

# Information Design

SIMS 202  
Profs. Hearst & Larson  
UC Berkeley SIMS  
Fall 1999

# Last Time

- I Psychology of Categorization
  - Properties of Categorization
    - » Characteristic Features
    - » Centrality
    - » Basic Level Categories
- I How to combine attributes to categorize information
  - Subject Headings vs. Descriptors
  - Hierarchies vs. Facets

# Cognitive Aspects of Categorization

- Processes of categorization underlie many of the issues having to do with information organization
  - Human categories have graded membership, consisting of family resemblances.
  - Basic level, subordinate, and superordinate level categories seem to be cognitively real
- | Keep these in mind when designing classification systems.

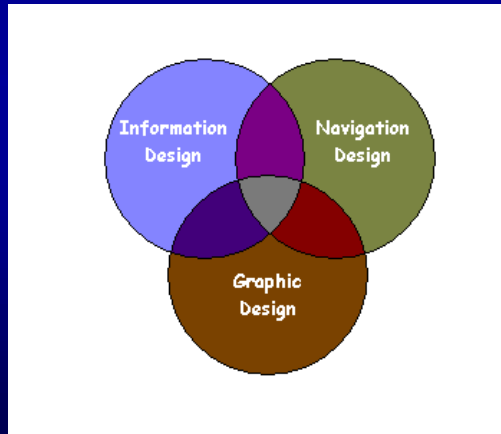
# Today

## I Information Design

- How it is done
- An example: web site design

# Web Site Design Tasks

- | Three tasks:
  - Information Design
  - Navigation Design
  - Graphic Design
- | Together these are sometimes called Information Architecture



# Information Design

# The First Step

Find out what

- Users
- Customers
- Patients
- Passengers ...

need.

## The Second Step

Compile and Organize the Information



# Information Organization

## Gather a collection of concepts

- Brainstorm
  - Decompose existing info organizations
    - » Lists of concepts
    - » Work flow diagrams
    - » Descriptions of best practices
  - User Surveys
  - Ethnographic studies
- ! An art, a practice, but not a science.

# Information Organization

Arrange,

Compress,

and

Organize these Concepts. How? Refer  
to Step 1.

# Information Organization

People sometimes use a design technique called "Participatory Design"

Informally arranging and rearranging information until it is in a useful organization

Often need to iterate and revise.

## Information Organization Step Needed in Many Fields

- | Library Classification Systems
  - Soergel article in reader
- | Database Design
  - Teorey chapters in reader
- | Mechanical Engineering
  - QFD article in reader
- | Building an Informative Website
  - Sano article in reader
- | Building Expert Systems

## The Third Step

This differs depending on what kind design process is under way.

## Web Site Design

- | Sano chapter describes how to do information and navigation design
- | This description is verified by ethnographic studies performed by Mark Newman last year.

# An Ethnographic Study of Web Site Design

- | By Mark Newman, UCB CS grad student
- | Field visits to four companies
  - three design firms
  - one design department of web "portal"
  - in addition: two independent consultants
- | *In situ* interviews with designers
  - placed focus on specific projects
- | Collection of artifacts
  - used artifacts to frame discussion

## Who They Were

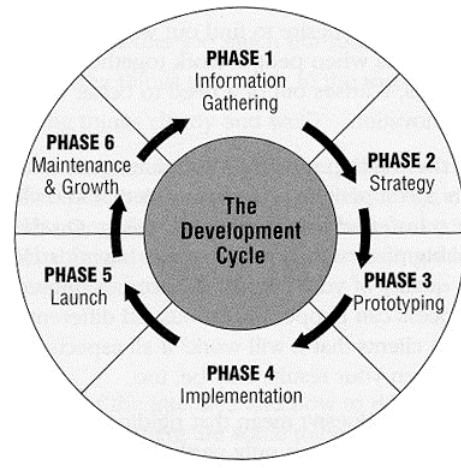
- | 11 interviews total
- | Training & Education
  - 7 graphic design, 2 computer science, 1 cognitive science, 1 other
- | Current responsibilities
  - 4 graphic design, 3 UI design, 4 hybrid
- | Professional experience
  - 7 had < 5 years experience
  - others 8, 10, 20+



# The Design Process

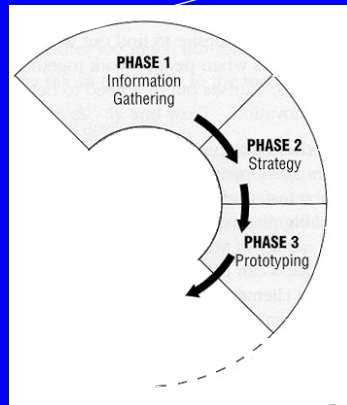
- | Several published accounts exist
  - But little agreed upon terminology
- | "Official" process structures work and communication
  - Defines a set of deliverables (artifacts)
  - However, "everything is custom"
    - » Process is malleable
- | The design process is a framework for discussion.

# Web Site *Development* Process



(from Fleming, J. *Web Navigation: Designing the User Experience*. O' Reilly, 1998)

# Web Site *Design* Process



Discovery

Conceptualization

Preliminary Design

Design

Implementation

## Design Process: Discovery

Discovery



Conceptualization



Preliminary Design



Design



Implementation

### Assess needs

- understand client's expectations
- determine scope of project
- characteristics of users

# Design Process: Discovery

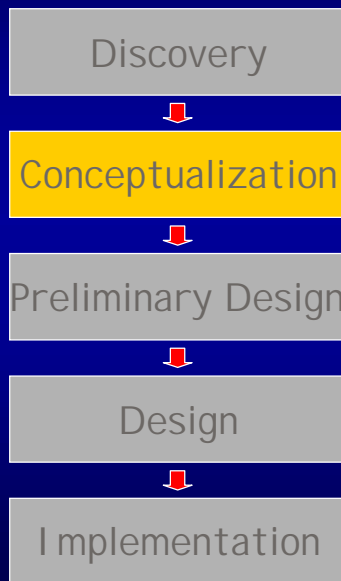
## I Activities

- Review materials provided by client
  - » Existing versions of products/sites
  - » Other documents
- Competitive analysis
- Collect data from users: interviewing, task analysis, etc.

## I Deliverables

- Written reports
- Presentations

# Design Process: Conceptualization



Begin defining site

- Take results from discovery and visualize solutions
- Early information design

# Design Process: Conceptualization

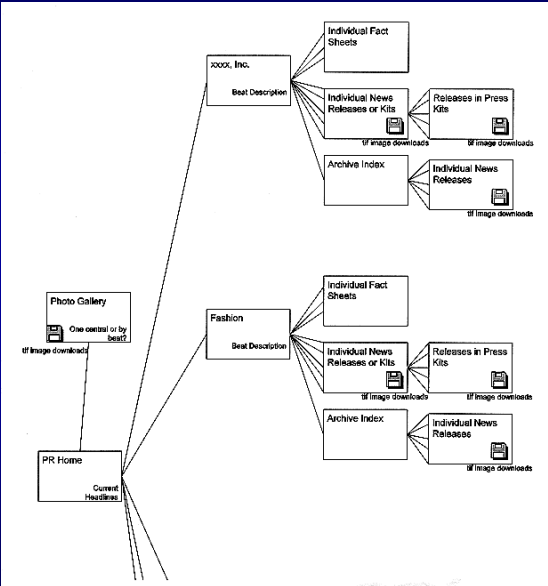
## I Activities

- Brainstorming (collaborative & solo)
- Sketching ideas (collaborative & solo)
- Defining site structure

## I Deliverables

- Site maps
- Written reports
- Presentations

# Design Process: Conceptualization

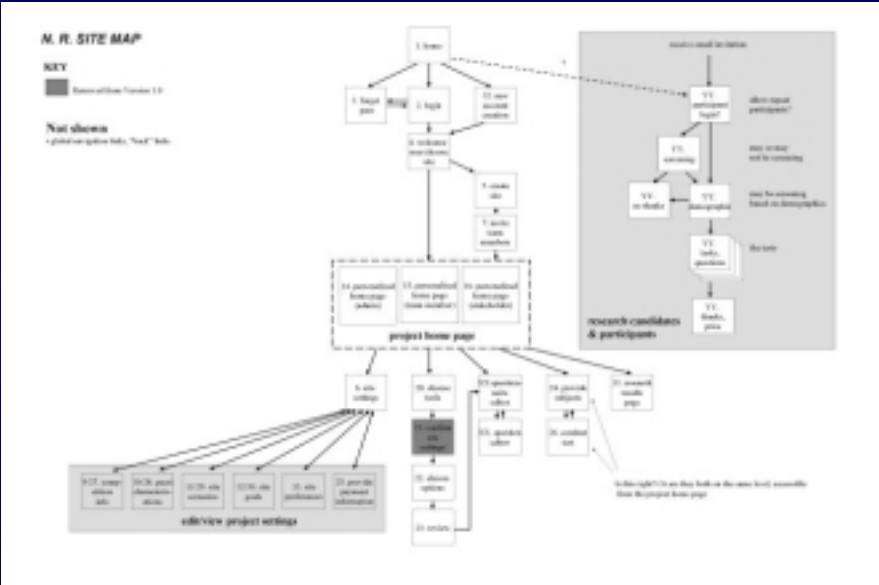


(information design: site map)

Slide by Mark Newman



# Design Process: Conceptualization



(information design: site map)

Slide by Mark Newman

# How Sketching Is Used

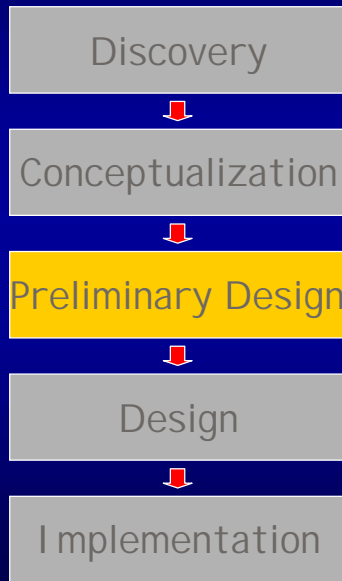
- | All designers interviewed sketch
  - Most of them downplay their sketches
  - Not inclined to show sketches to outsiders
- | Early conversion to electronic form
  - Most of them "used to do it more"
  - Once electronic, never go back
- | Collaborative sketching
  - Paper is portable and easy to share

# Design Process: Conceptualization



(information design: site map + navigation)

## Design Process: Preliminary Design



Generate multiple (3-5) designs

- one will be selected for development
- navigation design
- early graphic design

# Design Process: Preliminary Design

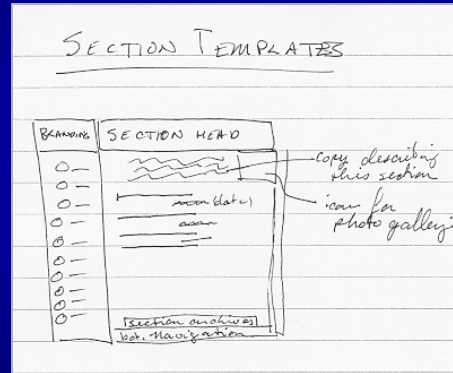
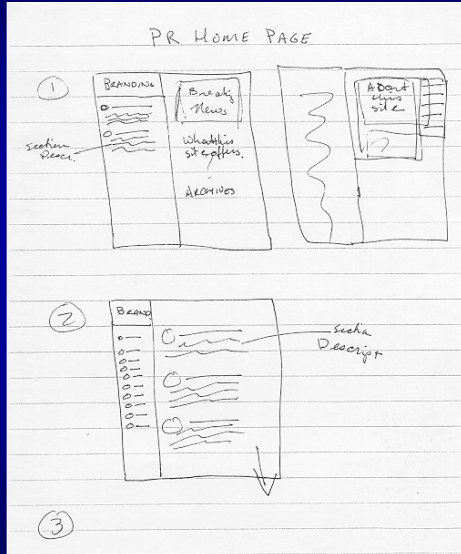
## I Activities

- Sketching designs
- Creating mock-ups
- *Quick and rough*

## I Deliverables

- Schematics (a.k.a. templates)
- Site maps
- Mock-ups
- Presentations

# Design Process: Preliminary Design



(information/navigation design: schematic)

Slide by Mark Newman

# Design Process: Preliminary Design

[xxx]	(PR Site branding)
Public Relations	<p>What this site is about: I am a queen like all what, accessories, inspiration, and, and, just, clothing, and, and, and, members of internet, fashion, design, inspiration, and, and, and.</p> <p>Content: 100%</p> <p>Latest: 100%</p> <p>Website</p> <p>width = 100%</p>
Fashion	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li><li>- This record is a new release (date)</li></ul>
Travel	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li></ul>
Technology	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li></ul>
Music	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li></ul>
Outdoors	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li></ul>
Features	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li></ul>
(global navigation bar)	<p>Home</p> <ul style="list-style-type: none"><li>- This record is a new release (date)</li><li>- This record is a new release (date)</li></ul>

(information/navigation design: schematic)

Slide by Mark Newman

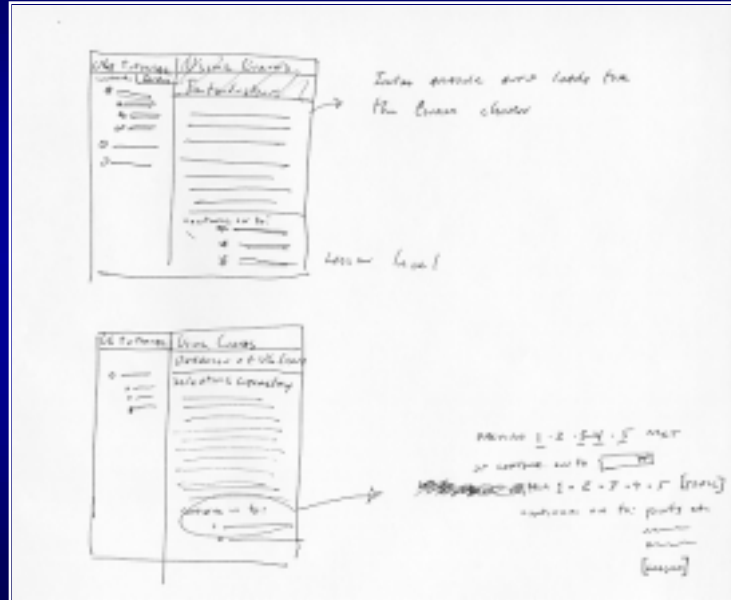
# Sketching: Information / Navigation



Slide by Mark Newman



# Navigation Design



Slide by Mark Newman

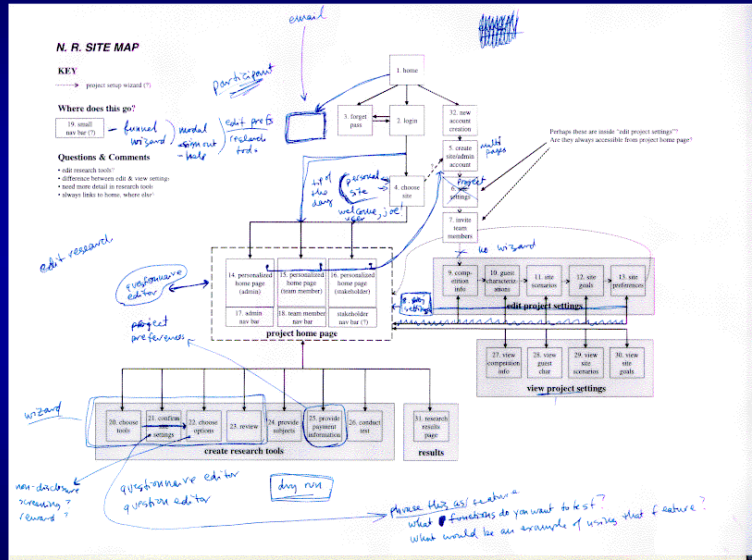
# Design Process: Preliminary Design



(navigation design: storyboard)

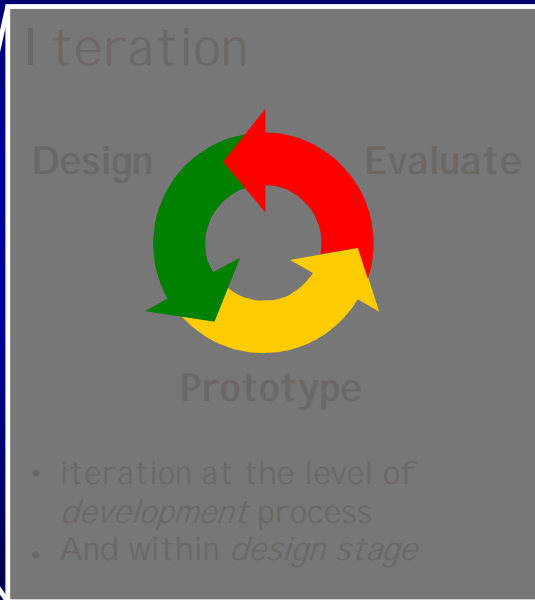
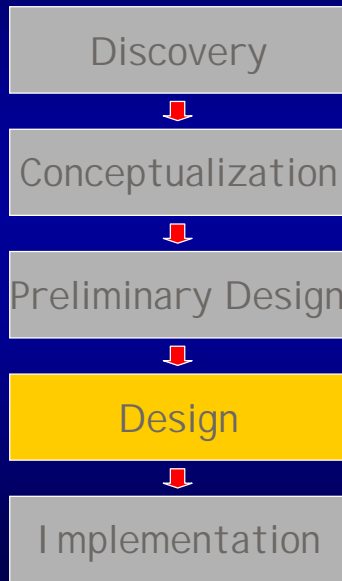
Slide by Mark Newman

# Another Use for Paper



(print-outs are shared and annotated)

# Design Process: Design



## Design Process: Design

### I Activities

- Creating and refining mock-ups
- Graphic design very active
- Prototyping

### I Deliverables

- Mock-ups
- Prototypes (HTML, Director)
- Presentations

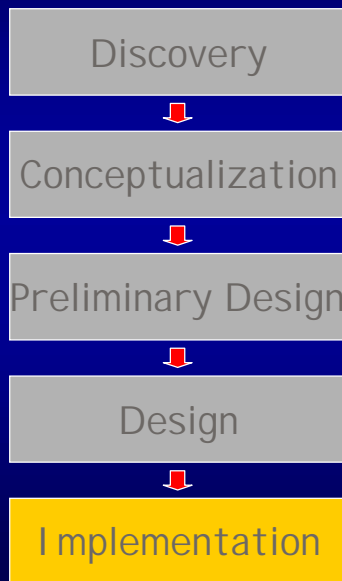
# Design Process: Design



(graphic design: mock-up)

Slide by Mark Newman

# Design Process: Implementation



- | Prepare design for handoff
  - Create final deliverable
  - Specifications and prototypes
  - As much detail as possible

# Design Process: Implementation

## I Activities

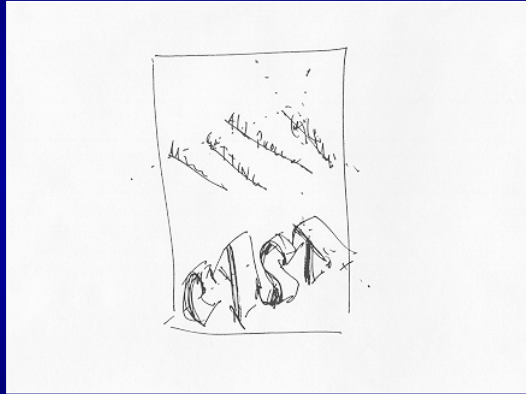
- Create final deliverables
- Prepare specifications and guidelines
- Prepare prototypes

## I Deliverables

- Specifications/Guidelines
  - » written or interactive
- Prototypes (HTML, Director)
- Presentations

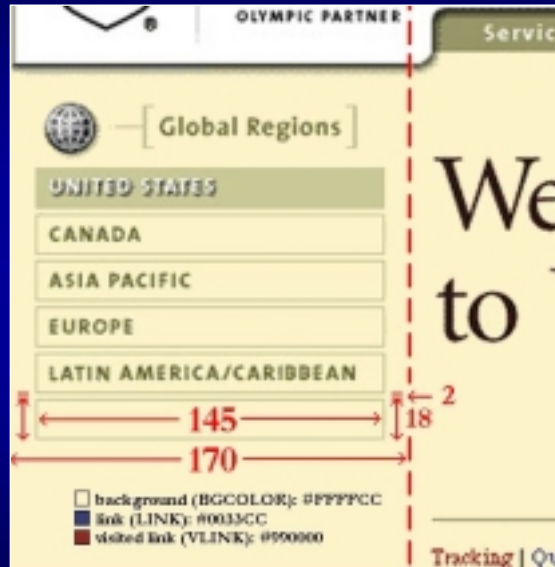


# Graphic Design



Slide by Mark Newman

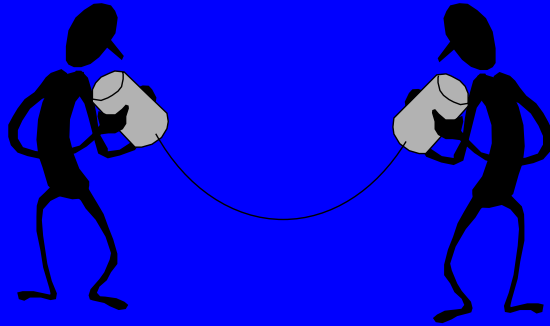
# Design Process: Implementation



(interactive specification)

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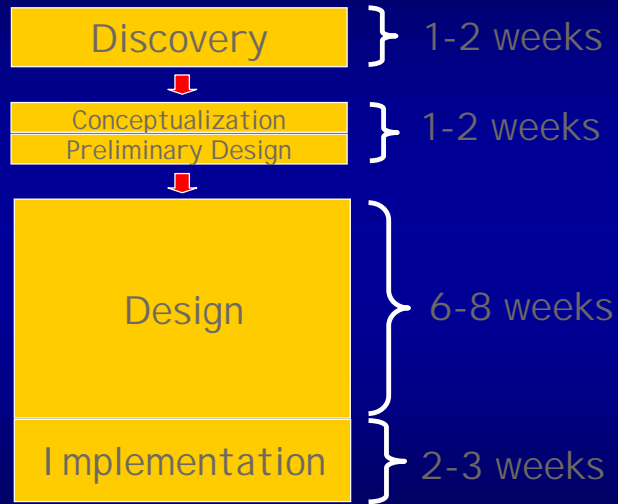
## Design Process: Hand off



- | Project is handed off to engineers/programmers who will implement the site
- | There may or may not be direct communication between the designers and programmers

Slide by Mark Newman

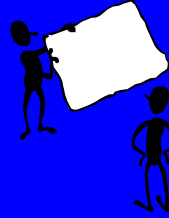
# Duration of design phases



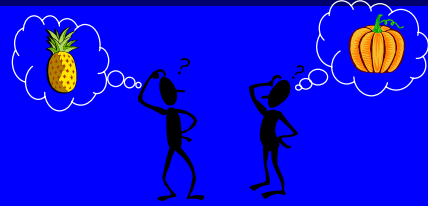
(this varies *widely*)

Slide by Mark Newman

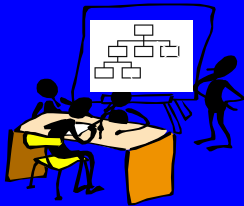
# Dimensions of Communication



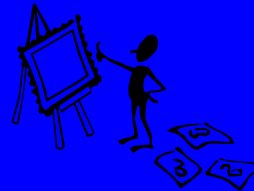
Designer ↔ Client



Designer ↔ Implementor

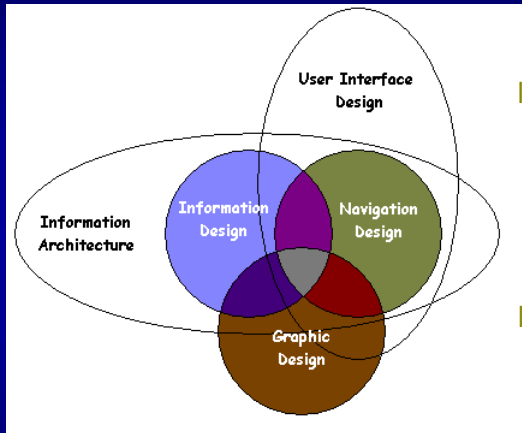


Designer ↔ Team Member



Designer ↔ Self

# Design Specialties



## Information Architecture

- includes management and more responsibility for content

## User Interface Design

- includes testing and evaluation

## Next Time

- | Guest lecture:
  - David Steier
  - Formerly of CMU, now in charge of web site design for Scient.