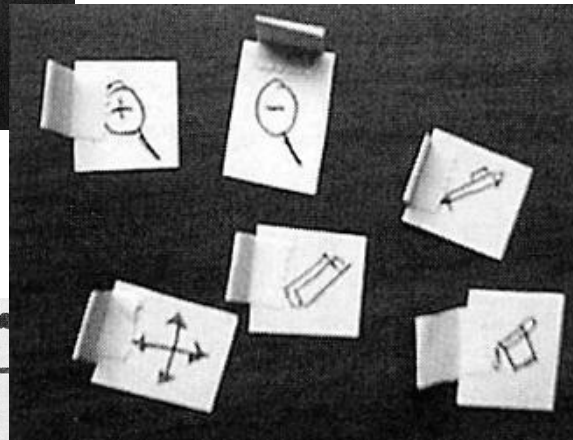
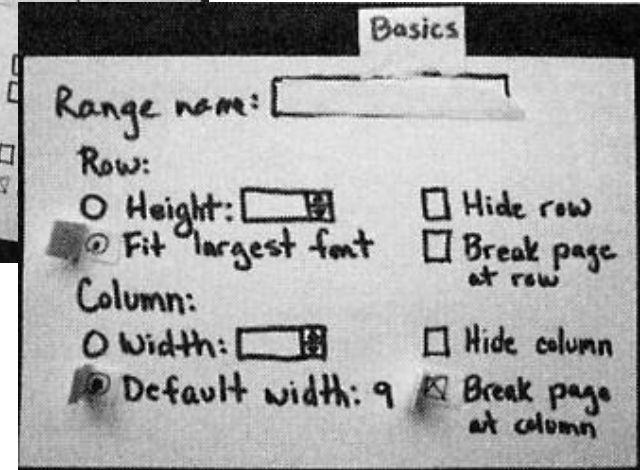
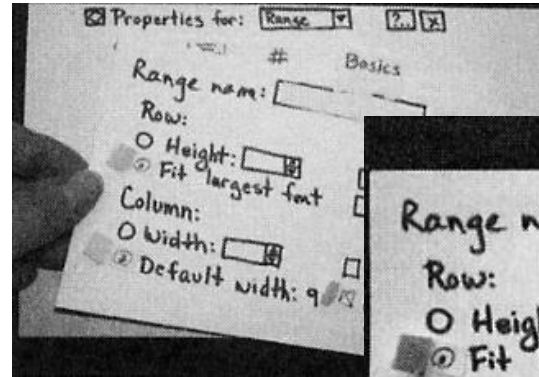
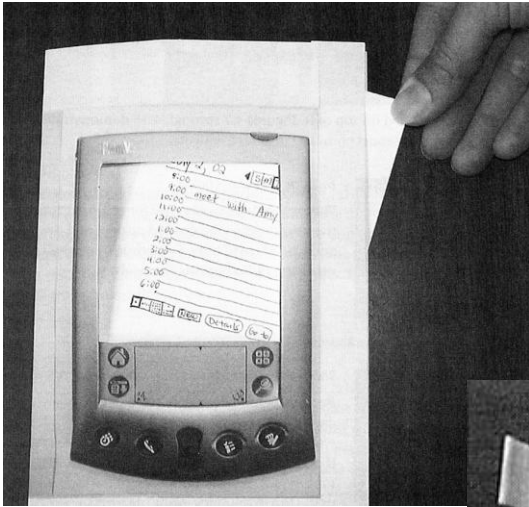
Medium fidelity prototypes (Summary)

- Time consuming
- Be careful about user expectations
 - Developer might resist change
 - Management might think it is real
- Do not get distracted by too small a detail
 - Color, font,...

High fidelity prototypes

- Piecewise prototype
 - Horizontal, vertical, scenario
 - Controlled setting
- Alpha and Beta releases
 - Small scale distribution
- Final product?
 - Monitor help line
 - Monitor sell rep.
- Costly
 - Problem can be deeply rooted in the software architecture

Low fidelity interface elements



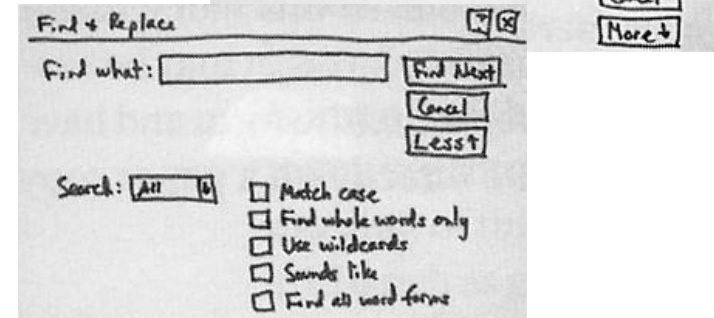
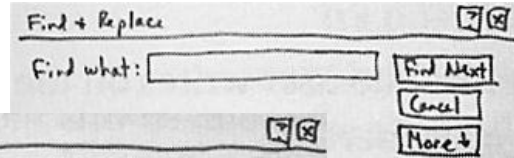
2. Select the Actions for your rule

- Copy it to the specified folder
- Delete it
- Forward it to people
- Highlight it with color

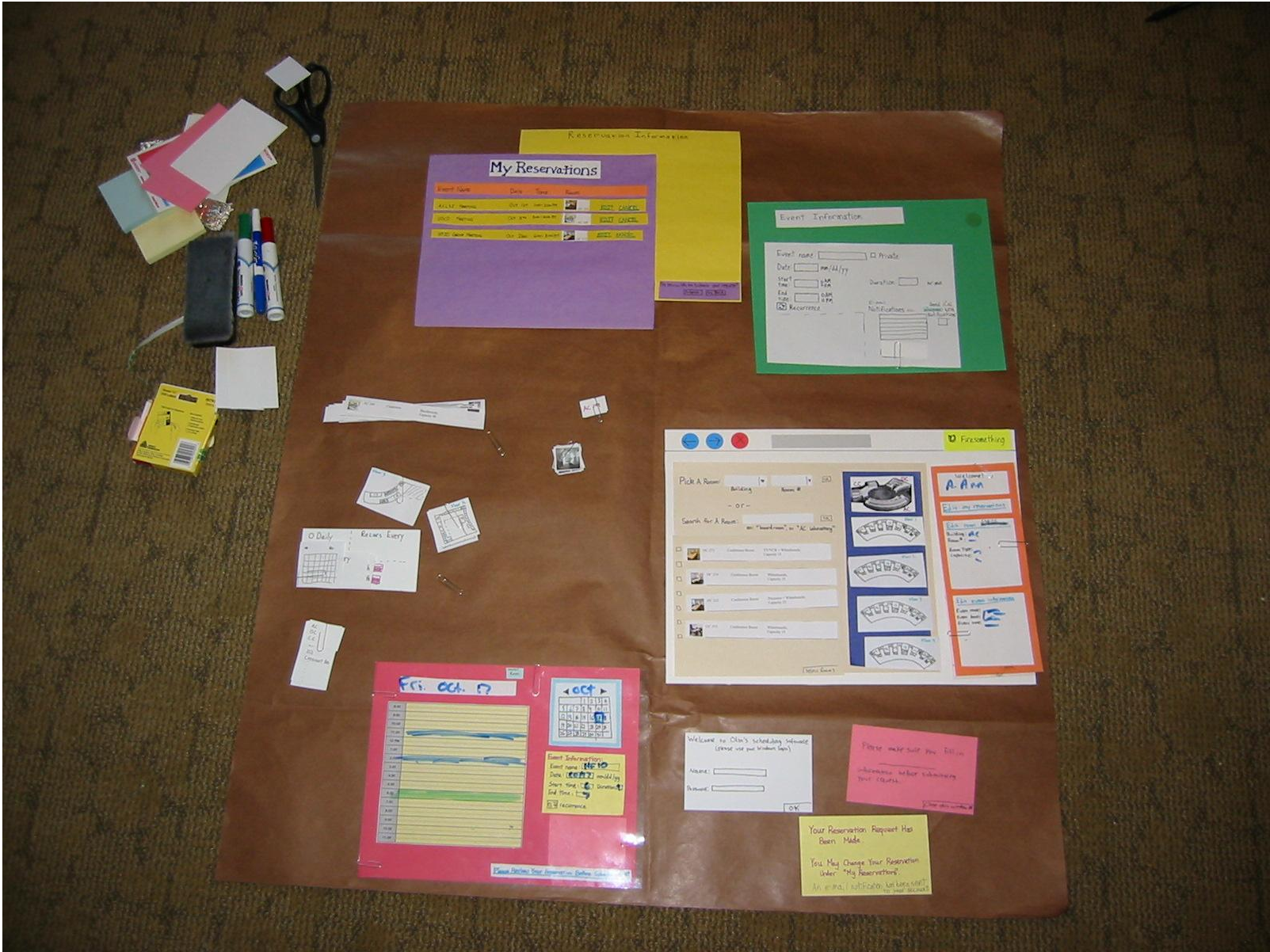
3. Rule Description (click underlined value to edit):

Apply this rule after the message arrives

where the from line contains Craig Duncan
highlight it with color



Example



Palm Pilot Interview

- Haitani: p. 87, middle – developers are not users
- Haitani: p. 87, bottom – developers are not users, value of low-tech prototyping
- Haitani: p. 89, middle – cost structure of information
- Stapler example – system vs. user-centered design
- Focus on speed for frequent actions
- Give example of 80/20 rule in Palm Pilot design.
- Give example of design difference between PC
- What is the “Phone test”?
- Could we build a PC interface without “save”? Good idea?
- Why is Palm dead and iPhone winning? Simplicity?

People like to help others. Design a website that features people in need and a mechanism for donors to learn about those people and donate money to them.

- Target persona: Adriana, 35 y.o., professional designer
 - Loves beautiful new gadgets
 - Avid mountain climber
 - Appreciates beauty
- Group size: 5-6
- What to do:
 - 10 minutes: brainstorm on how to serve these goals
 - 15 minutes: create the initial low fidelity prototype
 - 15 minutes: debug the interface with a user **from another group**
- Presentation to the class
 - 10 minutes: Several groups will present their solution to the class