
**Information
Architecture
for the Web**

Module 1: **Build a
Performance
Framework**



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1

Module 1: Build a Performance Framework

As information architects we must help users see the untapped potential of information structure. We must strategize, plan, render, manage, build, and measure so we can help organizations improve performance, boost productivity, and increase profitability.

Thom Haller, *Design Matters* newsletter, 2001

Objectives:

- 1.1** → **Explore the performance environment of the Web**
- 1.2** → **Identify a frame for structuring information**
- 1.3** → **Discover the relationship between user goals, tasks, and actions**
- 1.4** → **Write a scenario that includes audience, purpose, and context**

Introduction

**Who is the audience?
What is their purpose?
How do we measure
success? These questions
serve as the core for
building a performance
framework.**

In working with students we often find their biggest questions are not about what information architecture is and if they can be information architects. They want to know how they can build a foundation so people can get their jobs done.

In this module, we'll explore that question. How can we build a foundation so people can get their jobs done? We'll begin by discussing the fundamental choices that help us craft a usable communication product.

Who is the audience? What is their purpose? How do we measure success? These questions serve as the core for building a performance framework.

1.1

Explore the performance environment of the Web

Why does performance matter?

Successful user performance is essential to business success on the Web. And it's essential that the information architecture supports business objectives. The challenge is to build a successful site that supports the client's business objectives while enabling users to accomplish their goals.

Usability goals are business goals. Websites that are hard to use frustrate customers, forfeit revenue, and erode brands.

**Forrester Research,
Why Most Websites Fail**

Performance matters to business

The user's experience matters to business. Research supports this. After analyzing 3,500 global companies, Forrester research concluded that good user experience is critical to online success. They found that positive experiences lead to loyalty. Ease of use was the most important element of a site's design and industries such as banking and commodities rated usability as the most important contributor to site success.

Unfortunately, research shows that haphazard design and development processes keep most firms from discovering and correcting the causes of user-experience problems. Forrester results from 2002 show that of the site owners they interviewed, most changes were described as updating the look and feel or making the site simpler. "None," they reported, "had specific measurable goals for their site's redesign." Few focus on accomplishment.

Performance matters to users

Research shows that throughout the 20th century, consumers began to understand and articulate their needs as readers. They began to voice that readers' needs deserve to be met. Karen Schriver articulates this attitude in her book, *Dynamics in Document Design*:

Readers now recognize that unintelligible documents are not natural disasters that have to be accepted like summer squalls or sleet storms. Rather they know that poor documents are human artifacts produced by organizations that could be encouraged to take readers' needs more seriously.

Karen A. Schriver, *Dynamics in Document Design*, 1994

Performance is accomplishment

Information architecture = improved performance

Users look for structure. People approach information with a purpose in mind, with a task they need to accomplish.

"Performance is accomplishment" wrote Thomas Gilbert, an engineer who

explored ways to improve human performance and systematic methods for presenting information. He explained that improved information has the potential for creating more competence in day-to-day management of performance.

We can improve the clarity, relevance, and timeliness of the data designed to inform people and we can improve people's ability to use existing data. Good information architecture serves both functions.

What are “huge amounts”?

- For each dollar a company invests in developing the usability of a product, the company receives \$10 to \$100 in benefits and wins customer satisfaction and continued business. Furthermore, industry data shows that for each \$1 spent to fix a problem during product design, \$10 are spent to fix the same problem in product development, and \$100 or more are spent to fix the same problem after product release.

Compuware Corporation

- Bay Networks spent \$3 million and two years studying the structure of information—and then saved \$10 million each year.
- FedEx reported that “as part of [a website] redesign, we brought a lot of features to the home page that had been buried three clicks in.... Our carrier site was two to three clicks down. Now it's on the home page, and we've seen a 300% increase in its usage.”
- In a three-year survey of businesses in the United Kingdom, the Design Council of Britain collected information on the measures of effectiveness by focusing on information design:
 - Improved product and service quality 73%
 - Improved image 69%
 - Increased profit/turnover 65%
 - Developed new markets 65%
 - Improved customer communication 65%
 - Increased market share 56%
 - Cut costs 41%
 - Improved internal communication 36%
- In the spring of 1999, Ameritrade ran one of the slowest brokerage sites on the Web. Today, the company consistently ranks among the five fastest websites for executing stock trades. What happened about 18 months ago was that Ameritrade made website performance a focal point for its IT department, investing substantial sums in infrastructure and testing tools. As a result, Ameritrade's user base soared from 400,000 to 1.4 million.

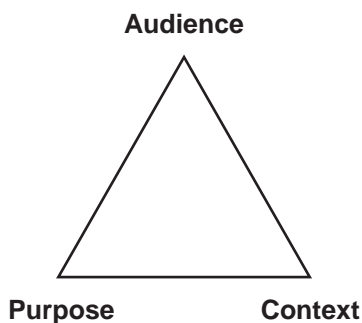
1.2

Identify a frame for structuring information

Increasingly, consumers have come to understand that they have needs as readers and these needs deserve to be met.

Karen A. Schriver, *Dynamics in Document Design*, 1994

How do you know who your users are? How do you know what they want? What can you do to help them in the context of their workplace? You can begin by building a “frame” of your audience. You can begin to understand and build a user-focused foundation. This section introduces the frame and the frame’s three components.



The rhetorical triangle: A frame for envisioning information.

Building a frame

We suggest you begin to assess your Web environment by envisioning a triangle. We refer to this as a “rhetorical triangle” because you are beginning to think of your information “rhetorically”—paying explicit attention to the needs of the audience and building documents based on three general guidelines: understanding who the users are, understanding what they want to do, understanding the context of their work and the relationship between what they want to do and what your organization wants them to do.

Ask these questions at all times:

- Who is the audience?
- What is their purpose?
- How do you measure success?



Tip

Tip: Create a frame by connecting your index fingers and thumbs in a triangular shape. Imagine you have the opportunity to fit all your content through this frame of understanding and ask:

- Does the content support your user?
- Does it help him or her do what he or she is supposed to do?
- Does it help your user in the context of his or her work?

Audience

We need to build documents that help users learn, make decisions, and get their jobs done. But how do we know who our users are?

This section explores how users rely on mental models to do their work, identifies questions for knowing more about your users, and provides an opportunity to categorize them.

Explore mental models

Your users will build mental models to create associations between information that they already know (existing mental models) and information (words, pictures, sounds, and smells) they are learning. They don't assimilate information in a vacuum—assumptions underlie their thinking.

Let's think about mental models we might have. If we saw a button underneath a floppy disk drive, what would we expect if we were to push it? Typically we expect the disk to pop out, but many users of Dell computers faced disappointment after Dell placed the on/off switch in that position—underneath the slot for the disk drive.

Think about the mental models you have when you encounter a Web screen. Do you see blue words that are underlined? What do you expect will happen if you move your mouse to the underlined words and click? Would you expect the same thing when they are red? Would novice Web users expect this if they learned that links are blue?



Individual Exercise

Exercise: Recognizing mental models

What other mental models do you have when using the Web?

Are your assumptions always correct?

What happens when they are not correct?

How can you, as a Web developer, use these mental models to your advantage?

When you must accommodate multiple users, the best strategy is to permit a level-structured (layered) approach to learning.

Ben Shneiderman, *Designing the User Interface*, 1998

Know your audience

Ask yourself the following questions about your audience:

- Do my users have the same understanding and experience that I do as the writer (knowledge and experience)?
- What are their expectations and points of view (purpose and concerns)?
- What is your relationship to the users? Are you ready to write in a way that will help them (role)?
- What are your users' attitudes about what you are going to write (approach)?
- What persona will you use? Is there an organizational tone or context in which you will write (tone)?

Knowledge and experience. How much does the audience know? The knowledge and experience of your intended audience are key factors affecting your finished written piece. This is more than simply word choice. When writing for a lay audience, you must know whether your readers understand underlying concepts, definitions, and assumptions. When writing for a professional audience, you must make adjustments for different backgrounds, knowledge, and experience.

Purpose and concerns. What brings your audience to your website? Imagine that you are writing about a procedure. People approach procedures with different purposes and concerns. One user may want to perform the procedure; another user may want to evaluate one procedure against another; yet another reader may simply want general information because he or she is interested in the topic.

Role. Who is using the website—shoppers, clients, co-workers, professional peers, students, or researchers? You need to adjust the approach and tone of your writing depending on your relationship with the audience. Your relationship also affects the content you choose. Are you an advocate who is reporting back to concerned citizens? Are you arguing for acceptance of new information or theories within a professional community? Are you a spokesperson for a company who must persuade potential customers?

Approach. How does the audience feel about your information? The attitude of the audience should affect how you present information. If you have an unfriendly or hostile audience, you must ensure that you state your position clearly in language that is understandable, but not patronizing. Readers' attitudes may affect the language that you use.

Tone. Is there a persona you must adopt to match the corporate culture of the intended audience? In your Web presentation, you must project the values and attitudes of the organization for which you work. As an information architect, you may have responsibility for ensuring that the site's tone supports business objectives and user needs. Research the organization's correspondence, reports, and official publications to determine what sort of tone has been adopted. Build a corporate style manual to encourage a consistent tone.

Categorize users

As we learn about our users, we can use category structures to define them more fully. Consider these categories:

- Level of experience
- Web familiarity
- Functions (job classifications)
- Psychological barriers
- Cultural factors
- Personal challenges



Group Discussion

Exercise: Identifying your audience

As a general framework to learn about your users, ask these questions:

What are their levels of experience (novice, intermediate, expert)?

What is their Web familiarity? What mental models do they bring to a site?

What are their functions or job classifications (executive, manager, staff)? How do they use information differently?

Are there any psychological barriers (where would they place themselves between disinterested/hostile, and overeager/engaged)?

Is your audience influenced by cultural factors?

Are there any personal challenges (language barriers, physical disabilities, age considerations)?

Purpose

Web users want convenience and results. They have a job they want to get done. Your goal as an information architect is to understand what people want to *do* with their information. You need to identify, verify, and document user needs and goals. This means you need to observe and talk to the different types of users who will be at your site. You need to understand what they know, what they need to know, and how you can help them use their information better.

Right now you may think, “I don’t have an opportunity to know my users. I don’t talk to users.” Rethink your approach. The more you know about your audience and their purpose, the better your results will be.

Context

Web readers scan, rather than read word-for-word. You might say they work in a complex environment, where they mix their knowledge of the information with their visual understanding of signs.

We might think of context as the situation in which readers use the information. Our message and its presentation takes place within constraints—both mental and physical.


The more you know about the context in which a user looks at information, the better you will be able to support them with architecture that works.



Online
Reference

Refer to online examples

To look at examples of audience, purpose, and context on the Web, please refer to Module 1 on your class page, <http://www.infodotdesign.com/class/ia>.

1.3 

Discover the relationship between user goals, tasks, and actions

The heart of the problem is a lack of firsthand, carefully considered understanding of the users, their tasks, and their environments.

JoAnn Hackos and Ginny Redish, *User and Task Analysis for Interface Design*, 1998

Envision goals

When Web users access information, they have a purpose in mind. This section explores how people envision goals and complete tasks.

As Web developers and information architects, we often ask:

- What are my organization’s goals for this site? (Goals are often vaguely stated.)
- What content should be on this site?

Goal-oriented questions help us begin to structure information, but we must understand user goals as well as company goals. We also must see the relationship between a goal such as gathering information and tasks such as finding and comparing statistics for specific years.

As research tells us, communication products succeed when they help users meet their goals. Websites fail when goals are too difficult for users to achieve—when people can’t accomplish their tasks to complete goals.



Individual Exercise

Exercise: Defining your organization’s goals

What does your organization want to achieve by building a website?

What broad goals do your users/customers have?

Identifying tasks, and actions

We can begin to understand the purpose of the site by looking at:

Tasks. What someone does to achieve a goal. Tasks have an observable beginning and end. The user knows when a task starts and when a task is completed. Tasks are verb-based, *e.g.*, define, list, locate, complete, submit.

Actions. The specific physical movements or mental decisions necessary to accomplish a task. Actions are often articulated by processes and procedures.

Before we begin structuring a website to meet users’ needs, we need to understand their general goals for a site and the specific tasks they hope to accomplish.

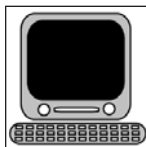


Individual Exercise

Exercise: Identifying your organization’s tasks

What specific tasks do users want to accomplish on your site? Name five:

1. _____
2. _____
3. _____
4. _____
5. _____



Online Exercise

Exercise: Understanding goals and tasks

Go to the class website <http://www.infodotdesign.com/class/ia> and select *GSA Exercise*.

Context: You are a government contract manager seeking information on hiring a systems programmer using the GSA schedule. You are familiar with government lingo such as *contract vehicles* and *IT Professional*.

Goal: Find a systems programmer to hire using the GSA’s *IT Professional Services Schedule*.

Task: You want to hire a programmer with 3 to 5 years’ experience and a degree. You anticipate paying an hourly rate of \$60-\$80.

Action: Work in pairs. Compare three sites from the list provided. Think about the relationships between the tasks you tried to perform and the types of information you needed on the site to perform those tasks.

- What are the tasks you want to perform?
- What are the tasks the site lets you perform?



Question

How might the text and structure of the sites better support users looking for specific information?

How might the information be different if there were different audiences or purposes?

Overall, how can your knowledge of audience and purpose affect your final product?



Individual Exercise

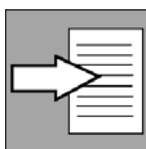
Exercise: Identifying goals and tasks

Work on your own.

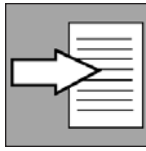
- **Select a website** with which you are familiar (your own, perhaps).
- **Think of a goal** a user might have when they visit the site. Goals can be broad, such as “Buy a car.” Write down the goal. **Use the form on page 30, Module Supplement 1A.**
- **Think about users.**
 - Who are they?
 - Why would they have this goal?

Write down any information about a user’s situation or purpose. For example, “A prospective car buyer wants to research convertibles to buy for a recent college graduate.”

- **Think of a task** that would support this goal. Be as specific as possible. For example, “Find the safety ratings for three different American-made convertibles manufactured this year.”



Module Supplement



Module
Supplement

Refer to the verb list in the Module Supplement 1B, page 31, to get ideas for your task list.

- **Write down three goal-task pairs.** You may choose to have multiple tasks to support each goal. Be sure to write down a description of the user for each goal-task pair.



Group
Exercise

Exercise: Testing goals and tasks

Work with a partner.

- **Trade your lists of goals and tasks with your partner.** You should each have three goal-task pairs from each other's websites.
- **Ask your partner to complete a specific goal.** As your partner works on completing the goal, they should talk aloud about what they are thinking and doing. Take notes.
- **Be quiet.** Listen to what your partner is saying and don't tell your partner where to go on your site. Do not interfere or try to assist in any way. Sit on your hands if necessary!
 - Refrain from pointing at the monitor.
 - Refrain from telling your partner how or why your site was designed the way it was (if you know). Just listen to what your partner is saying as they think aloud during this part of the exercise.
- **Do this for all three goal-task pairs.**
- **Trade places** and complete your partner's goals-task pairs.

1.4 

Write a scenario including audience, purpose, and context

Scenarios attempt to communicate to others the stories of how people will work in the new system. They provide detail about the activities and tasks that users must accomplish to fulfill their goals.

For example, a retail site shopper might scan the homepage for a product category, select an item, use a tool to compare it to other products, then check out. A scenario would help walk them through the process. It would consider the context in which the user is shopping—perhaps last minute shopping with a high demand for efficiency.

Certainly it's best to talk to your users and use this knowledge as you begin to structure information to serve them. But if you don't have the opportunity immediately, the scenario is a good place to start.



Individual Exercise

Exercise: Writing a scenario

Describe one of your audience members walking through the actual context of trying to accomplish a goal and task.

What brings this person to your website?

What drives him or her through the information?

Do all your hypothetical users think alike?

How do you allow for variation?

Module Supplement 1A Exercise: Identifying Goals and Tasks

Think about your site. Who is your audience?

What are your goals?

List five specific tasks someone would want to accomplish to achieve this goal.

1.

2.

3.

4.

5.

Module Supplement 1B: Verb List

Access	Estimate	Prepare
Administer	Evaluate	Prioritize
Advise	Exchange	Provide
Analyze	Explore	Question
Answer	Express	Read
Apply	Feel	Recommend
Approve	Find	Recruit
Assess	Gather	Register
Assign	Get	Replace
Auction	Group	Reply
Buy	Go	Research
Build	Help	Return
Calculate	Hire	Review
Call	Identify	Sample
Check	Indicate	Search
Choose	Initiate	See
Collaborate	Interpret	Select
Collect	Investigate	Sell
Communicate	Judge	Send
Compare	Learn	Share
Complain	Link	Substitute
Complete	Listen	Suggest
Configure	Locate	Supply
Confirm	Look-up	Surf
Consult	Maintain	Target
Contact	Make	Teach
Contract	Market	Track
Contribute	Monitor	Train
Control	Motivate	Understand
Coordinate	Move	Uplink
Correspond	Navigate	Upload
Customize	Negate	Use
Decide	Negotiate	Utilize
Decipher	Nominate	Validate
Decode	Note	Verify
Delete	Notify	View
Determine	Observe	Visit
Differentiate	Obtain	Voice
Discover	Order	Watch
Discuss	Outsource	Work
Do	Pay	
Donate	Place	
Download	Populate	
Enroll	Practice	

