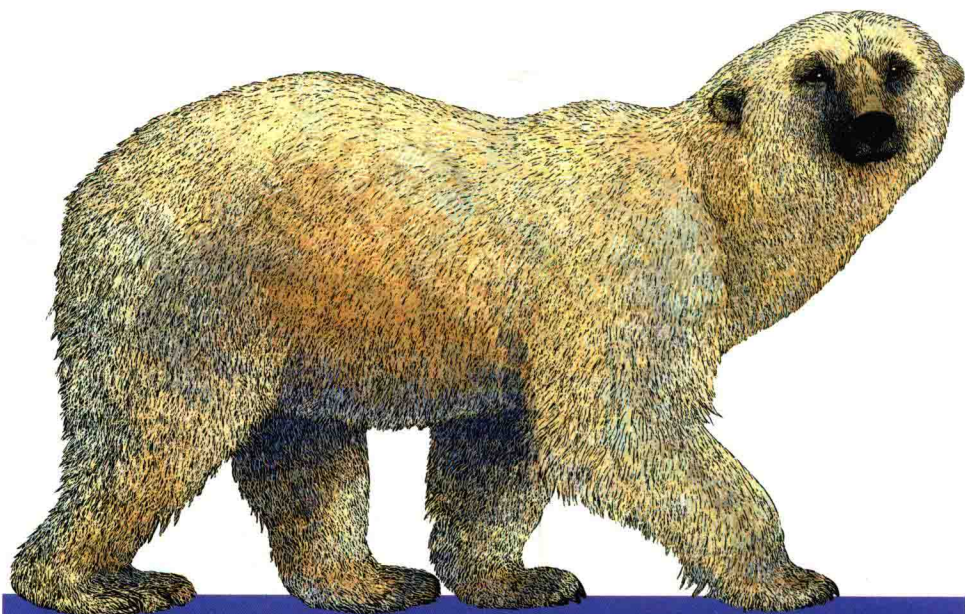


O'REILLY®

第4版

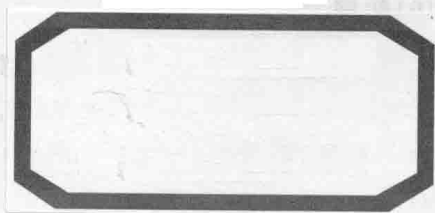


Information Architecture

信息架构 (影印版)

Louis Rosenfeld,
Peter Morville,
Jorge Arango 著

東南大學出版社



第4版

信息架构 (影印版)

Information Architecture

Louis Rosenfeld, Peter Morville,
Jorge Arango 著

Beijing •

O'REILLY®

东南大学出版社出版

南京 东南大学出版社

图书在版编目(CIP)数据

信息架构:第4版:英文/(美)路易斯·罗森菲尔德
(Louis Rosenfeld), (美)彼得·莫维尔(Peter Morville),
(美)乔治·阿朗戈(Jorge Arango)著. —影印本. —南京:
东南大学出版社, 2017.1

书名原文:Information Architecture, 4E

ISBN 978-7-5641-6908-4

I. ①信… II. ①路… ②彼… ③乔… III. ①计
算机网络—程序设计—英文 IV. ①TP393.09

中国版本图书馆 CIP 数据核字(2016)第 318000 号
图字:10-2015-252 号

© 2015 by O'Reilly Media, Inc.

Reprint of the English Edition, jointly published by O'Reilly Media, Inc. and Southeast University Press, 2017. Authorized reprint of the original English edition, 2015 O'Reilly Media, Inc., the owner of all rights to publish and sell the same.

All rights reserved including the rights of reproduction in whole or in part in any form.

英文原版由 O'Reilly Media, Inc. 出版 2015。

英文影印版由东南大学出版社出版 2017。此影印版的出版和销售得到出版权和销售权的所有者——O'Reilly Media, Inc. 的许可。

版权所有,未得书面许可,本书的任何部分和全部不得以任何形式复制。

信息架构 第4版(影印版)

出版发行:东南大学出版社

地 址:南京四牌楼2号 邮编:210096

出 版 人:江建中

网 址: <http://www.seupress.com>

电子邮件: press@seupress.com

印 刷:常州市武进第三印刷有限公司

开 本:787毫米×980毫米 16开本

印 张:30.5

字 数:527千字

版 次:2017年1月第1版

印 次:2017年1月第1次印刷

书 号:ISBN 978-7-5641-6908-4

定 价:94.00元

本社图书若有印装质量问题,请直接与营销部联系。电话(传真):025-83791830

Praise for This Book

By the time I'd finished reading—devouring, actually—the first edition of *IAftWWW* in 1998, the pages were—literally—dripping yellow highlighter ink. I don't think I've ever learned as much from another book. And now with Jorge's help, Lou and Peter have pulled off another remarkable feat: they've taken a groundbreaking book written for a world that's being replaced by another one with head-spinning speed (do they still even make highlighter pens?) and reinvented it brilliantly, proving that the principles they made so clear in the first place are still...the important principles.

—Steve Krug, author of

Don't Make Me Think:

A Common Sense Approach to Web Usability

I was one of the rare people with the job title “information architect” when the first edition of this book came out. At the time, it seemed like a meaningful validation of my work, and I feel no less so about seeing the fourth edition come out. Nearly 20 years later, information architecture is more meaningful and necessary than ever, and so is this book.

—Karen McGrane,

managing partner,

Bond Art + Science

The Web isn't just for browsers anymore. It's the thread tying our digital lives together. That's just one lesson from this essential classic, reframed and renewed for our omni-channel, internet-of-everything age. If you've never read it, now is the time. And if you think you know it already, you're definitely due for an update.

—Andrew Hinton,
author, *Understanding Context*,
senior information architect, The Understanding Group

Awesome to see this canonical IA textbook updated with an eye towards cross-channel information architecture. Jorge Arango was the perfect third author to add a perspective from the emerging new school of IA.

Kudos to O'Reilly for realizing the need to bring this important book back into the conversation.

—Abby Covert,
president of the IA Institute

I'm fascinated by the ways that imprimatur corresponds with permission. The fact that O'Reilly continues to deepen its investment in IA by way of this fourth update to the polar bear book gives all of us permission to continue being curious about and building skills around IA. If this stuff weren't important, or used to be but is no longer a thing, or was just a subset of UX, why bother with another edition?

I'll tell you why: because it is impossible to know what "good" means in design without the frameworks for understanding provided by and through the process of information architecture.

This book helps you get there.

—Dan Klyn,
cofounder and information architect,
The Understanding Group

Once again, the polar bear book proves just how vital information architecture is to how we design interactive products and services. This book offers a fresh look at a fundamental topic. It's timeless, definitive, and indispensable."

—Jim Kalbach, author of
Mapping Experiences (O'Reilly, 2015)

The polar bear book has always been my go-to recommendation for a solid introduction to information architecture for the Web. With the new material now included on mobile, meaning-making, system design, and the importance of context—as well as updates to the fundamentals of IA—this is the first book I recommend to anyone involved in designing electronic information spaces of any kind.

—Andy Fitzgerald, PhD,
frog design

The fourth edition of a book that almost twenty years ago changed the way we work with information is a slimmer, more compact, and more focused read that takes us all the way from the Web to the ever-expanding world of cross-channel design.

—Andrea Resmini,
senior lecturer, Jönköping University

Preface



*The town may be changed,
But the well cannot be changed.
It neither decreases nor increases.
They come and go and draw from the well.*

—I Ching

The first edition of this book—then titled *Information Architecture for the World Wide Web*—was published in 1998. This was a full 9 years before the iPhone changed the way we share pictures of our kids with our family and friends, 6 years before Facebook reintroduced long-forgotten high school friends into our lives, 6 years before the term “folksonomy” was coined (and 10 years before its currency devalued), and 12 or so years before many of us first heard the term “Internet of Things.” There was no “Web 2.0” back then; we were still trying to figure out Web 1.0!

Those of us who have been structuring and designing websites since the “early days” have experienced astonishing changes in our industry. We’ve seen the underlying technologies of the medium—including HTML itself, along with JavaScript—evolve from what were at first primitive content-delivery mechanisms into full-featured interactive application stacks. We’ve seen device form factors evolve from indirect experiences where we controlled an abstract pointer with a

mouse, to the direct, intimate experience of manipulating information by touching elegant slabs of glass with our fingers. We've seen Internet access go from being a slow, discreet activity that we engaged in by sitting at a desk, in front of a bulky computer tethered to a copper wire, to something we do everywhere at any time by pulling out a blazing fast, sensor- and camera-laden minicomputer/telephone from our pocket. And now we've started to see that power permeate into everyday objects and environments, fundamentally transforming everyday experiences we've long taken for granted. Change is relentless, ubiquitous, exhilarating—and a little scary.

One constant amidst all this change is that every year humanity produces and consumes more information than before. This information glut can make it increasingly challenging for people to find the stuff they're looking for, and make sense of it once they do—especially now that users can interact with information using a wide range of devices and services. Information architecture is the area of practice that helps alleviate this problem. The concepts, methodologies, and techniques that have been so effective in structuring websites can also be applied to broader, more heterogeneous information ecosystems such as those we have today.

Earlier editions of this book were focused on one type of such information ecosystems: websites (in their various manifestations, including intranets and corporate portals.) This fourth edition has a new subtitle: *For the Web and Beyond*. This is an acknowledgment that the information ecosystem landscape is richer and more complex today. Many people's experience of interacting with information increasingly occurs via smartphone apps and other channels that do not involve a traditional web browser. Additionally, as system components and sensors keep getting smaller and cheaper, two-way access to information is becoming a key part of everyday objects like thermostats and doorknobs, which aren't perceived as traditional computing devices at all. While many of these experiences will not require the same types of semantic structures that traditional websites did, they are still key components in information ecosystems and thus subject to many of the same design principles presented in previous editions of the book. When considering the subject of our designs in the abstract—as *information environments* instead of websites—we can see that the design principles that inform these semantic structures have broad applicability beyond design for the Web.

The *I Ching* is an ancient Chinese oracle, and arguably the oldest interactive information environment in the world. Its text presents 64 patterns that describe—and teach us how to deal with—different aspects of change. One of these patterns, “The Well,” represents those things in life that are constant and which steadfastly replenish and refresh us, even as the chaos of impermanence alters the world around us. We have approached this fourth edition of the “polar bear book” with the recognition that information architecture is one such “well”: as long as we are dealing with the design of information environments for use by human beings, we will have a need for tools and techniques that allow us to structure that information to make it easier to find and understand. We have gone back to first principles to identify those that can be used in any situation to help bring consistency, coherence, and understandability to digital products and services, regardless of their manifestations in space and time. Our hope is that even as technologies and techniques come and go, you will be able to continue drawing from the well of information architecture for many years to come.

What’s New in the Fourth Edition

Information Architecture: For the Web and Beyond focuses on information architecture as a set of tools and techniques for dealing with tough information organization problems—by *anyone* involved in *any* aspect of design, regardless of their job title. We have gone through the first three editions and brought forward those principles of information organization that are universal and timeless. We’ve cast these in the context of current practice by updating the examples and illustrations. We’ve avoided discussions of particular software packages; it’s all changing too quickly for this information to have much value in the long term. Instead, we’ve focused on tools and techniques that have stood the test of time and which are not dependent on particular technologies or vendors. Finally, we’ve updated Appendix A to include the most useful information architecture resources available today.

Organization of This Book

This book is divided into 3 parts and 13 chapters, progressing from abstract fundamental concepts to processes, tools, and techniques you can use to put them into practice. It breaks down as follows.

Part I, “Introducing Information Architecture,” provides an overview of information architecture for those new to the field and experienced practitioners alike, and comprises the following chapters:

Chapter 1, The Problems That Information Architecture Addresses

This chapter sets the stage by describing the main challenges we face today when dealing with complex information environments.

Chapter 2, Defining Information Architecture

This chapter offers definitions and analogies, and explains why information architecture is not easy to identify in everyday life.

Chapter 3, Design for Finding

This chapter helps us better understand people’s information-seeking needs and behaviors.

Chapter 4, Design for Understanding

This chapter explains how information architecture can create the right contexts for people to understand information.

Part II, “Basic Principles of Information Architecture,” presents the fundamental components of an architecture, illustrating the interconnected nature of these systems. It comprises the following chapters:

Chapter 5, The Anatomy of an Information Architecture

This chapter helps you visualize the nuts and bolts of an architecture and introduces the systems covered in subsequent chapters.

Chapter 6, Organization Systems

This chapter describes ways to structure and organize sites to meet business goals and user needs.

Chapter 7, Labeling Systems

This chapter presents approaches for creating consistent, effective, and descriptive labels for a site.

Chapter 8, Navigation Systems

This chapter explores the design of browsing systems that help users understand where they are and where they can go within a site.

Chapter 9, Search Systems

This chapter covers the nuts and bolts of searching systems, and describes approaches to indexing and the design of search result interfaces that can improve overall performance.

Chapter 10, Thesauri, Controlled Vocabularies, and Metadata

This chapter shows how vocabulary control can connect these systems and improve the user experience.

Part III, “Getting Information Architecture Done,” covers the conceptual tools, techniques, and methods to take you from research to strategy and design to implementation of an information architecture. It comprises the following chapters:

Chapter 11, Research

This chapter explains the discovery process necessary to create a foundation of understanding for your information architecture.

Chapter 12, Strategy

This chapter presents a framework and methodology for defining the direction and scope of your information architecture.

Chapter 13, Design and Documentation

This chapter introduces the deliverables and processes required to bring your information architecture to life.

We end with the Coda, which wraps things up.

Appendix A presents a selective list of pointers to the most useful information architecture resources available today.

Audience for This Book

Who do we hope to reach with this fourth edition of the polar bear book? Because we assume that any interactive product contains *information*, this book is for anyone who’s responsible for defining how interactive products and services work: user experience designers, product managers, developers, and more. The job titles don’t really matter; what matters is that your work results in products and services that are interactive, information dense, and used by at least one person besides yourself.

Previous editions of the book delved into the subject of information architecture as a career path. We have eschewed these discussions in the fourth edition in favor of treating information architecture as an area of practice. You do not need to have the words “information architect” on your business card in order to benefit from the ideas in this book.

Conventions Used in This Book

The following typographical conventions are used in this book:

Italic

Indicates new terms, URLs, email addresses, filenames, and file extensions.

Constant width

Used for program listings, as well as within paragraphs to refer to program elements such as variable or function names, databases, data types, environment variables, statements, and keywords.



This element signifies a general note.

Contacting the Authors

Please direct all suggestions, kudos, flames, and other assorted comments to us via email:

- Peter Morville, Semantic Studios (morville@semanticstudios.com)
- Lou Rosenfeld, Louis Rosenfeld LLC (lou@louisrosenfeld.com)
- Jorge Arango, Futuredraft (jorge@futuredraft.com)

Safari® Books Online



Safari

Safari Books Online is an on-demand digital library that delivers expert content in both book and video form from the world's leading authors in technology and business.

Technology professionals, software developers, web designers, and business and creative professionals use Safari Books Online as their primary resource for research, problem solving, learning, and certification training.

Safari Books Online offers a range of plans and pricing for enterprise, government, education, and individuals.

Members have access to thousands of books, training videos, and prepublication manuscripts in one fully searchable database from publishers like O'Reilly Media, Prentice Hall Professional, Addison-Wesley Professional, Microsoft Press, Sams, Que, Peachpit Press, Focal Press, Cisco Press, John Wiley & Sons, Syngress, Morgan Kaufmann, IBM Redbooks, Packt, Adobe Press, FT Press, Apress, Manning, New Riders, McGraw-Hill, Jones & Bartlett, Course Technology, and hundreds more. For more information about Safari Books Online, please visit us online.

How to Contact Us

Please address comments and questions concerning this book to the publisher:

O'Reilly Media, Inc.

1005 Gravenstein Highway North

Sebastopol, CA 95472

800-998-9938 (in the United States or Canada)

707-829-0515 (international or local)

707-829-0104 (fax)

We have a web page for this book, where we list errata, examples, and any additional information. You can access this page at http://bit.ly/info_architecture_4e.

To comment or ask technical questions about this book, send email to bookquestions@oreilly.com.

For more information about our books, courses, conferences, and news, see our website at <http://www.oreilly.com>.

Find us on Facebook: <http://facebook.com/oreilly>

Follow us on Twitter: <http://twitter.com/oreillymedia>

Watch us on YouTube: <http://www.youtube.com/oreillymedia>

Acknowledgments

This book exists because of the generosity and intelligence of the many teachers, colleagues, clients, friends, and family members who helped us form and nurture these ideas, and gave us the wherewithal to share them with you. We can't thank all of them here, but we will briefly acknowledge those who have been most influential in bringing this fourth edition to life.

We have been very lucky to work with an amazing team of technical reviewers whose generosity is a true mark of the information architecture community: Abby Covert, Andrea Resmini, Andrew Hinton, Andy Fitzgerald, Carl Collins, Danielle Malik, Dan Klyn, Dan Ramsden, John Simpkins, Jonathan Shariat, Jonathon Coleman, and Kat King. Their input has made this book better in many ways; we are very grateful for their contributions.

As always, the team at O'Reilly Media has been a pleasure to work with. Our editors Angela Rufino and Mary Treseler helped keep us on track, and were supportive and energizing throughout the writing process. We owe many, many thanks to Angela, Mary, and the entire production crew at O'Reilly.

We are grateful to Chris Farnum and ProQuest for providing sample wireframes for Chapter 13.

Finally, some personal thanks from each of us.

Lou thanks his teachers from the University of Michigan's School of Information—especially Joe Janes, Amy Warner, Vic Rosenberg, Karen Drabenstott, and the late Miranda Pao—and Mary Jean, Iris, and Nate for sharing the apartment with an occasionally very cranky author.

Peter thanks Susan, Claudia, Claire, and a dog named Knowsy.

Jorge thanks his partners at Futuredraft—Brian O’Kelley, Chris Baum, and Hans Krueger—for giving him the opportunity to hone his craft among giants, the fine folks at KDFC (“The Bay Area’s listener-supported classical radio station”) for keeping him company at ungodly hours, and his family—Jimena, Julia, Ada, and Elias—for allowing him the time and space to work on the book...and the reason to do so.

*Louis Rosenfeld
Brooklyn, NY*

*Peter Morville
Ann Arbor, MI*

*Jorge Arango
San Leandro, CA*

Information is more abundant today than ever before. With smart phones, smart monitors, smart watches, tablets, and new Internet-enabled appliances of every kind, we also have many more ways of interacting with it than before. This abundance and pervasiveness makes our lives better in many ways, but it also introduces new challenges. With so much information available in so many places, it can sometimes be difficult to cut through the noise to find the information you need and understand it once you have found it.

Information architecture (IA) is a design discipline that is focused on making information findable and understandable. Because of this, it is uniquely well-suited to address these challenges. IA allows us to think about problems through two important perspectives: that information products and services are perceived by people as pieces made of information, and that these information environments can be organized for discoverability, findability, and understandability.

This first part of the book explains what IA is, what problems it solves, and how it can help you create more effective products and services. Part II and Part III will then show you how.

Let's get started!

Table of Contents

Preface.....	xi
--------------	----

Part I. Introducing Information Architecture

1. The Problems That Information Architecture Addresses.....	3
Hello, iTunes.....	6
The Problems Information Architecture Addresses.....	10
Enter Information Architecture.....	16
Recap.....	22
2. Defining Information Architecture.....	23
Definitions.....	24
Just Because You Can't See It, Doesn't Mean It Isn't There.....	26
Toward a Damned Good Information Architecture.....	31
Recap.....	38
3. Design for Finding.....	39
The "Too-Simple" Information Model.....	40
Information Needs.....	42
Information-Seeking Behaviors.....	46
Learning About Information Needs and Information- Seeking Behaviors.....	49
Recap.....	50
4. Design for Understanding.....	53
A Sense of Place.....	54

The Architecture of (Real-World) Places	55
Places Made of Information	56
Organizing Principles	59
Structure and Order	60
Typologies	63
Modularity and Extensibility	67
The Happiest Place(s) on Earth	69
Recap	75

Part II. Basic Principles of Information Architecture

5. The Anatomy of an Information Architecture.....	79
Visualizing Information Architecture	80
Top-Down Information Architecture	83
Bottom-Up Information Architecture	85
Invisible Information Architecture	88
Information Architecture Components	90
Recap	95
6. Organization Systems.....	97
Challenges of Organizing Information	98
Organizing Information Environments	103
Organization Schemes	104
Organization Structures	116
Social Classification	127
Creating Cohesive Organization Systems	129
Recap	130
7. Labeling Systems.....	133
Why You Should Care About Labeling	134
Varieties of Labels	140
Labels as Headings	144
Designing Labels	153
Recap	173
8. Navigation Systems.....	175
Types of Navigation Systems	176
Gray Matters	177
Browser Navigation Features	178
Placemaking	179