

Hints for the better user

- Questions to ask
 - *Why do you do this? (Goal)*
 - *How do you do it? (Subtasks)*
- Look for weakness in the current situation
 - *Goal Failure, User irritation, wasted time*
- Contextual inquiry
- Participatory design

Contextual Inquiry

- Observe user doing real work in the real world environment
- Be concrete
- Establish a master-apprentice relationship
 - *User shows how and talks about it*
 - *Interviewer watches and asks questions*
- Challenge assumptions and probe surprise

Participatory design

- Include representative user directly in the design team
- OMS design team included an Olympic athlete as a consultant

A thick black L-shaped frame is positioned around the text. It starts at the top left, goes right, then down, then right again, and finally down to the bottom right corner.

HUMAN COMPUTER INTERACTION

Lecture 7: Generating Design

Hall of Fame or Shame?



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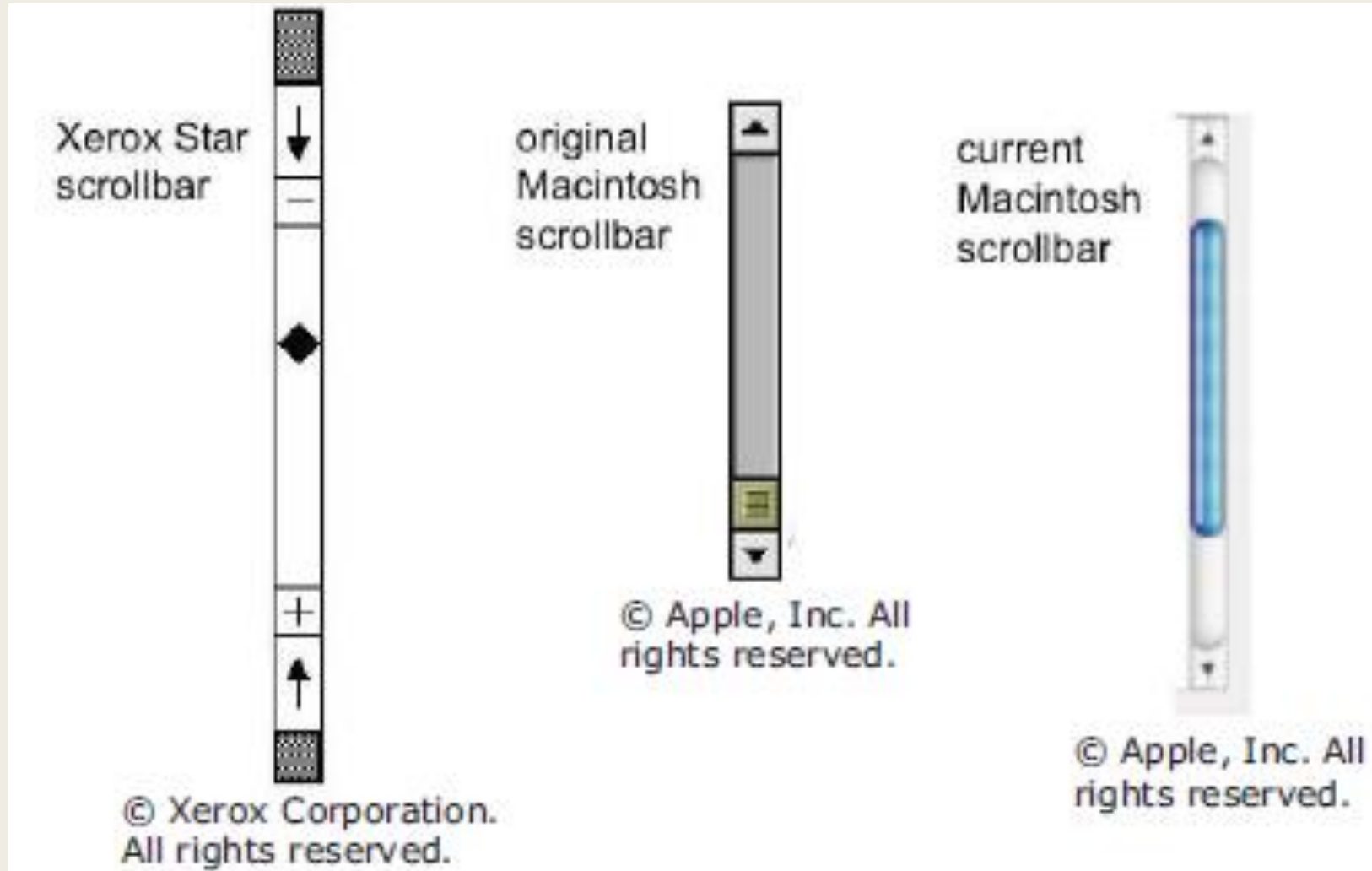
Ghostview

Acrobat



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Hall of Fame or Shame?



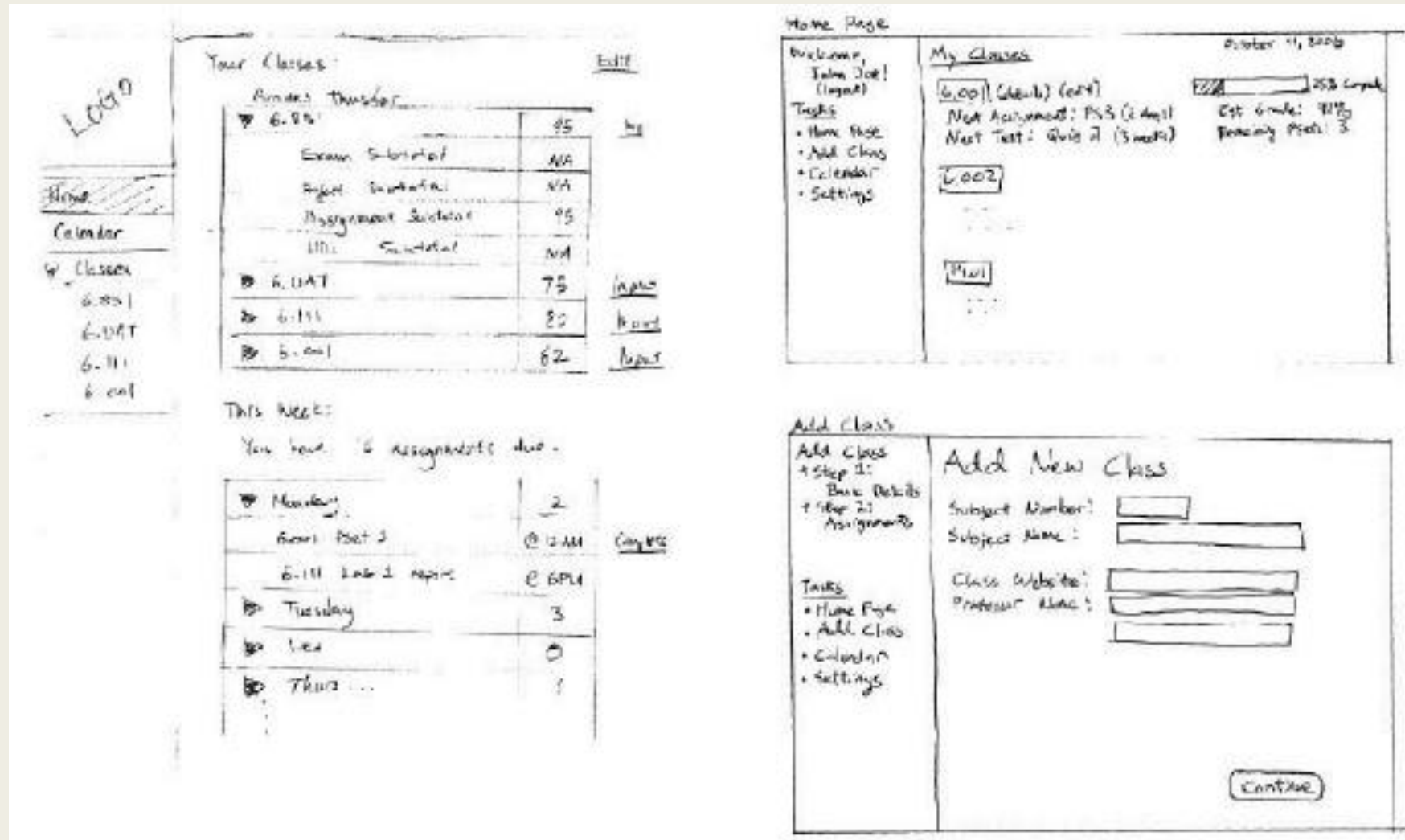
Today's Topic

- Design techniques
 - *Sketching*
 - *Scenarios*
 - *Storyboards*
- Design patterns
- Simplicity

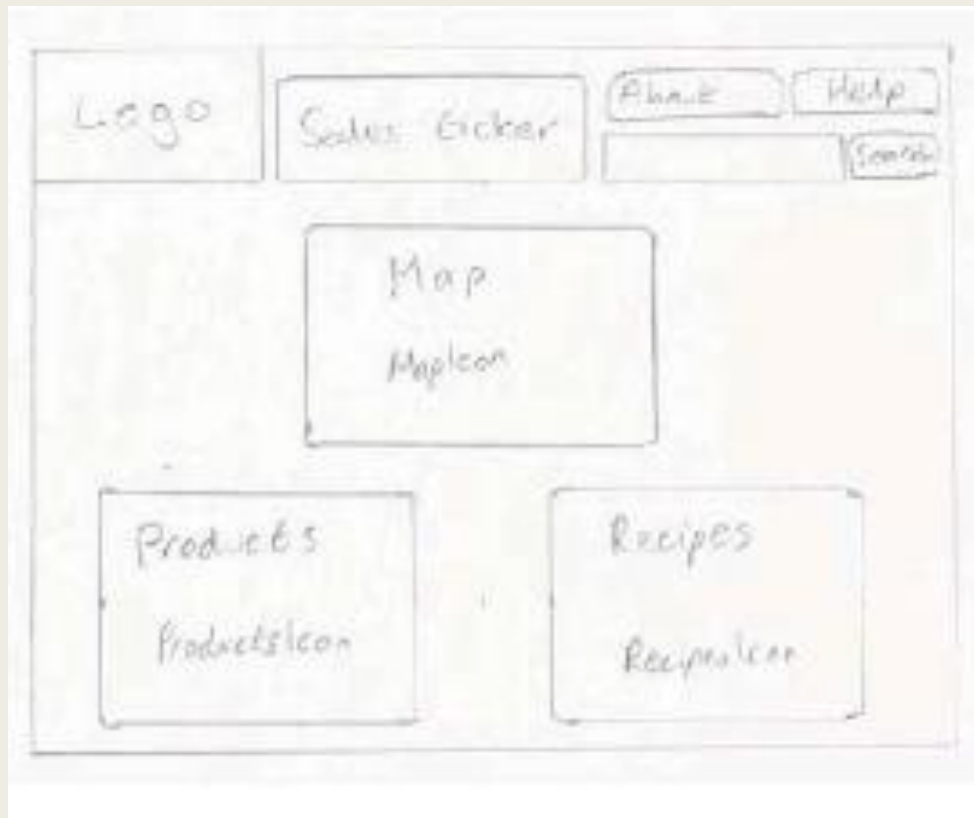
Sketching Designs

- Draw your Idea
 - *By hand, not by drawing program*
 - *Paper or whiteboard*
- Generate many ideas
- Design in groups

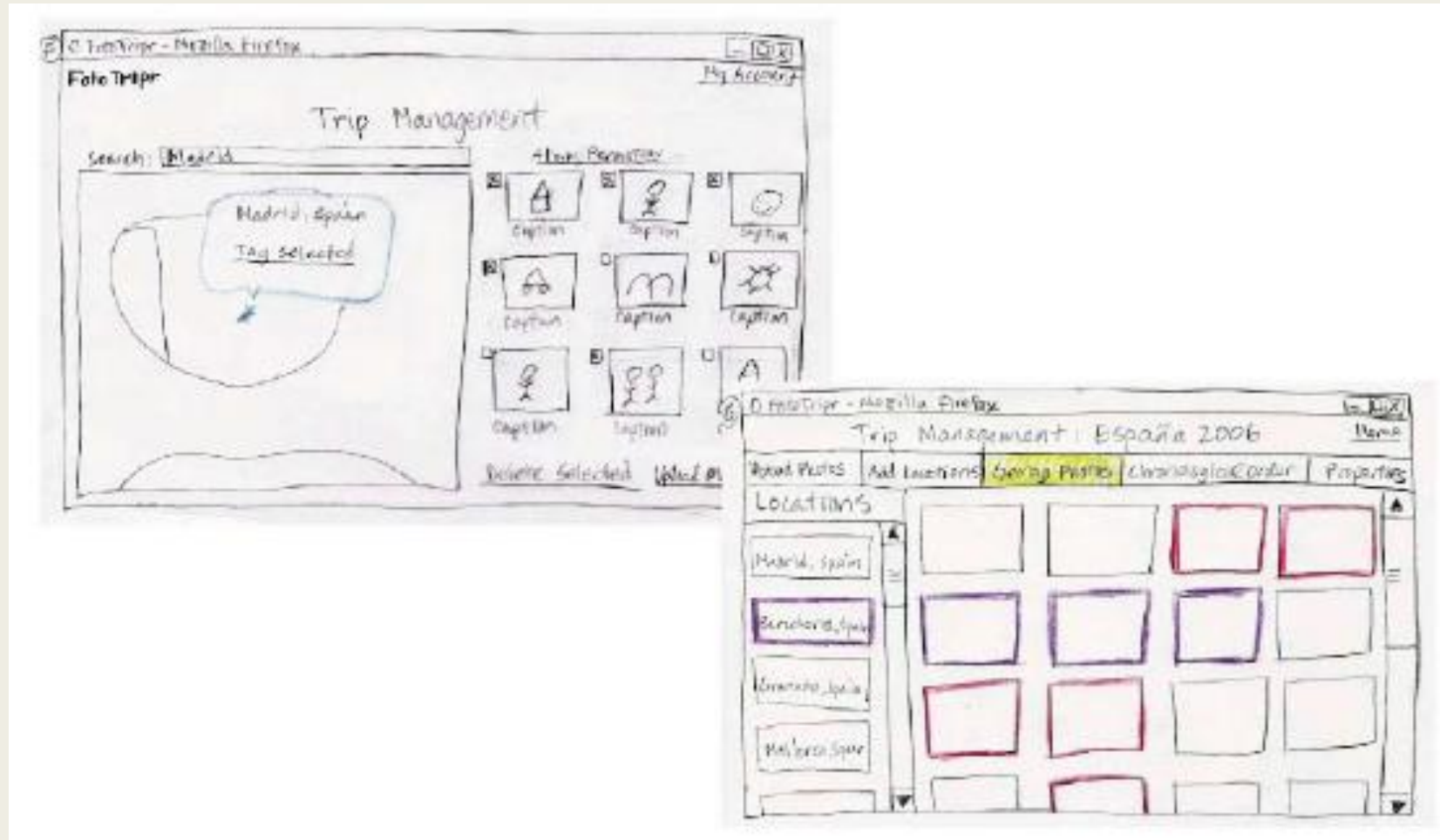
Example of Sketches



Example of Sketches



Example of Sketching



Scenarios

- Scenario is a story about a user using the system
 - *Concrete, realistic, but fictional*
 - *Involves a user with a goal*
 - *Follows how the user achieves the goal*

Storyboards

- Sequence of Sketches illustrating a scenario
- First prototype of the design
 - *Shows how the design can actually be used to satisfy a goal*

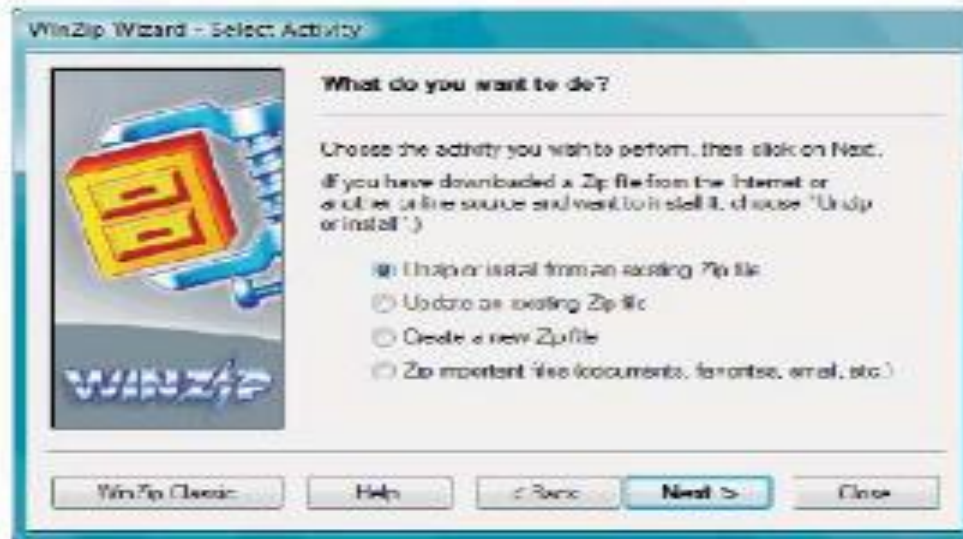
Using Information form Analysis

- Are important tasks covered?
- Which usability aspects matter most?
- How large does the data get?

Design Patterns

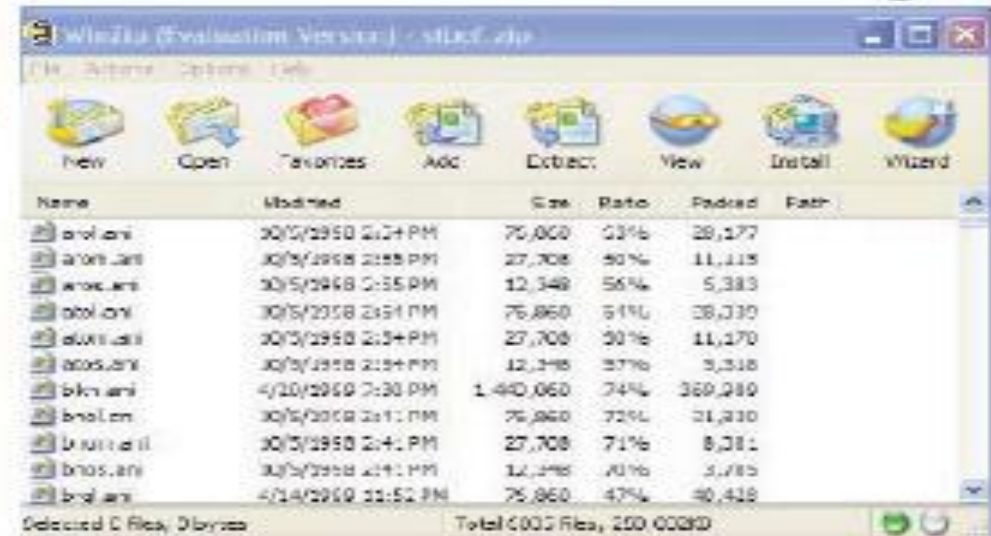
- Patterns are good solutions to common problems
 - *General GUI patterns: Tidwell, Salaakso*
 - *Web Collections: Yahoo, Welie*
- Pattern kinds
 - *Structural*
 - *Navigation*
 - *Widgets*

Structural Patterns



Wizard

Center Stage



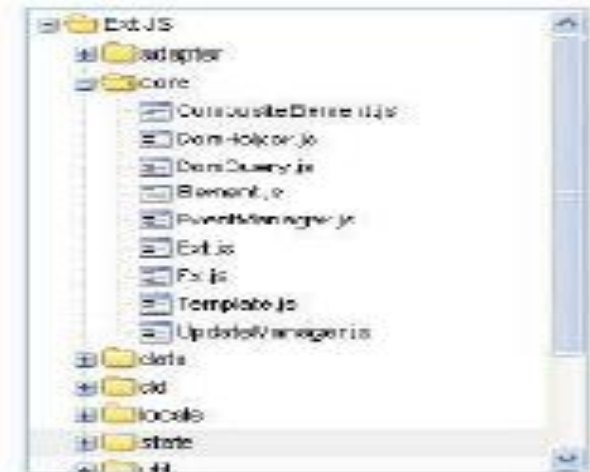
Navigation Patterns

- Breadcrumb
- Pagination

Widgets



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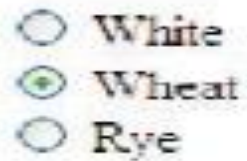
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Widgets for 1-of-N Choices

Radio buttons



Drop-down menu



Single-selection
listbox



Toggle buttons



Widgets for 1-of-2 Choices

- Widgets for 1-of-N choices (with $N=2$), plus:
 - *Checkbox*
 - *Toggle button*
- Avoid:



Widgets for K-of-N Choices

- N checkboxes



- Multiple-selection listbox



Widgets for Window Organization

■ Tab Widget



Accordion Widget



■ Table of Contents



The dreaded nested Scrollpanes



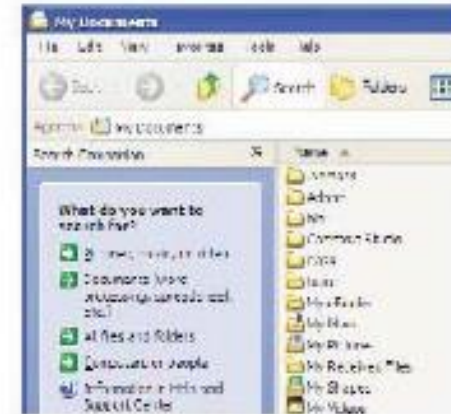
Widgets for dialog boxes

- Modal Dialog boxes
- Modeless Dialog boxes



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modal sheet



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modeless sidebars

Pros and Cons of Widgets

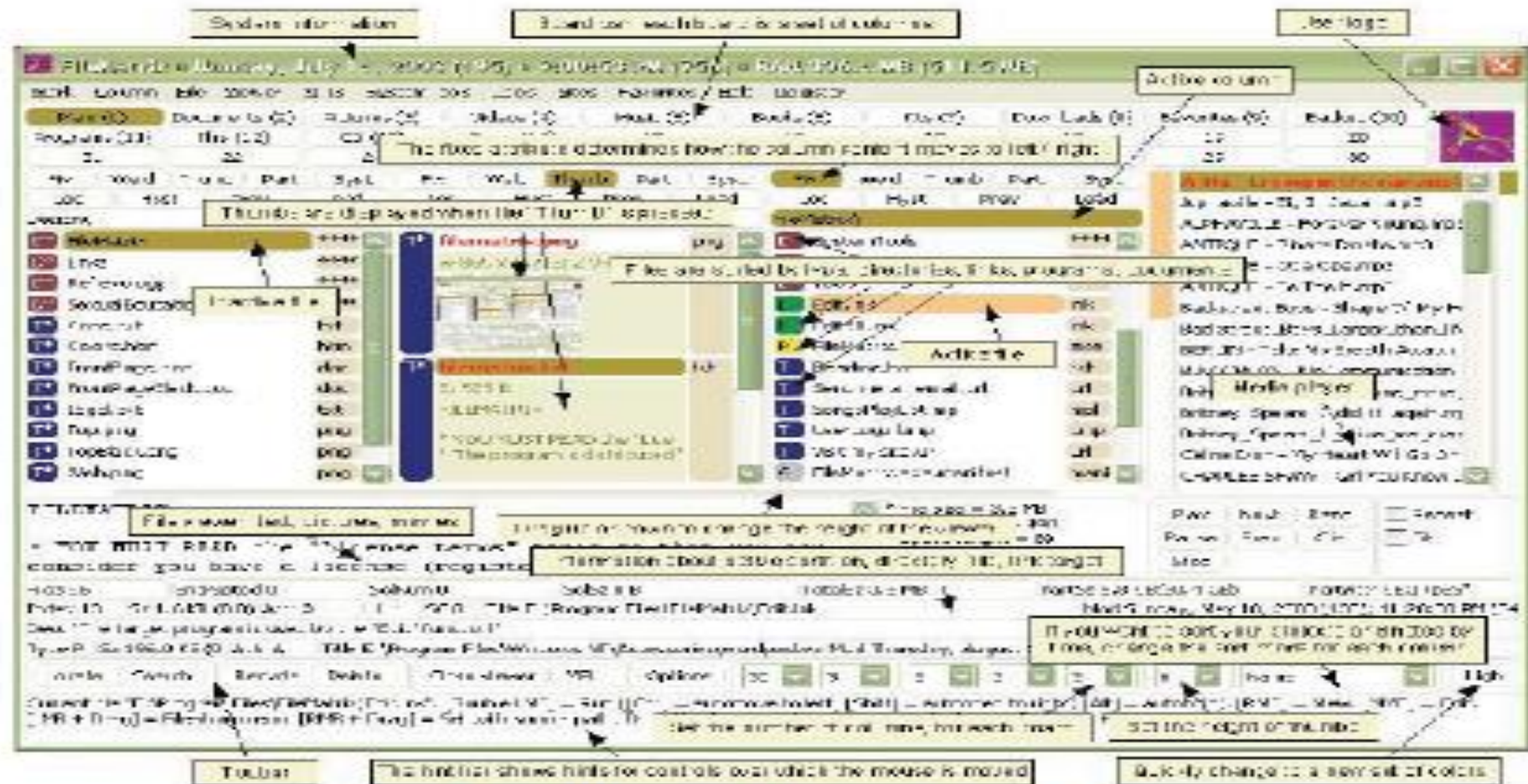
■ Advantages

- *External consistency*
- *Saves development effort*
 - Coding, testing, debugging, maintenance
 - Iteration and evaluation

■ Disadvantages

- *Widgets may constrain designer's thinking*
- *Widget encourage menu & forms style rather than richer direct manipulation style*
- *Widget may be used inappropriately*

Simplicity



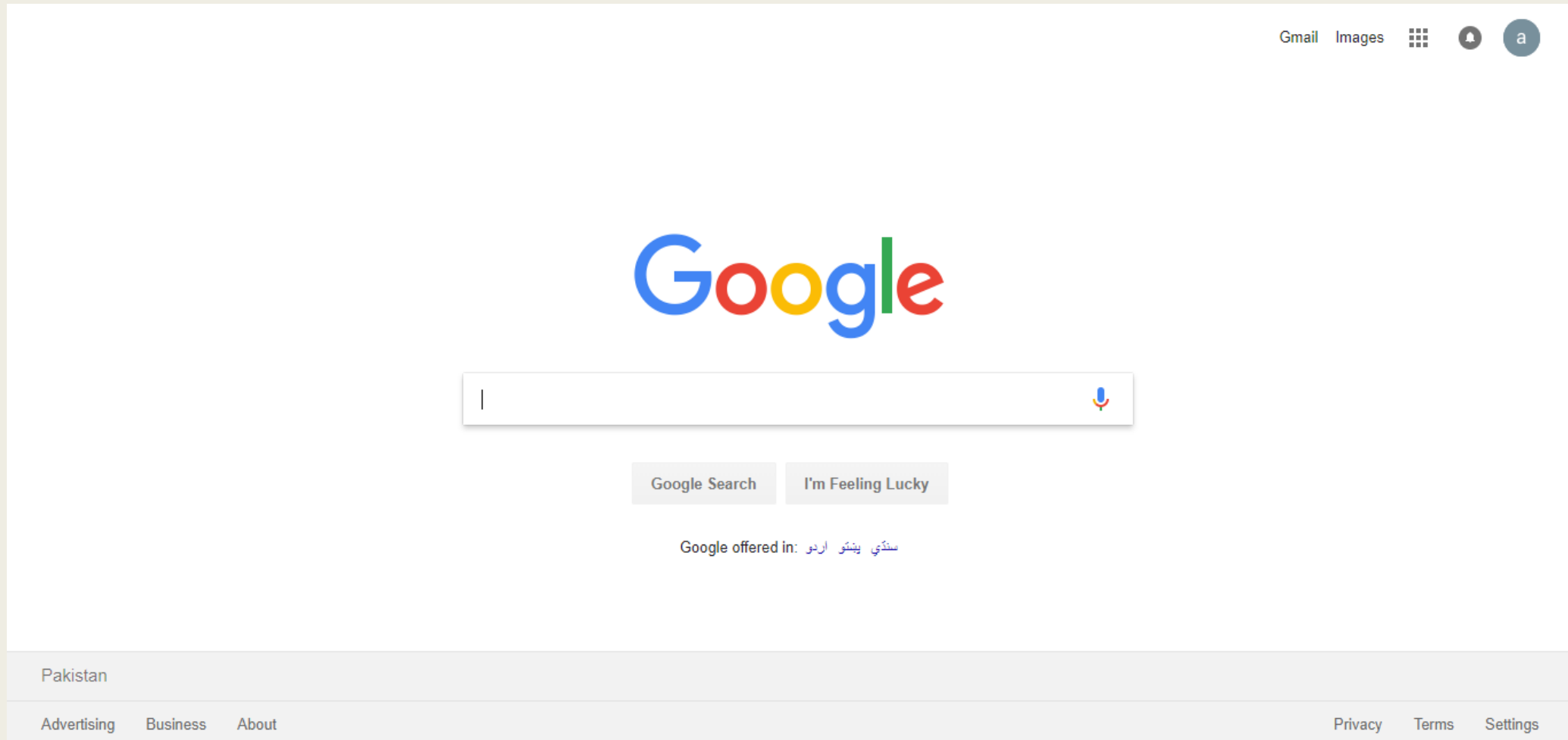
Simplicity, 2003



Simplicity, 2011

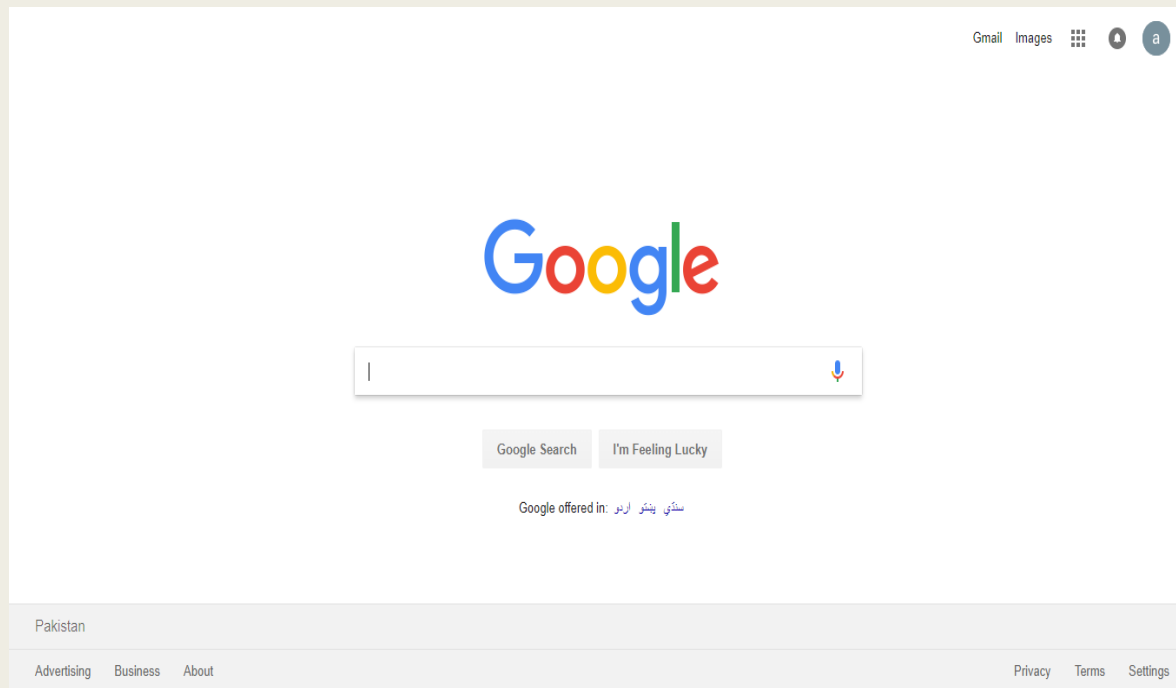


Simplicity 2017



Techniques for simplicity: Reduction

■ Remove inessential elements



Techniques for Simplicity: Double-duty

- Combine elements for leverage
 - *Find a way for one element to perform multiple roles*

