



METHODS OF INFORMATION ARCHITECTURE

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LAYING THE FOUNDATION FOR A HIGH-END USER EXPERIENCE

Do all websites have the same shelf life? No – as [the Atlantic's Adrienne LaFrance writes](#), "Most web pages die after a couple of months. The average lifespan is something like 100 days. That's longer than it used to be. In the late 1990s, the typical web page lasted for around 44 days."¹

But despite the fleeting nature of websites, more and more pop up each day – according to [Internet Live Stats](#), there are now more than 1 billion websites.

How, then, do you ensure that the information you host on your website – which is important enough to warrant creating a website to host it in the first place – is accessible, relevant, user friendly, and ideally, long lasting?

A great place to start is by understanding Information Architecture (IA) and the important role it plays in the field of UX Design. Designers do IA on a daily basis – from conducting research to creating wireframes, from deciding content placement to laying out page navigation.

In this paper, we'll explore what we mean when we talk about Information Architecture. We'll also explore different methods to get Information Architecture right. We think IA is central to designing a long-lived website or application.

In creating a website or application that prioritizes user experience, you're turning the user's complex mental model into a live, interactive information system – thus, knowing the what, how, and why of IA is essential.



¹ Adrienne LaFrance. "How Many Websites Are There?" The Atlantic. September 30, 2015.

DEFINING INFORMATION ARCHITECTURE

Information Architecture is simply “what goes where,” both in the navigation and on the pages. Information Architecture is not focused on aesthetic design, or in the creation of all final content that will be included on a page; rather, it’s the architecture of pages, content, and links.

Louis Rosenfeld, Peter Morville, and Jorge Arango provide a helpful analogy in “Information Architecture, For the Web and Beyond,” comparing Information Architecture to traditional building architecture:

What is it about buildings that stirs us? Whether we’re architectural connoisseurs or just plain folks, we are all emotionally engaged by the physical structures we experience throughout our lives.

Each building serves a different purpose. A bustling cafe with hardwood floors and large windows facing Main Street provides the ideal place for a quick breakfast meeting. A steel-and-glass high-rise with its mix of cubes and offices envelops inhabitants in a collaborative,

high-energy work environment. A dark, smoky bar with tin ceilings and exposed brick walls becomes a sanctuary from the whirl of modern life. And a medieval Gothic cathedral adorned with granite sculptures, stained-glass windows, and towers that reach for the heavens provides an experience both humbling and inspirational.

Each building serves its purpose uniquely. Architecture, design, construction, furnishings, inhabitants, and location all play major roles in shaping the overall experience. All elements must work together. In successful buildings, the whole is greater than the sum of its parts.

Different websites serve different purposes as well. E-commerce websites guide you through a streamlined customer experience of finding and purchasing the product you need, whereas news websites engage and educate audiences about current events. Given the conventions and patterns of modern digital experiences, users have certain expectations of the websites they access, regardless of the type of website it is.

IA is: What Goes Where	IA is not: Aesthetics and Visual Design
Sitemap/Site architecture	Colors
Page types	Images
Page structure	Brand
Navigation patterns	Motion
Global elements	Video
Story outline	Icons
Object placement	Multimedia
Content organization	Style

The authors provide a final perspective on IA:

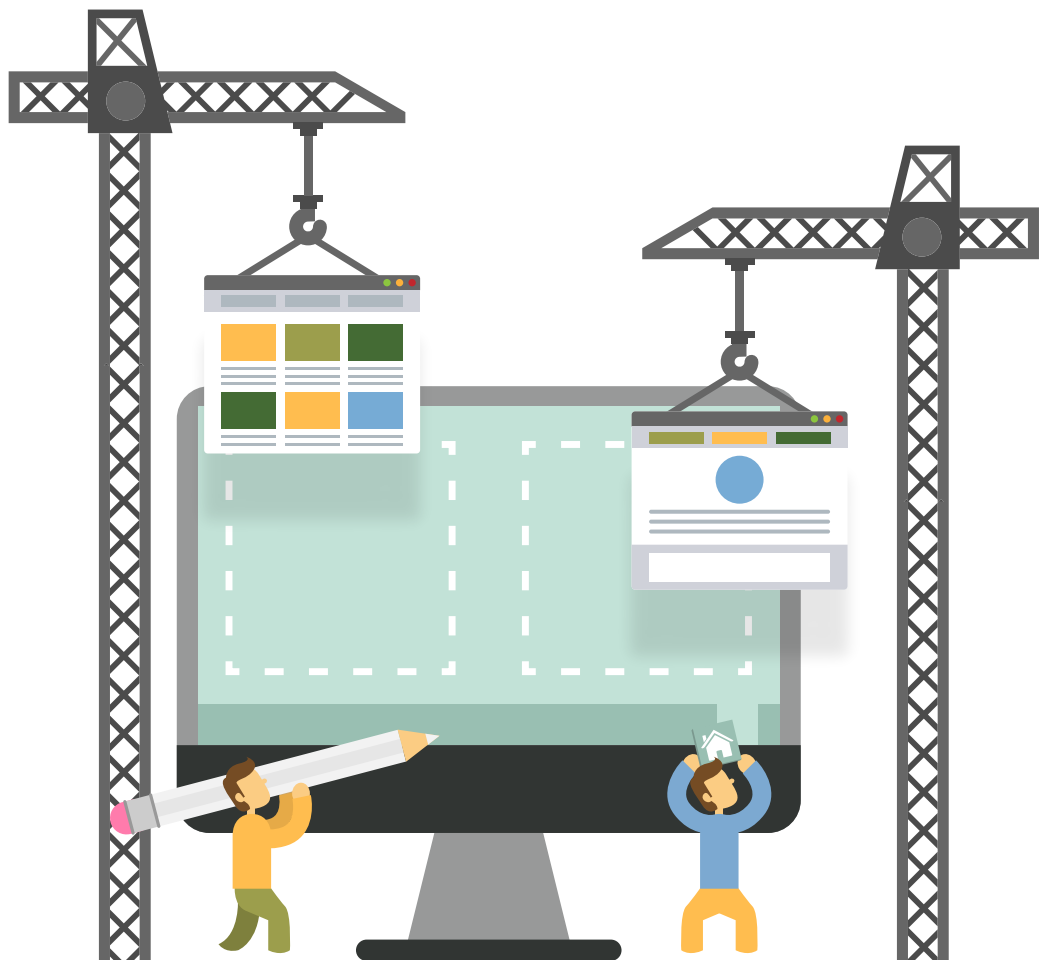
[Information architecture involves both art and science] . . . The practice of information architecture will never be reduced to numbers; there's too much ambiguity and complexity. Information architects must rely on experience, intuition, and creativity. We must be willing to take risks and trust our intuition. This is the "art" of information architecture.²

Determining structure is essential. It allows you to identify and alleviate pain points. It allows you to create and display content that speaks to your users at an emotional level.

But creating a truly memorable user experience isn't as simple as making information organized and efficient to find.

To get at the deeper layers of what Information Architecture makes possible, it's essential to understand it as a storytelling tool as well.

Like a bustling cafe or a majestic skyscraper, like a dimly lit bar or a medieval Gothic cathedral, each digital experience will have its own look and feel. Designers who can appreciate how to leverage Information Architecture to create efficient and compelling experiences will have a distinct advantage in creating a long-lived website in a dauntingly competitive space.



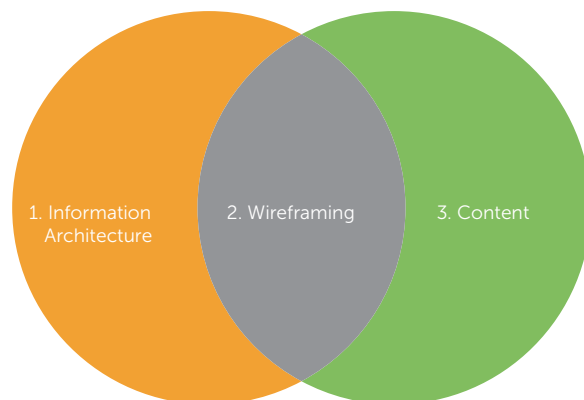
² Louis Rosenfeld, Peter Morville, and Jorge Arango. Information Architecture: For the Web and Beyond. 4th Edition. Page 3.

WHY WE ADVOCATE FOR INFORMATION ARCHITECTURE

As a whole, Information Architecture isn't focused on high-fidelity design because at the beginning stages of the design process, we're not focusing on how beautiful the product looks. We're prioritizing what goes where in the interest of creating a sturdy foundation.

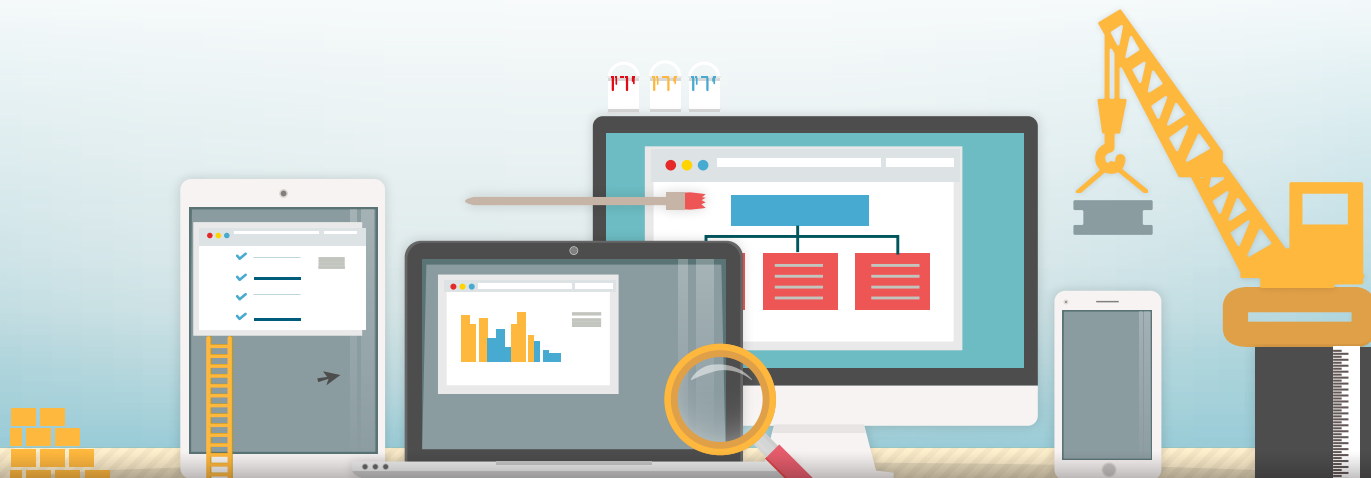
[Jakob Nielsen writes](#), "One of the biggest challenges in website and intranet design is creating the information architecture: what goes where? A classic mistake is to structure the information space based on how you view the content — which often results in different subsites for each of your company's departments or information providers. [...] Rather than simply mirroring your org chart, you can better enhance usability by creating an information architecture that reflects how users view the content."³

Areas of Overlap



IA and Content are both laid out on wireframes. Wireframes serve as the bridge between the two. When we think about wireframing, we're focusing on the placement and structure of things, without spending time on aesthetics or finalized content. Architecture focuses on hierarchy, priority, and story, which results in the placement of assets.

If you're just thinking about where things go in the interest of being organized, you might be missing the point. Tie IA back to the user and what they care about. It's important to create a structure that fits the user's mental model, filling it with content that speaks to their needs and emotions.



³ Jakob Nielsen. "Card Sorting: How Many Users to Test." Nielsen Norman Group. July 19, 2004.

There are a variety of questions that arise when determining Information Architecture. These questions focus less on organization, and more on developing a navigation scheme that fits the mental model of users.

Page Architecture Analysis



1. When viewing site analytics, do the findings reinforce that users are accessing certain pages over others?
2. What about frequency? What gets visited and what does not?
3. Is there a common sequence to pages visited?
4. When do users leave the site?
5. What pages do they see first?

Navigation Architecture Analysis



1. What needs to be in the navigation? What doesn't?
2. What CTAs should be included in the navigation?
3. Are user stories represented well in the navigation?
4. Where are navigation elements located? Does this follow convention?
5. Do users have access to a sitemap – in the footer – to find everything they want?
6. Do they have access to search for less important items?

Content Architecture Analysis



1. What types of content do various personas care most about?
2. Are there clear entry paths for different users?
3. Do users care about the content you're including?
4. Do you know what content users care most about?
5. Can you combine multiple pages into a single page that enables scrolling?
6. What content should be more connected?

5 METHODS OF INFORMATION ARCHITECTURE

The Methods of Information Architecture we utilize at Fresh lead to clarity, efficiency, simplicity, and understanding. In the interest of creating an organized, logical, and emotionally compelling IA, we recommend 5 key methods that result in stronger Information Architecture Deliverables:



Research

Conducting user interviews, user testing, and analytics aids in the creation of a logical structure and understanding of user needs



Card Sorting

Organize and prioritize information according to the user's mental model



Affinity Diagramming

Researchers and designers organize and clarify fuzzy data to make it concrete



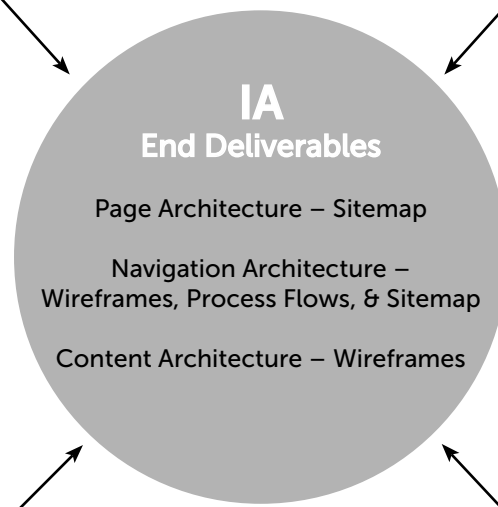
OOUI

Object Oriented UI puts information in objects and prioritizes it for various users



User Stories & User Flows

User stories help us understand the goals, needs, and tasks users want to complete; and user flows allow us to create a pathway through the story



RESEARCH



Conducting user interviews, user testing, and analytics aids in the creation of a logical structure and understanding user needs

Research is a broad umbrella for several IA methodologies: User and Stakeholder Interviews, User Testing, and UX Analysis. By developing a comprehensive picture of who the users

are, what their needs are, and what trends are occurring, you can create a structure that fits the mental model – that is, how they conceptualize the experience. This leads to usability and efficiency.

How to Do It

User Interviews: Reveal background details and insights to better understand user behavior. Uncover problems, needs, and goals.

Key Task: Interview both users and stakeholders to identify a hierarchy of needs/wants

User Testing: User testing early on helps unearth problems that need to be fixed, validate what the most important issues are, and evaluate whether hypothesized solutions are truly improvements.

Key Focus: Find out what's working and what's not; validate or invalidate IA decisions

UX Analysis: Understand usage patterns from analytics that further shape the solution. Discover issues and gather data in the process to validate issues and improvements.

Key Questions: What gets visited and what does not? What pages are most important?

Tools of the Trade

Video recordings, audio recordings, user observation, user testing software, expert review, web and device analytics

CARD SORTING



Organize and prioritize information according to the user's mental model

Card Sorting is a tool that allows you to prioritize and organize information in a way that accurately represents the user's mental model.

[Jakob Nielsen writes](#), "Card sorting is a generative method: we don't yet have a design, and our goal is to find out how people think about certain issues. There is great variability in different people's mental models and in the vocabulary they use to describe the same concepts. We must collect data from a fair number of users before we can achieve a stable picture of the

users' preferred structure and determine how to accommodate differences among users."⁴

You can use physical index cards or online card sorting software, but the key is allowing a representative sample of users, without guidance, to manipulate information into categories that are logical to them. Users then help in labeling the categories. The process gives teams an understanding of what navigation hierarchy makes the most sense to the people who will be using the product.

How to Do It

Step 1: Prepare the cards. Provide participants with cards listing the content/information you will have on your site, albeit with no predesignated themes or categories.

Step 2: Allow participants to sort cards into groups (representing site content) that make sense to them. Asking participants to think aloud while sorting is helpful.

Step 3: Allow participants to label and describe each created group.

Step 4: Take notes and photos, and follow up with clarifying questions if necessary to document the session.

Note: This method allows users to manipulate information, giving designers an understanding of their mental model.

Tools of the Trade

Whiteboards, index cards, recorded live observation, online card sorting software

⁴ Jakob Nielsen. "Card Sorting: How Many Users to Test." Nielsen Norman Group. July 19, 2004.

AFFINITY DIAGRAMMING



Researchers and designers organize and clarify fuzzy data to make it concrete

Affinity Diagramming takes indistinct information and makes it actionable and concrete. It allows teams to reach consensus – by organizing, categorizing, and labeling qualitative and quantitative data points, you develop a better

understanding of user behavior and users’ mental models.

Affinity Diagramming allows teams to sort through and organize robust data sets efficiently. This data can then be used to create other design artifacts.

How to Do It

Step 1: Gather qualitative and quantitative data through interviews, contextual inquiry, user observation, and other relevant methods.

Step 2: Commit all data points to sticky notes.

Step 3: Post the transcribed data to a large whiteboard, which enables manipulation.

Step 4: In a pre-designated “timebox,” organize the data thematically based on the insights it provides about users and their response to the design challenge.

Step 5: Organize – and reorganize, as needed – the individual points into meaningful categories that can be used to create accurate personas, logical layouts, and intuitive interactions.

Tools of the Trade

Post-Its, whiteboard, markers, timer, data sets

OOUX



Object Oriented UX puts information in objects and prioritizes it for various users

[Object-Oriented UX](#), or [OOUX](#), is a concept developed by UX Designer Sophia Voychehovski.^{5,6}

OOUX revolves around thinking about Information Architecture in terms of objects – “designing objects before designing interactions.” This allows the team to think about the user’s mental model, a key component of determining Information Architecture.

OOUX allows you to get at the deeper organizational layers, establishing the specific hierarchy of objects on an individual page and determining the relationship between pages that link to one another. This helps in deciding what goes where.



How to Do It

Step 1: Define objects. Review the creative brief and pull out key nouns, extracting “objects” from goals.

Step 2: Define core content. Using each object, determine what elements (core content and meta-data) make up an object.

Step 3: Nest objects to create cross-linking. Cross-linking reveals the relationship between different objects, leading to contextual navigation.

Step 4: Forced ranking. Reorder elements by imagining which will be most important to your users.

Step 5: Add CTAs. Define the main calls to action that are necessary for a component to function.

Tools of the Trade

Diagrams, spreadsheets, pen and paper, video/audio recordings

⁵ Sophia Voychehovski. “OOUX: A Foundation for Interaction Design.” A List Apart. April 19, 2016.

⁶ Sophia Voychehovski. “Object-Oriented UX.” A List Apart. August 4, 2016.

USER STORIES & USER FLOWS



User stories help us understand the goals, needs, and tasks users want to complete; and user flows allow us to create a pathway through the story

Mike Cohn, a thought leader in the Agile development space, developed [the following format for user stories](#): “As a <type of user>, I want <some goal> so that <some reason>.”⁷

The focus is on bringing the target user to life as we delve into the IA of the design. Ultimately, user flows, influenced by user stories, create a smooth path for users to achieve their goals.

User Stories allow us to fill in the blanks. They are concerned with fostering an understanding of the goals or needs users have and the tasks they need to complete.

How to Do It

Step 1: Meet with stakeholders. Ask about their goals and objectives.

Step 2: Meet with users. Ask about their needs and their wants.

Step 3: Write the user stories.

Step 4: Review the stories, looking for accuracy and utility.

Step 5: Prioritize user flows that allow the protagonists of the user stories to achieve their goals.

Note: User stories are typically written in the format “As a <type of user>, I want <some goal> so that <some reason>.”

Tools of the Trade

Diagrams, spreadsheets, pen and paper, video/audio recordings

⁷ Mike Cohn. “User Story Template Advantages.” Succeeding with Agile RSS. April 25, 2008.

CREATE A BLUEPRINT FOR SUCCESS

Architects, when planning out the magnificent structures they create, start with straightforward blueprints that serve as the roadmap for a sturdy building. The tools used to create IA are means to achieving that end in the digital world.

When we talk about IA, we're focusing on organization, wireframes, and content strategy. The 5 tools described in this paper lead to the creation of meaningful deliverables in those broader categories.

As stated at the beginning of this paper, determining structure allows us to:

- Identify and alleviate pain points
- Create content and copy that speaks to the user at an emotional level
- Identify how to link the persona and the user experience

But remember to ask questions such as “What does our building look like?” and “Why are we building it?” IA is about structure and organization, but it's also about storytelling. It's about making an authentic, engaging environment for users to inhabit – that allows them to accomplish their goals with ease due to its sturdiness, logic, and efficiency.

In the end, IA is not simply about the placement of items. It's about connecting the dots. Through organizing the objects on your canvas, creating wireframes, and filling the canvas with meaningful content, you can connect your brand, user needs, and business needs in a meaningful way.

These methods are a few of many, but they're a great place to start, and have allowed us to create designs that serve the end user by addressing their mental models and most important needs.

