

Why Johnny Can't Find: Some Random Thoughts on Information Architecture

University of Texas
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Who am I?

Louis Rosenfeld LLC

Co-author, *Information Architecture for the World Wide Web* (O'Reilly, 1998)

Co-founder/president, Argus Associates, R.I.P. (1994-2001)

Regular contributor to *CIO*, *Internet World*, and *Web Review* magazines

Lecturer at U. Michigan and on Nielsen/Norman Group speaking tour

Fortune 500 consulting experience (and bias)

The state of web design: a quick check-up

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What do *you* think?

audience poll

What do the experts think?

studies

What might a user think?

review www.bmw.com

The state of web design: what the experts say

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Jakob Nielsen: User success rates on e-commerce sites are only 56%

Forrester: Retailing sites undersell by as much as 50%, reducing repeat traffic by 40%, and eroding brand

Working Council for CIOs: 40% of employees can't find what they need on their intranet

What's wrong?

The obvious answers

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The Web, web design, and related technologies are new, misunderstood

Web is treated differently than other media (double-edged sword)

Who should do the work and how should they collaborate?

Few models (e.g., software design)

Expectations were too high *and* too low

What's wrong?

The deeper issue

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Web has caused revolution in information systems design

- Demands of users, content, and context
- Analogous to emergence of multinationals

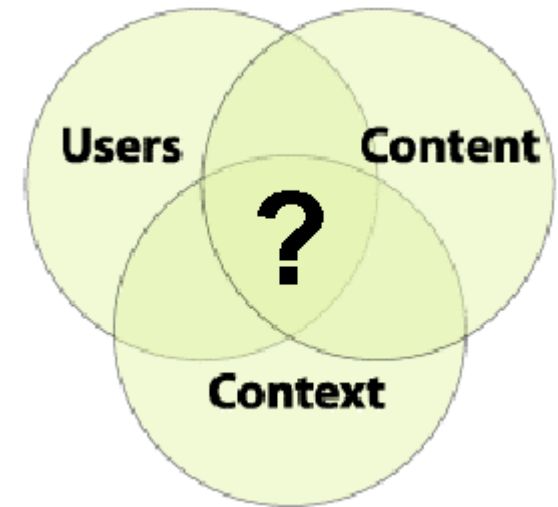
We need a new, applied field

- Analogous to emergence of management
- Borrow tools, methods, models and experiences from existing disciplines that have something to say about information

New fields emerging to address this challenge

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- Interaction design
- Usability engineering
- Information design
- Interface design
- User experience design
- Customer experience design
- Knowledge management
- Information architecture



My focus: Information Architecture (1/4)

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The definition

- The art and science of organizing and labeling information to improve browsing and searching

The thing

- The structure of information and components for searching and browsing that information

My focus:

Information Architecture (2/4)

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The components

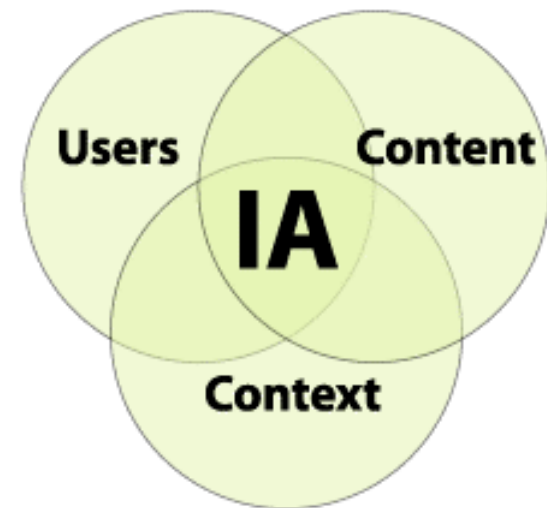
- Taxonomies/hierarchies...
- Labels, indexing, vocabularies, thesauri...
- Navigation elements, tables of contents, site indices...
- Search engines, auto-classification software, other automated tools...

My focus: Information Architecture (3/4)

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The practice

- Balances characteristics and needs of users, content and context
- Three phases:
 - Research
 - Design
 - Implementation



My focus:

Information Architecture (4/4)

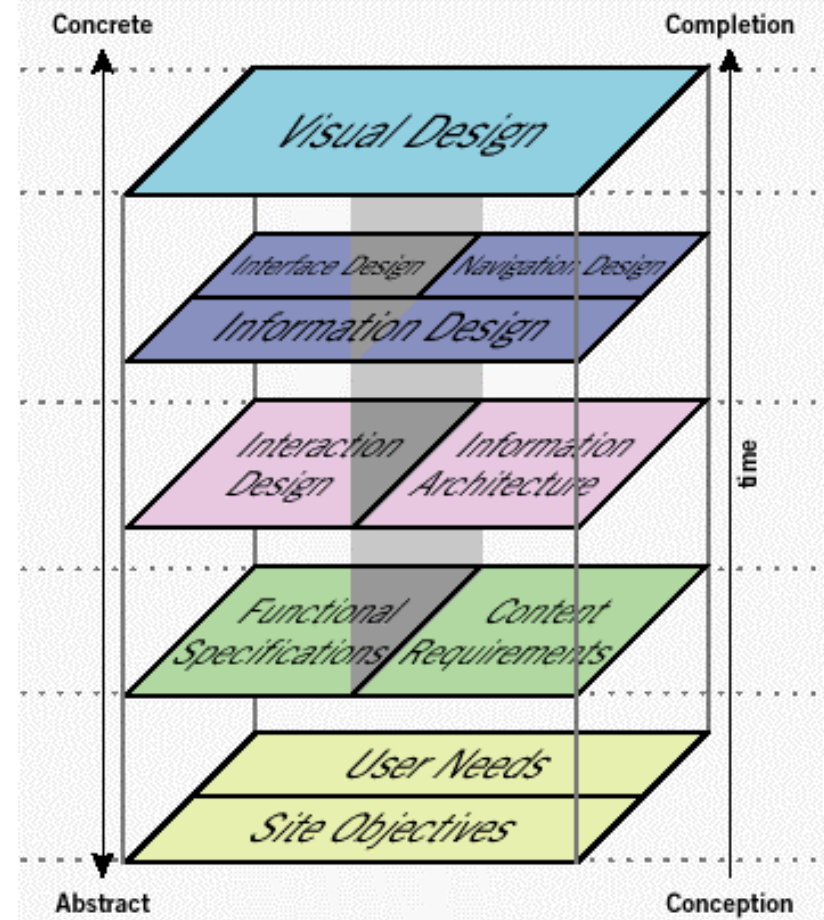
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The product

- Research: heuristic evaluations, strategy reports, competitive analyses, user research, content inventory...
- Design: wire frames, blueprints, navigation rules, vocabularies, search specifications...
- Implementation: policies, procedures, knowledge transfer & training...

Where IA fits

From:
Jesse James Garrett's
"The Elements of
User Experience"



How IA can help

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E-commerce site

Corporate intranet

Call center

On the IA (and web design) horizon: my predictions

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Search results: new ways of representing and visualizing results

Content granularity: content models to match object models

Users' information needs and behaviors: better representations

Metadata: CVs, thesauri for domains

Hybrid architectures: tools and people

Enterprise-wide architectures: how?

Search results

Huge assumption: IR algorithms won't improve, so results presentation must

Can't ask users about algorithms; *can* ask them what they want from results

Areas to consider:

- Selection of content components
- Clustering, ranking and sorting approaches
- Use of visualization techniques

Content granularity

Much riding on content “atoms”

- Content reuse/“single sourcing”
- Improved management & retrieval

But what *is* the appropriate “atom”?

- Object modeling approach useful but too data-centric for unstructured text
- XML focus on syntax, not semantics

May be moot: documents still *the* atom

Users' information needs and behaviors

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How should architectures support:

- Information needs: known-item, open-ended, and exhaustive
- Information seeking behaviors: search, browse, and ask
- Integration and iteration within these

Can we catalog needs/behaviors, then work backwards to understand which architecture components work best?

Advice: (re)read Bates on berrypicking,
Dervin on sense-making

Metadata

For most:

- “Metadata” means fields, not values
- Little emphasis placed on control
- Scope and specificity not understood
- Goal: get this work out of IT, into IA

Unclear how traditional print thesaurus design ports to Web environment

Importance of faceted classification will grow (brush up on Ranganathan)

Hybrid architectures

“Automate or die” --Autonomy

Questions:

- Where do manual efforts fit in?
- How do automated tools together?

We need a model:

- Automated tools should do 80% of IA work/provide access to 80% of content
- Focus manual efforts on 20% of content
- Is there a model that's more specific?

Enterprise-wide architectures

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How to implement an IA for Microsoft's intranet, or Cisco's e-commerce site?

Issues

- Culture and politics
- Centralization versus autonomy
- Resources, tools and expertise
- Time
- Business model

How *you* should address these IA challenges

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For each area:

- Many choices: look outside “native” discipline to learn about them
- Avoid temptation to invent new ones
- Strive to integrate existing choices in new, more effective ways (ultimate goal)

2 pieces of practical IA advice on users

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1. Practice *discount usability*

- Have a few users sit down “think aloud” as they try to accomplish 2-3 common tasks

2. Learn and use *ethnographic methods*

- Investigate your users’ “information ecology”: where does your site fit into the bigger picture of information use?

2 pieces of practical IA advice on content

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1. **Get rid of *ROT*** (Redundant, Outdated, Trivial content)
2. **Implement a content development policy** (add, modify, delete)
 - Reduces inflow of content: determines what can be added and by *whom*
 - Regulates maintenance and makes it more predictable: determines when content should be visited and QCd and by *whom*

2 pieces of practical IA advice on context

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- 1. Business strategy alignment:**
compare site mission with corporate mission
- 2. Anticipate change:** ask decision-makers about upcoming (6-12 months) changes that could affect users, content, context

1 piece of practical IA advice on browsing

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Perform a navigation stress test on random pages in your site

- What is this page about?
- What site is this?
- What are the major sections of this site?
- What major section is this page in?
- What is "up" 1 level from here?
- How do I get to the home page of this site?
- How do I get to the top of this section of the site?
- What does each group of links represent?
- How might you get to this page from the site home page?

1 piece of practical IA advice on searching

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Institute *no-dead ends* policy

- Poor search result sets should allow refining of search or support browsing as alternative
- Browsing should easily lead to searching
- Browsing and search should give way to *asking*
- Orphan URLs should lead to intelligent “404 Not found” page

1 last piece of IA advice for students (and educators)

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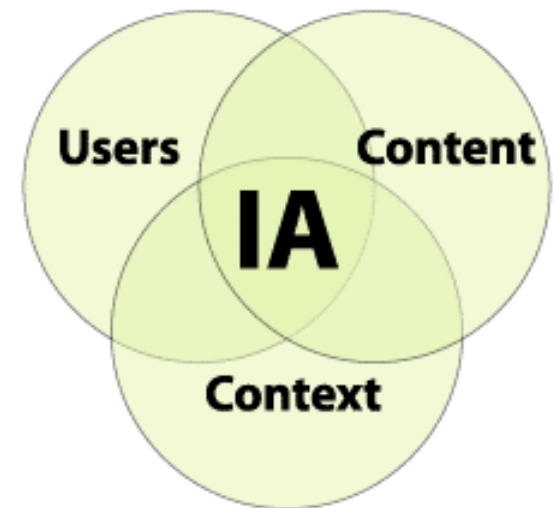
If you **major** in one of these
areas...

...then **minor** in another:

Users: usability engineering,
ethnography, marketing...

Content: LIS, data modeling, mark-up
languages, tech. comm., journalism...

Context: mgmt. consulting, org.
behavior, systems engineering...



Wrap up

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Questions and answers

Discussion

This presentation is available from

<http://www.gslis.utexas.edu/~iag/>

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