



Information Architecture: A brief introduction

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<http://baileysorts.com>

12/03/03

For the record

- I'm a librarian who works in digital information spaces.
- Currently: Vice President, Information Architecture for Wachovia.com (Wachovia Bank)
- Pioneer in IA: First employee of Argus Associates, spent 5 years there developing their operation & methodology
- MILS from University of Michigan, 1996

with Amazing push-button Shushing Action!



Topics

- Defining Information Architecture
- Understanding Information Environments
- Components of an information architecture
- Methodology & Deliverables

Question:

How do *you* define Information Architecture?

What is IA?

A trick question or a tricky question?

- Information Architecture (IA)
- Interaction Design (ID)
- Information Design (ID too)
- User-centered Design (UCD)
- User-interface Design (UI)
- Usability/Usability Engineering (UE)

What is IA?

This is an emerging discipline in an evolving medium.

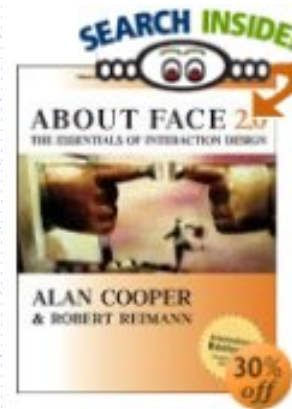
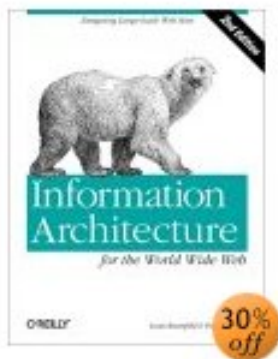
Experts & Gurus disagree on the “right” answer.

IMHO: The ongoing discussion is legitimate and healthy—*as long as we're getting work done.*

What is IA?

Christina Wodtke's SIG-IA survey:

- **content architecture** (Polar Bear style)
- **interaction design** (Cooper's About Face)
- **information design** (Wurman's Information Architects)

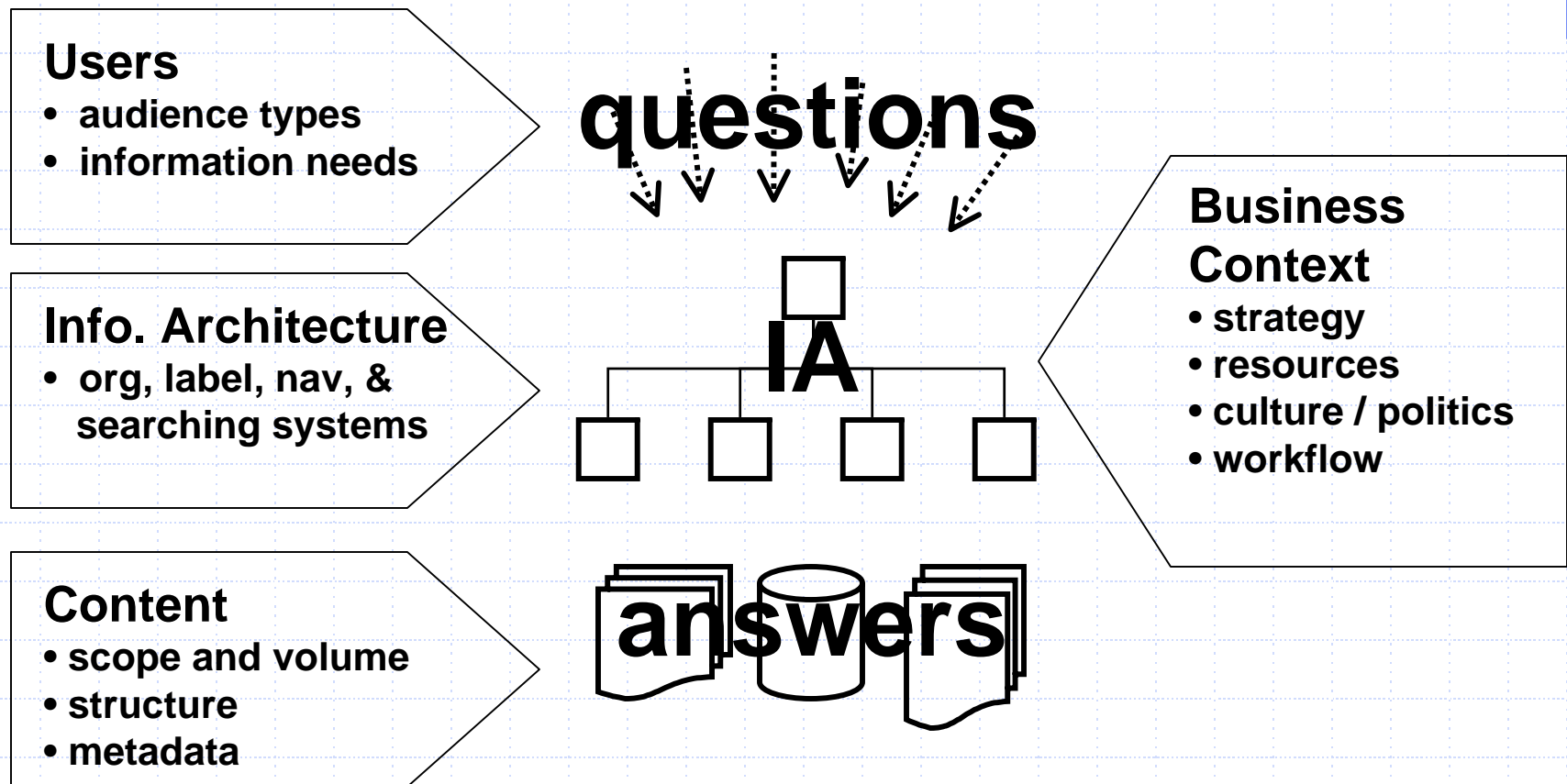


What is IA?

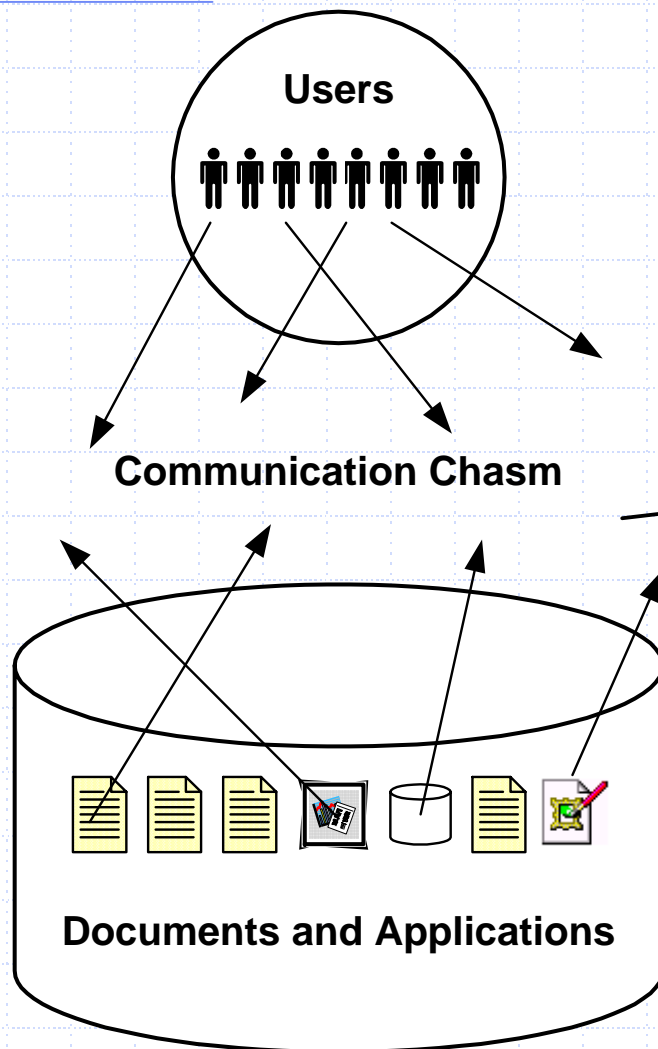
The art and science of structuring and organizing information **systems** to help people achieve their goals.

Information architects **organize** content and design **navigation** systems to help people **find** and **manage** information.

A Visual Definition



Why is IA Difficult?



Example

Personal Digital Assistant

Synonyms

Handheld Computer

"Alternate" Spellings

Personal Digital Assistant

Abbreviations / Acronyms

PDA

Broader Terms

Wireless, Computers

Narrower Terms

PalmPilot, PocketPC

Related Terms

WindowsCE, Cell Phones

Why is IA Important? (Metrics)

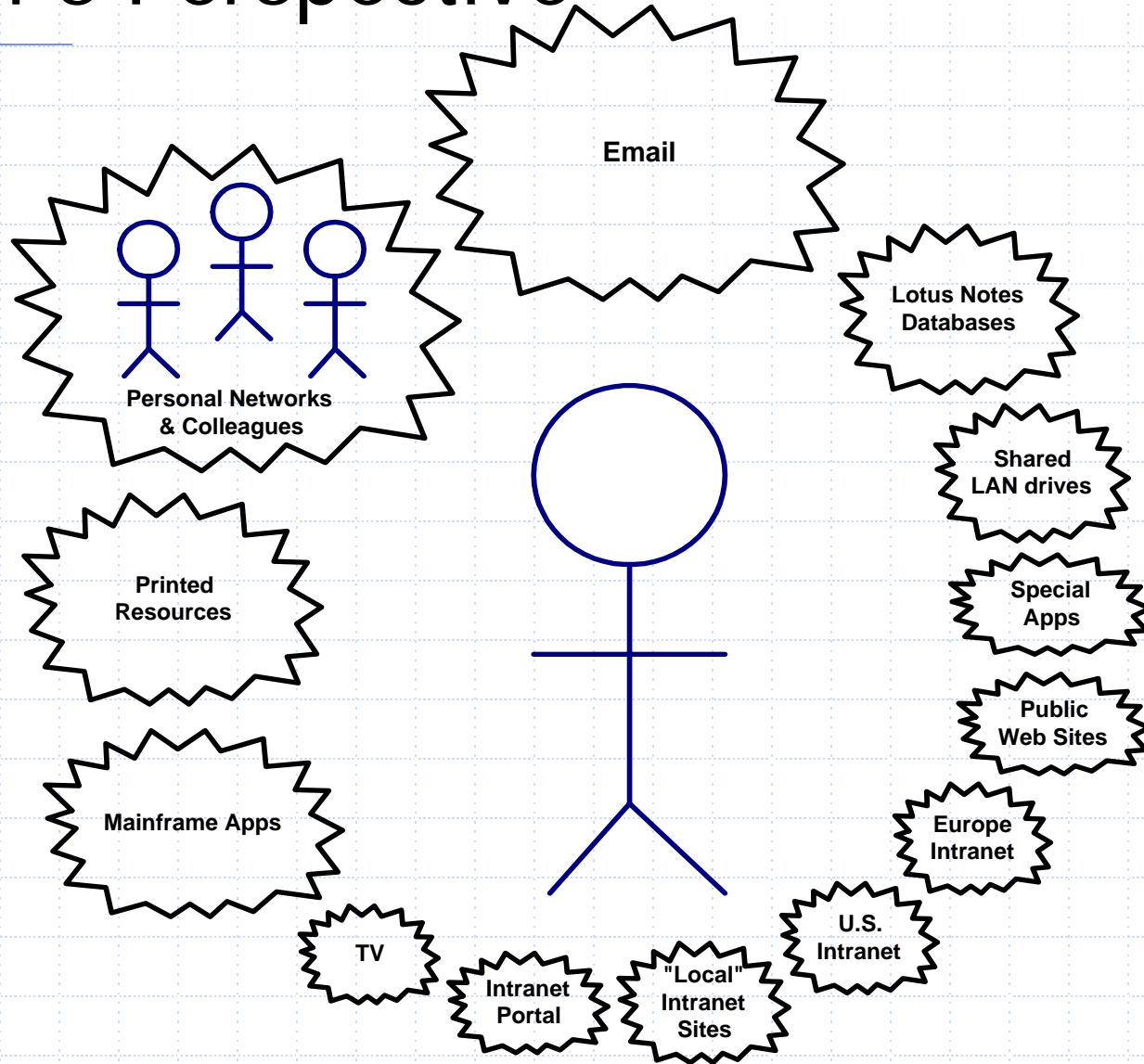
- Cost of finding (time, clicks, frustration, precision).
- Cost of *not* finding (success, recall, frustration, alternatives).
- Cost of development (time, budget, staff, frustration).
- Value of learning (related products, services, projects, people).



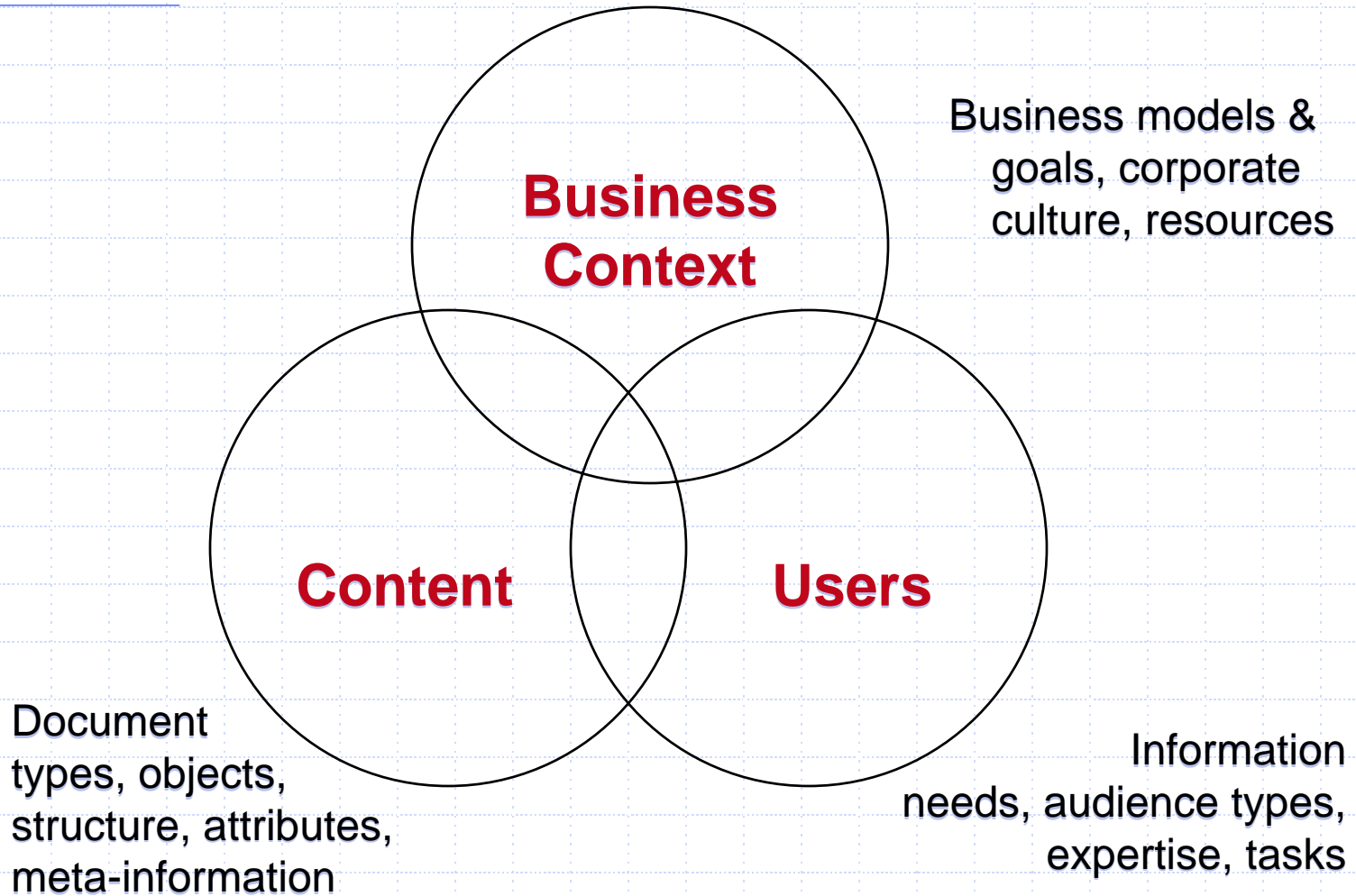
Question:

Do we still need to group (classify)
what we know now that we
aren't dealing with artifacts?

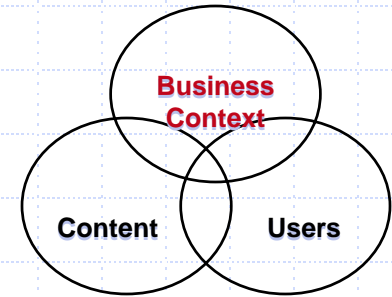
A User's Perspective



Information Environment



Info. Environment: *Context*



Characteristics of Large Companies

Increasingly global / distributed enterprises

Multiple cultures and languages

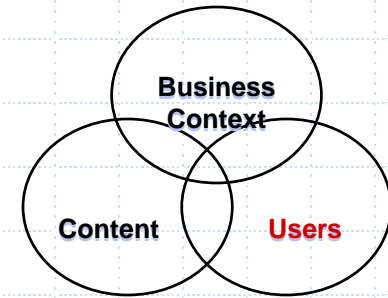
Complicating Factors (Intranets & Web Sites)

Authors and users spread across departments

Ownership unclear

Balance of centralization versus decentralization unclear

Information Architecture Environment *Users*



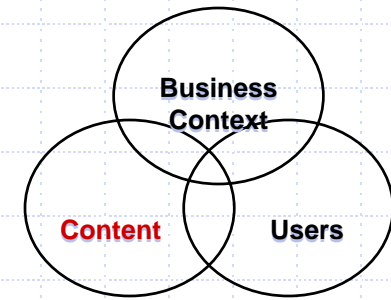
Complex and Diverse

information seeking behavior, needs,
expertise

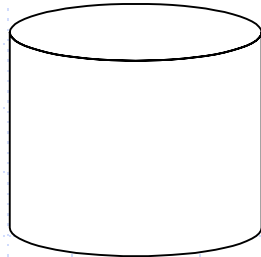
Many Ways to Study

observation, interviews, modeling,
testing, tracking, observation

Information Architecture Environment: *Content*

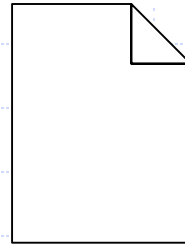


*Financials, Sales,
Oracle, Sybase,
Mainframe*



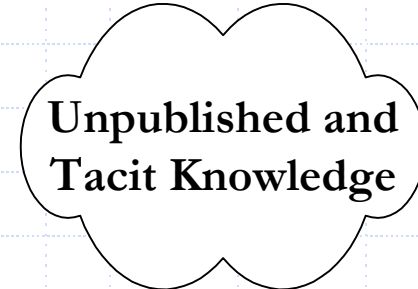
Data Store

*Text, PPT, XLS,
HTML, XML, MS
Office, Lotus Notes*

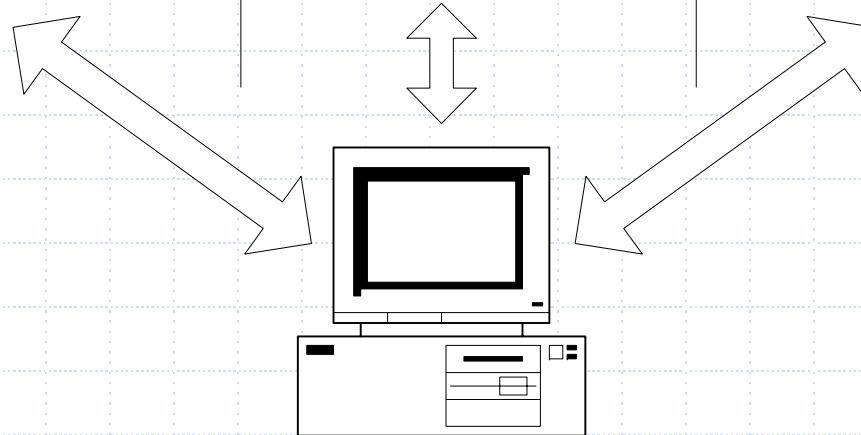


Document Store

*Print Documents, Oral
Communication, Memory,
PCs, Folders*



**Unpublished and
Tacit Knowledge**



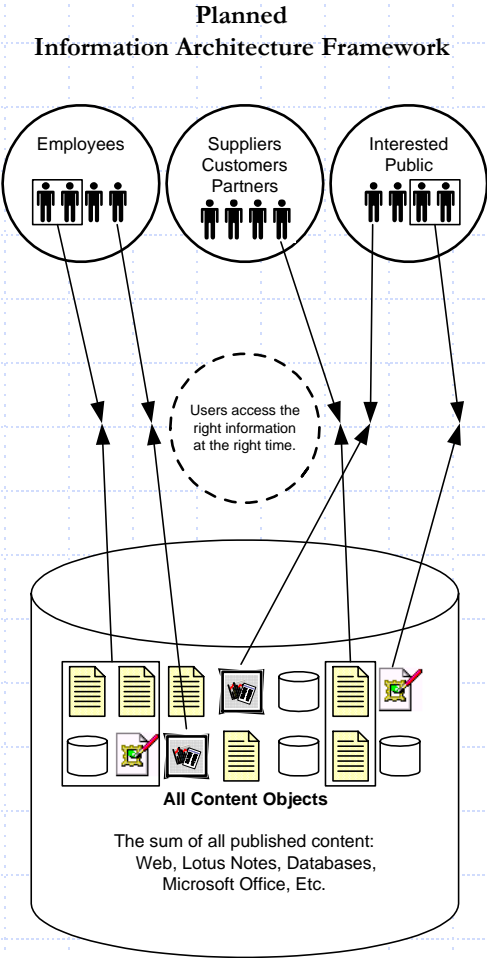
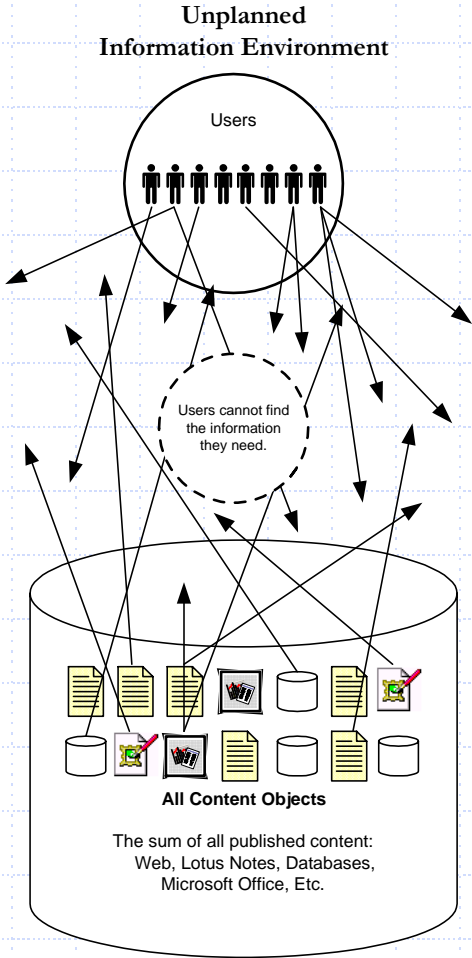
Unified Interface

Question:

How do you organize (or not) your:

- Computer desktop/files
- Physical desktop
- Paper files
- Books

Planned vs. Unplanned IA



Components of an IA

Organization systems

Labeling systems

Navigation systems

- Global

- Local

- Contextual

Supplementary Navigation & Search

Organization Systems

Organization structures (e.g., the “shape” of the information): hierarchy, database, hypertext).

Organization schemes: exact vs. ambiguous.

Organization Schemes

Exact Schemes

- e.g., white pages, author/title database
- Everything has a place (one right answer)
- Easy to create and maintain
- Great for known-item searches

Ambiguous Schemes

- e.g., yellow pages, org by topic/task/audience
- Messy and full of overlap
- Hard to create and maintain
- Great for subject searches and associative learning

Org. Schemes - Exact

Alphabetical: OSHA Site Index (www.osha.gov)



December 3, 2003

Site Index: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#)

[A](#) [TOP](#)

[Abatement Verification Guide](#)

[About OSHA](#)

[Accident Investigation](#)

[ACCSH - \(Advisory Committee on Construction Safety and Health\)](#)

[Additional Documents & Publications](#)

[Advisors/Software \[OSHA eTools\]](#)

[AED - \(Automated External Defibrillators\)](#)

[Agricultural Operations](#)

[Airline Industry](#)

[Alliance Programs](#)

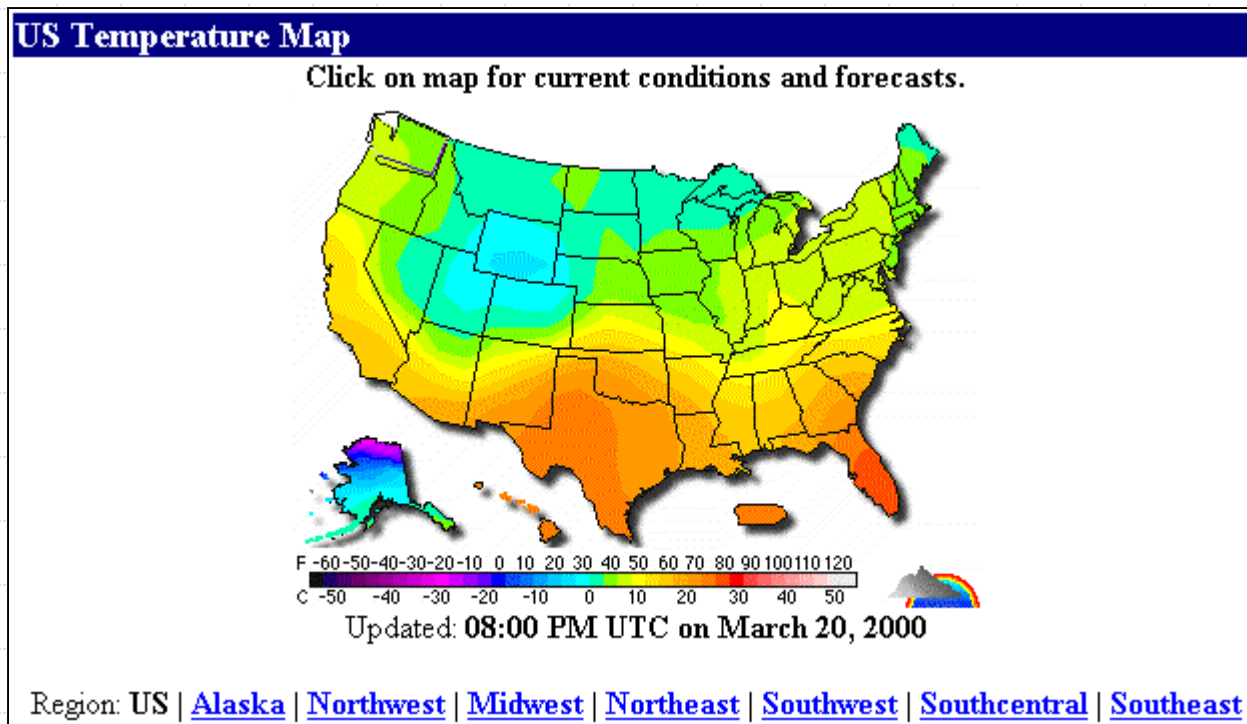
[Ammonia Refrigeration](#)

[Analytical Methods](#)

[Anthrax](#)

Org. Schemes - Exact

**Geographical: Weather Underground
(wunderground.com)**



Org. Schemes - Ambiguous

Topical: Yahoo.com



>>> The Statue of Liberty is closed. Help American Express get her doors reopened. [Learn More.](#)

Web Site Directory - Sites organized by subject [Suggest your site](#)

[Business & Economy](#)

[B2B](#), [Finance](#), [Shopping](#), [Jobs](#)...

[Computers & Internet](#)

[Internet](#), [WWW](#), [Software](#), [Games](#)...

[News & Media](#)

[Newspapers](#), [TV](#), [Radio](#)...

[Entertainment](#)

[Movies](#), [Humor](#), [Music](#)...

[Recreation & Sports](#)

[Sports](#), [Travel](#), [Autos](#), [Outdoors](#)...

[Health](#)

[Diseases](#), [Drugs](#), [Fitness](#)...

[Government](#)

[Elections](#), [Military](#), [Law](#), [Taxes](#)...

[Regional](#)

[Countries](#), [Regions](#), [US States](#)...

[Society & Culture](#)

[People](#), [Environment](#), [Religion](#)...

[Education](#)

[College and University](#), [K-12](#)...

[Arts & Humanities](#)

[Photography](#), [History](#), [Literature](#)...

[Science](#)

[Animals](#), [Astronomy](#), [Engineering](#)...

[Social Science](#)

[Languages](#), [Archaeology](#), [Psychology](#)...

[Reference](#)

[Phone Numbers](#), [Dictionaries](#), [Quotations](#)...

Org. Schemes - Ambiguous

Task: Northwest Airlines (nwa.com)

The screenshot displays the Northwest Airlines website interface. At the top, the NWA logo and navigation links (Home, Login, My NWA Info, Worldwide Sites, KLM) are visible. A main navigation bar includes 'Reservations Center', 'Travel Tools', 'Promotions & Products', and 'WorldPerks'. A large blue banner advertises 'Holiday Travel now on Sale!' with a price of '\$39* each-way' and an image of a Northwest 747 aircraft. Below the banner, the page is divided into several sections: 'Deals and News' with links to Mile-A-Rama, a check-in game, and international travel offers; 'WorldPerks Partners' featuring a Visa card promotion; 'Search for Flights and Fares' with a search form including trip type, search criteria, and date selection; 'Check In for Your Flight' with fields for name, city code, and confirmation numbers; 'WorldPerks Login' with fields for membership number and PIN; 'Enroll in WorldPerks' with a globe icon and enrollment text; and 'Flight & Gate Status' with fields for flight number and date. A footer section for 'NWA E-mail' offers weekly deals.

nwa NORTHWEST AIRLINES

Home : Login : My NWA Info : Worldwide Sites :

Reservations Center | Travel Tools | Promotions & Products | WorldPerks

Holiday Travel now on Sale!

Fares as low as \$39* each-way based on a roundtrip purchase.
*Taxes, fees, restrictions apply. Buy now!

Deals and News

- Earn up to 100,000 miles in Mile-A-Rama
- nwa.com Check-inSM Instant Win Game
- Earn up to 25,000 miles for Int'l travel
- [New World Business ClassSM is here](#)
- [Ski Cash & Miles Deals](#)
- [View All Promotions](#)

WorldPerks Partners

Earn 10,000 Bonus Miles with the WorldPerks Visa[®] Card
[Click here for details](#)

Search for Flights and Fares

Search for
 Roundtrip One-way [Multi-city](#)

Search by
 Lowest Fare Schedule
 WorldPerks Award

From To

Depart
Dec 9 Anytime

Return
Dec 16 Anytime

Check In for Your Flight

First Name Last Name

Departure City Code [Find City Code](#)

Confirmation # -or- WorldPerks #

[Luggage & Other Details](#)

WorldPerks Login

WorldPerks Number Last Name

PIN Remember PIN [PIN Help](#)

Enroll in WorldPerks

Begin earning miles that quickly add up to free travel. [Enroll now.](#)

Flight & Gate Status

Flight Number Flight Date

NWA E-mail

Get weekly deals and news

Org. Schemes - Ambiguous

Audience: Dell (dell.com)



The screenshot shows the top navigation bar of the Dell website. It includes the Dell logo with the tagline "Easy as DELL™ USA" and a search bar labeled "Search All Dell.com". There are links for "Premier Login" and "My Account". Below the navigation bar is a banner for "Dell/EMC" celebrating their "Two Year Anniversary" with an image of a server. To the right of the banner is a "New Dell" section with a list of links: "Dell, Anniversary", "Dell", "Get the W30", and "Dell". Below the banner is a blue bar with the text "Start Browsing for Products & Services". Underneath this bar are three columns of product categories, each with a right-pointing arrow icon and a list of sub-links.

Easy as **DELL™** USA 

Search All Dell.com

★ Premier Login |  My Account

Dell/EMC
Dell, EMC Alliance Marks Two Year Anniversary

New Dell

- ▶ Dell, Anniversary
- ▶ Dell
- ▶ Get the W30
- ▶ Dell

Start Browsing for Products & Services

- ➔ **Home & Home Office**
Exciting products and services for you and your family.
▶ [Home & Home Office](#)
- ➔ **Small Business**
Technology solutions for businesses from 1 to 200 employees.
- ➔ **Medium & Large Business**
Scalable enterprise solutions for businesses over 200 employees.
- ➔ **Government, Education & Healthcare**
Special purchase programs and contracts for organizations.
▶ [State & Local Government](#)
▶ [Federal Government](#)
▶ [K-12 Education](#)
▶ [Higher Education](#)

Navigation Systems

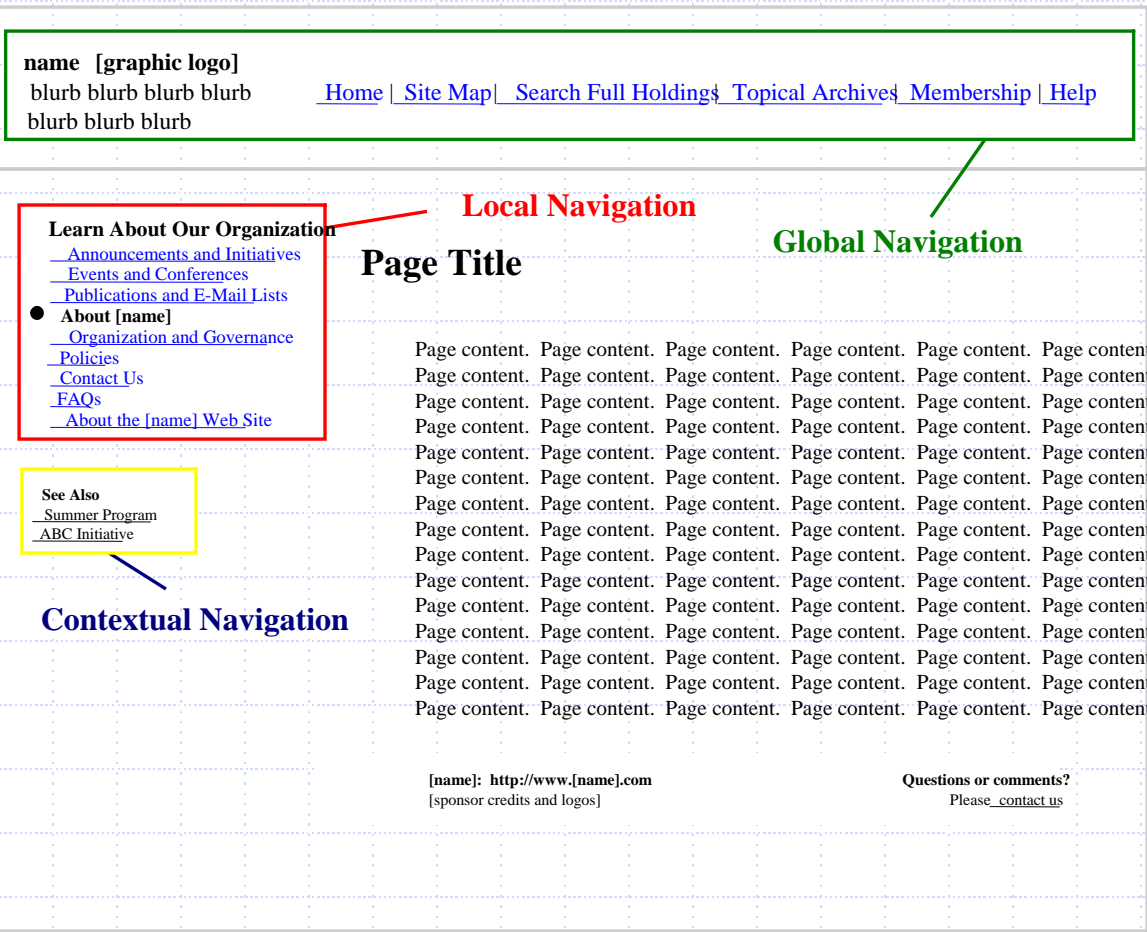
Types

- Global (site-wide)
- Local (sub-site)
- Contextual (page-level)
- Supplementary (e.g., table of contents, index, guide, search)

Goals

- Provide context. (Where am I?)
- Provide flexibility (Where can I go?)
- Make sense (Separate global and local systems)
- Avoid competing with content

Navigation Systems



Navigation Systems

Global, Local, Contextual: Wachovia.com

Home | Help Center | Contact Us | ATM/Branch Locator

WACHOVIA

Search

[Search Tips](#)

Personal Finance | Wealth Management | Small Business | Corporate & Institutional

Home > [Personal Finance](#) > Lending Center

- Online Services Center
- Banking Center
- Investing Center
- Lending Center**
- Insurance Center
- Planning Guides
- Personal Finance Help Center

LENDING CENTER

You can own a home.
Our special lending programs can help you with a down payment and more.
[Learn More >>](#)

Wachovia has created the Lending Center to provide you with a clear, understandable map to the loan process—with an emphasis on objective information and interactive tools. Using the tools in the Center, you can research the various loan and credit options to find ones that may meet your needs, check current rates, and, in many cases, apply and get approved online, in minutes.

To learn more, choose a loan type:

- [Mortgage Loans](#) ([Apply Now](#))
- [Home Equity Loans and Lines of Credit](#) ([Apply Now](#))

TODAY'S RATES

- [Check Current Mortgage Rates](#)
- [Check Current Home Equity Rates](#)

ACCESS ACCOUNTS

- [Personal Finance Login](#)

APPLY NOW

- [All Application Forms](#)

Contact Us

- [Mortgage Loans](#)
- [Home Equity Loans](#)
- [Vehicle Loans](#)
- [Personal Loans](#)
- [Credit Cards](#)
- [Student Loans](#)

Related Links

- [Mortgage Calculators](#)
- [Free Mortgage Rate Alert Service](#)
- [Home Equity Loan Amount Estimator](#)
- [Home Equity Loan Payment](#)

Labeling Systems

Navigation bar options

Headings, Subheads, sub-subheads

Contextual links

Controlled vocabularies and thesauri

[Icons]

Supplementary Navigation Systems

Topical (site index): New York Times (nyt.com)

The screenshot shows the 'Member Center' page of the New York Times website. At the top left is the logo 'The New York Times' and at the top right is the title 'Member Center'. Below the logo are navigation links: 'Home', 'Site Index', 'Archive', and 'Help'. On the right side of this bar is a 'Log In' link. Below the navigation bar is a search area with a dropdown menu labeled 'Go to a Section', a 'Go' button, and a 'Site Search:' input field. A horizontal menu below the search area contains five items: 'Member Center Home', 'Your Profile', 'E-mail Preferences', 'Times News Tracker', and 'Purchase History'. The main content area is titled 'Site Index' and has a breadcrumb trail 'News | Opinion | Fe'. The 'News' section is highlighted in a light pink background and contains three columns of links. The first column is titled 'International' and lists 'Africa', 'Americas', 'Asia Pacific', 'Middle East', and 'Europe'. The second column is titled 'National' and lists 'Columns'. The third column is titled 'Business' and lists 'Media & Advertising', 'World Business', 'Your Money', and 'Columns'. The fourth column is titled 'Technology' and lists 'Circuits' and 'Columns'. The fifth column is titled 'Weather' and lists 'N.Y.C. Metro', 'U.S. Regions', 'International', and 'Travel Forecast'. The sixth column is titled 'Sports' and lists 'Baseball', 'Basketball, College', and 'Basketball, Pro'.

The New York Times **Member Center**

NYTimes: [Home](#) - [Site Index](#) - [Archive](#) - [Help](#) [Log In](#)

Go to a Section Site Search:

[Member Center Home](#) [Your Profile](#) [E-mail Preferences](#) [Times News Tracker](#) [Purchase History](#)

Site Index [News](#) | [Opinion](#) | [Fe](#)

News

International

- [Africa](#)
- [Americas](#)
- [Asia Pacific](#)
- [Middle East](#)
- [Europe](#)

National

- [Columns](#)

Business

- [Media & Advertising](#)
- [World Business](#)
- [Your Money](#)
- [Columns](#)

Technology

- [Circuits](#)
- [Columns](#)

Weather

- [N.Y.C. Metro](#)
- [U.S. Regions](#)
- [International](#)
- [Travel Forecast](#)

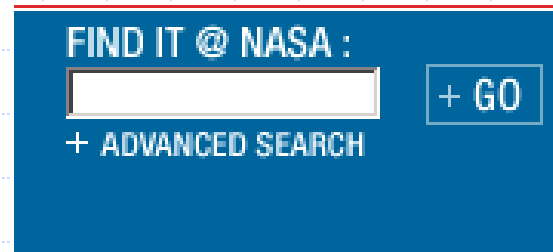
Sports

- [Baseball](#)
- [Basketball, College](#)
- [Basketball, Pro](#)

Supplementary Navigation: Search



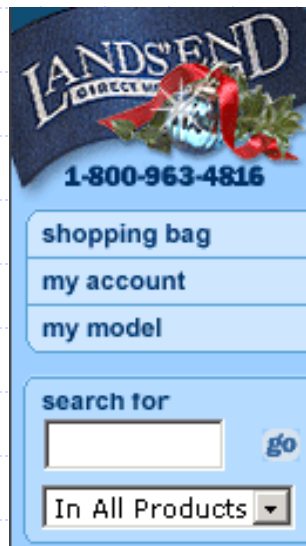
salon.com
NEWS & POLITICS OPINION
ARTICLE FINDER
Search Salon
[input] OK



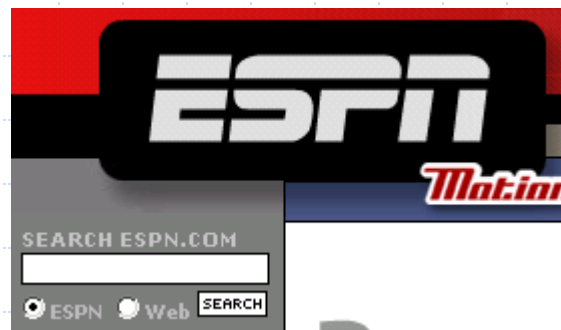
FIND IT @ NASA :
[input] + GO
+ ADVANCED SEARCH



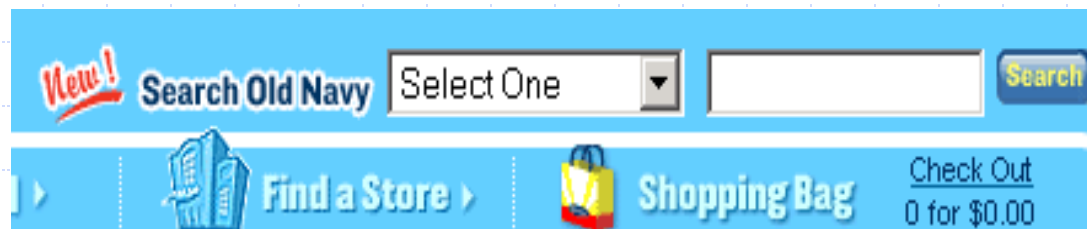
ORBITZ MOST LOW FARES MADE EASY
Flights Hotels Cars Cruises Vacations
Book together and save!
 Flight only Flight + hotel **NEW!**
 Round-trip One-way Multi-city
City name (e.g. Boston), or [airport code](#)
From [input]
 Also search airports within 70 miles
To [input]
 Also search airports within 70 miles



LANDS' END DIRECT
1-800-963-4816
shopping bag
my account
my model
search for
[input] go
In All Products



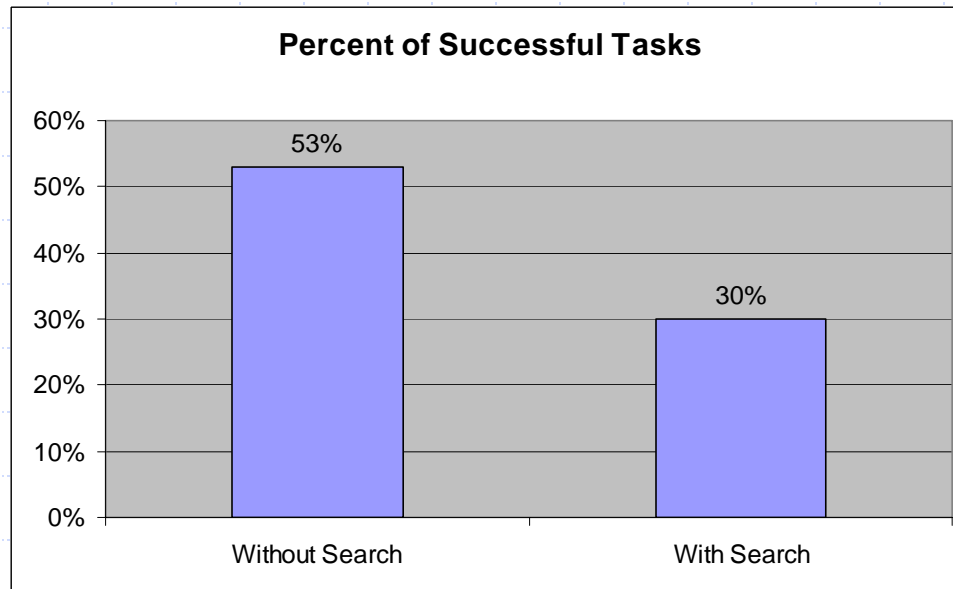
ESPN
SEARCH ESPN.COM
[input] SEARCH
ESPN Web



New! Search Old Navy Select One [input] Search
Find a Store Shopping Bag Check Out 0 for \$0.00

Supplementary Nav: *Searching Sucks*

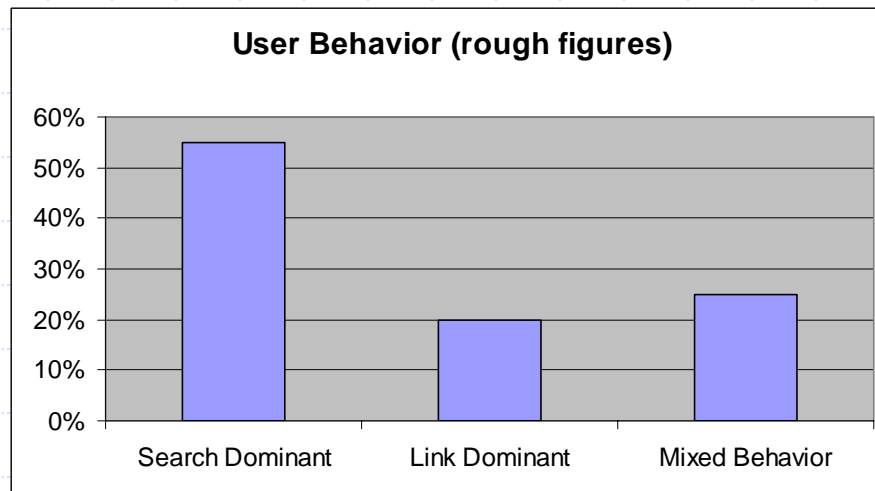
“Using an on-site search engine actually **reduced** the chances of success.”
(1998 Usability Study by User Interface Engineering)



<http://world.std.com/~uieweb/searchart.htm>

...But Users Demand It

"Search is one of the most important user interface elements in any large web site...Our usability studies show that **more than half of all users are search-dominant.**" (*Jakob Nielsen, Alertbox, 1997*)



<http://www.useit.com/alertbox/9707b.html>

Top-down vs. bottom-up IA

“Top-down” IA

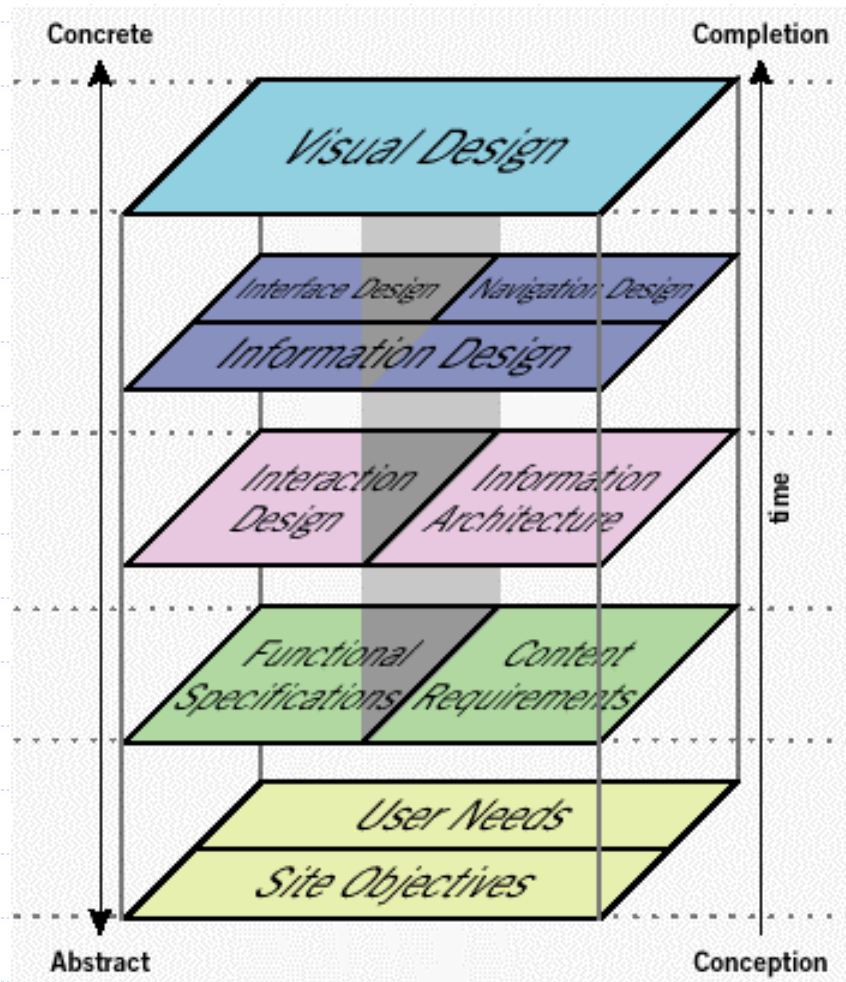
- Birds eye view looking down on the forest.
- Tie together disparate pockets of content for improved searching and browsing.
- Highly focused on users and information needs.

“Bottom-up” IA

- From the ground up, looking at individual trees and leaves on trees.
- Improve searching and browsing within a single, high-volume pocket of content.
- Highly focused on content (content model, document types and meta-information).

Not mutually exclusive—every project includes both.

Where Does IA Fit in the Design Process?



**The Elements of
User Experience**
Jesse James Garrett
<http://jg.net>

User Centered Information Architecture Design Methodology

Iterative process

- ◆ Discovery
- ◆ Definition/Conceptual Design
- ◆ IA Design
- ◆ Handoff-Implementation

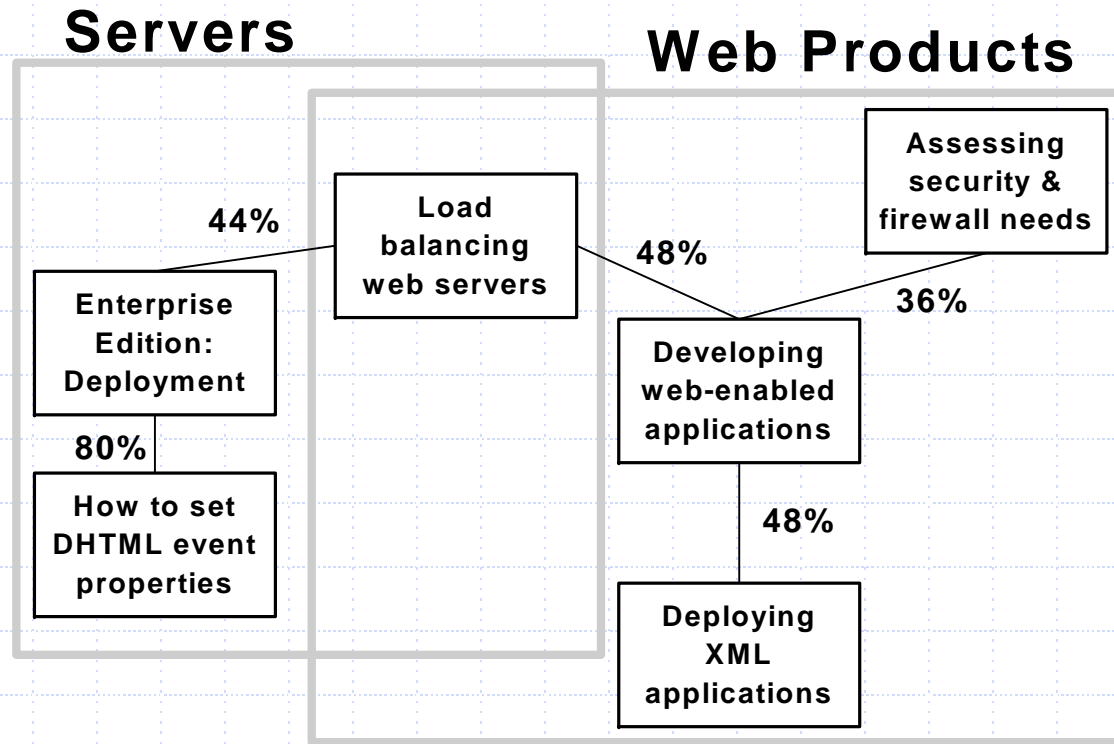
Integrated with content development,
interaction design, graphic design, usability

Communicating Ideas (deliverables)

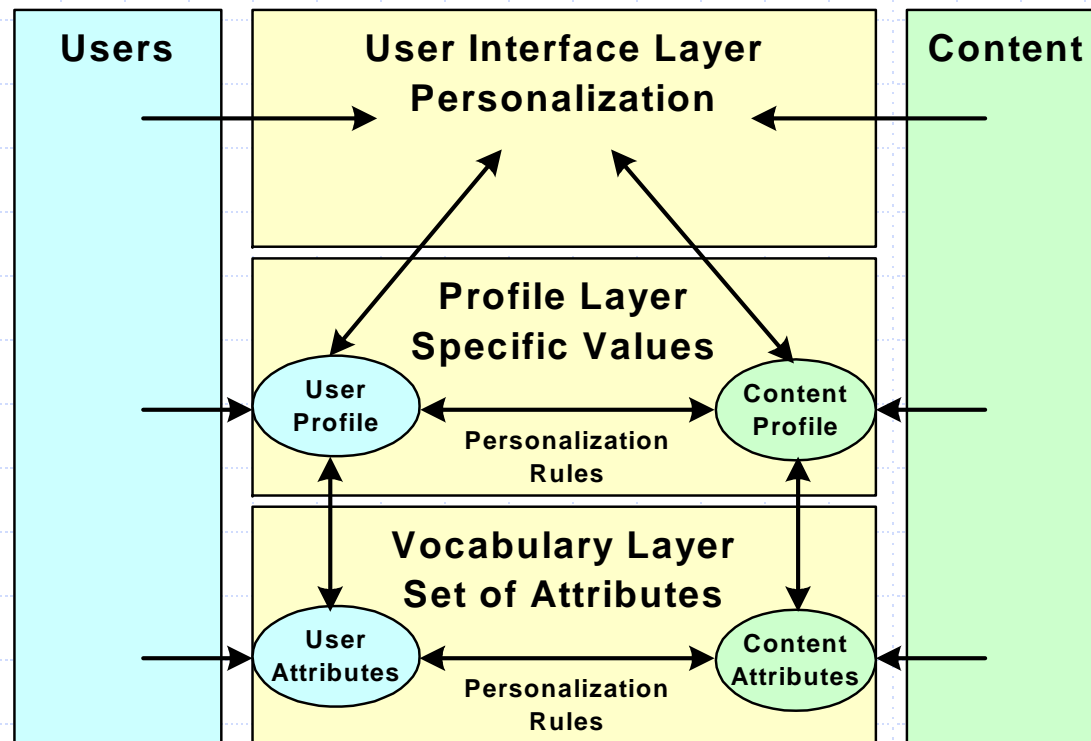
- Diagrams (conceptual)
- Blueprints (structural)
- Wireframes (relational)
- Text (reports, taxonomies)
- Interpersonal (meetings, conversation, blogs)

Affinity Diagram

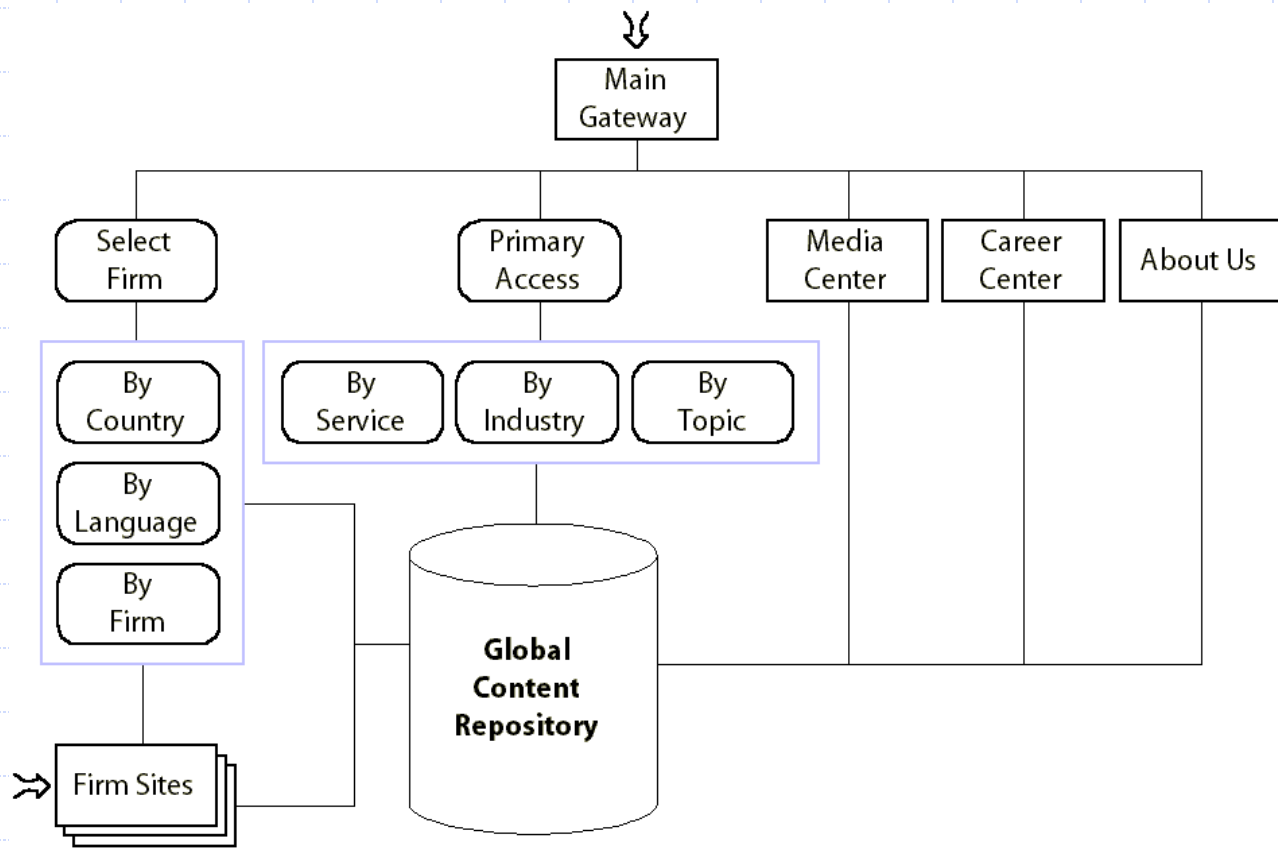
How Users Associate Hardware/Software Content Topics



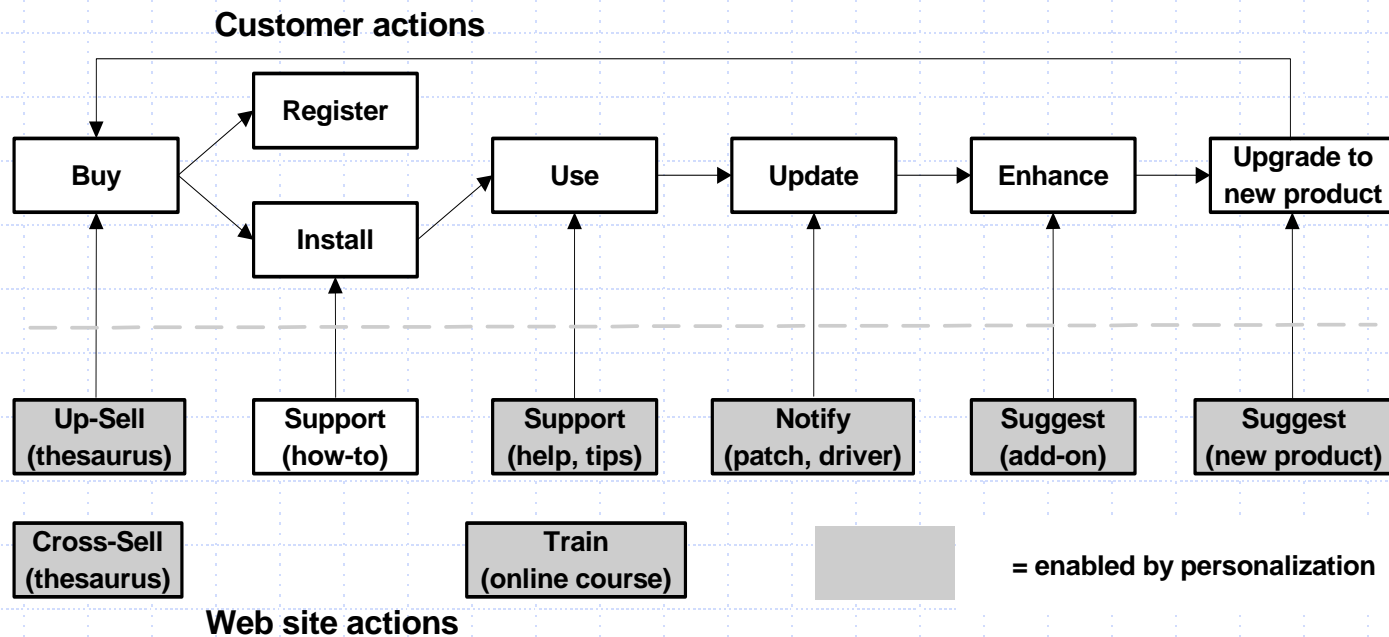
Concept Diagram



Blueprint (Top Down)



Process Flow for Customer Interaction



Main Page Wireframe

Header navigation for site-wide functions.

Tabs represent major categories of services

Primary card classification scheme. Expand level two channels as much as possible.

Promote searching using the wizard on home. Position to catch users not satisfied by channels.

Logo

Banner Ad or Internal Promotion

Banner Ad or Internal Promotion

[Home](#) | [Help](#) | [Login/Signout](#)
[Search](#) | [Site Index](#)

Cards

Invitations

Gift Shop

Gift Certificates

Promotions

My Cardshop

Welcome, Tim! Dad's Day is June 18th. [New Cards](#) | [Most Popular](#) | [Highest Rated](#)
 Send a card for free.

Card Thumbnail
 title: text text
[More Father's Day Cards](#)

Card Thumbnail
 title: text text
[More Summer Cards](#)

Card Thumbnail
 title: text text
[More Music Cards](#)

Reasons to Send

Birthday
[Subchannel](#) | [Subchannel](#) | [Subchannel](#)
[Subchannel](#) | [Subchannel](#) | [more...](#)

Channel
[Subchannel](#) | [Subchannel](#) | [Subchannel](#)
[Subchannel](#) | [Subchannel](#) | [more...](#)

Collections

[Music](#)
[TV](#)
[Movies](#)
[Stationery](#)
[Teen Lounge](#)
[African American](#)
[Spanish!](#)
[Religious](#)

Promo Image (Music)

Calendar [full calendar](#)

date	Holiday
date	editorial holiday
date	editorial holiday
date	editorial holiday
date	editorial holiday
date	editorial holiday
date	Holiday
date	editorial holiday
date	editorial holiday
date	editorial holiday
date	editorial holiday
date...	

Search Assistant

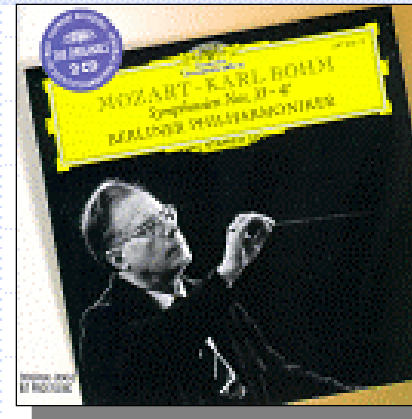
Don't know where to start? I can help you [SEARCH](#)

Search Assistant Image

[learn more](#) | [about us](#) | [investor relations](#) | [advertise with us](#) | [privacy policy](#)
[job opportunities](#) | [contact us](#) | [terms of service](#)

partner ad/offer space

Metadata (Bottom Up)



Definition: attributes that describe a content object

Example Metadata Record: Compact Disc(Amazon.com)

Attributes	Attribute Values
Title	Symphonies nos 35-41
Composer	Wolfgang Amadeus Mozart
Conductor	Karl Böhm
Ensemble	Berlin Philharmonic Orchestra
Genre	Classical
Date Recorded	January 23, 1996

Controlled Vocabulary Table

Products/Services

UI	Accepted Term	Product Code	Variant Term
PS0135	Access Dialing	PCA358	10-288; 10-322; dial around
PS0006	Air Miles	PCS932	AirMiles
PS0151	XYZ Direct	DCW004	USADirect; XYZ USA Direct; XYZDirect card

Project management & Information Architecture

- PM & IA can be a powerful combination
- Sources of tension
- Big IA/Little IA vs. Big PM/Little PM

IA Resources for More Information

■ Online

- ◆ AlfIA (<http://aifia.org>)
- ◆ SIG-IA (<http://www.asis.org/SIG/SIGIA/>)

■ Books

- ◆ _IA for the World Wide Web_ 2nd Ed., Morville & Rosenfeld, O'Reilly, 2002
- ◆ _IA: Blueprints for the Web_ Wodtke, New Riders, 2001
- ◆ _Elements of User Experience_ Garrett, New Riders, 2002

Wrap Up

- Questions?
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