

Content Management Bible, 2nd Edition

Bob Boiko



Wiley Publishing, Inc.

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About the Author

Bob Boiko is a teacher, consultant, writer, programmer, and itinerant businessman. Bob is currently President of Metatorial Services, Inc. (www.metatorial.com) and Associate Chair of the Masters of Science in Information Management (MSIM) program in the iSchool at the University of Washington (www.ischool.washington.edu). Bob teaches information systems design, organizational management, and content management. He also conducts seminars and lectures around the world as part of his business. He has consulted on content management to a number of the world's top technology and publishing firms, including Microsoft, Boeing, Motorola, Honeywell, and Reed Elsevier. In addition to this book, Bob has written more white papers, articles, and reports than he cares to remember. Bob is helping to found and is serving as the first president of CM Professionals (www.cmpprofessionals.org), a content management community of practice.

Bob began programming in 1977 and has practiced it since (it was always a great way to make money when he was broke). He entered the modern computer age, however, not as a programmer but as a writer. After earning undergraduate degrees in physics and oceanography and a Master's degree in human communication, Bob got his start in electronic information as a technical writer on contract at Microsoft. Among other projects, he wrote more than half of the MS DOS 5.0 User's Guide and one of Microsoft's first all-electronic User's Guides. From there, he began to develop electronic information systems on local networks, floppy disks, CD-ROMS, and when it was invented, the Web. In pursuit of electronic information and then of content management, he has created scores of applications and three businesses.

Bob lives in Seattle, Washington, U.S.A., with his wife Laura and sons Scotty and Corey.

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To Laura, Corey, and Scotty, for even more space

Foreword

Over the past three years I've encountered dozens of people around the world who purchased the first edition of the CMS Bible. Invariably, their copies are dog-eared and well-thumbed, because like any good reference, this book delves deeply into a complex subject that trails a surprisingly long history behind it.

Although many people associate "CMS" with the Web, the practice of content management goes back at least a couple of decades. For as long as we have had electronic documents, people have struggled with how best to manage the information those documents contained.

Early adherents of content management could be found especially among the technical documentation and scientific publishing communities. They had important reasons for wanting to reuse snippets of information at a very elemental level and, along the way, they redefined the entire notion of a document. But at the same time, these pioneers labored in relative obscurity, providing finished information products to enterprises that often had scant understanding of what went into assembling those publications.

Then the World Wide Web hit, and content management went mainstream—but this time for the specific purpose of automating the process of corporate Web site publishing. Content management became a front-office concern, drawing in marketing, design, and technology specialists, as well as line-of-business leaders.

Now the two communities—traditional information managers and Web content managers—are beginning to converge: core enterprise content increasingly gets exposed via the Web, whereas Web site managers seek to manage content further upstream in the organization. But convergence has not been easy and the process has brooked more than a little confusion among nearly all concerned. So the world needs a canonical written resource to explain, advise, and even exhort.

In short, we need a Content Management Bible.

I can't think of anyone better suited to the task of writing that bible than Bob Boiko. As a former technical documentation specialist, content management systems implementation leader, and now CMS strategy consultant, Bob brings a unique mix of practical experience to his explanations and advice.

The CMS Bible starts with an important discussion about content—what is it, how it differs from information and data, and why you should care about it. The book then delves into process. It then addresses technology. That is exactly the order in which you should undertake any CMS project.

Even if you already use a content management system (or more than one), some emerging trends in electronic information profusion should give you pause. According to recent studies, the amount of information generated worldwide doubles every three years and is likely continue to do so, with attendant compounding effects. Stop and think about that expansion

for a moment in connection with your own enterprise. Surely, success in all your other initiatives—from knowledge management to enterprise search to Internet publishing to customer care to e-commerce—will be increasingly predicated on your ability to manage the growing flow electronic content into and out of your organization. Whether you are about to implement a content management system or not, the CMS Bible can serve as your guide to connecting all that content to real business objectives.

So take the time read the entire book through once, but then keep it close at hand. Like its namesake, the CMS Bible is really a collection of smaller books. Each passage will come in handy at some point as you work to manage content more effectively.

*Tony Byrne
Founder, CMSWatch.com*

Preface

I originally created this book because I had to. For more than 10 years, I'd been stuffing my head so full of the design, programming, management, and content of information systems that I had to let some out before I could learn any more. Seriously, from the first time I matched a printed user's guide against the capabilities of Windows 3.0 Help, to the last time I sat with a dot-com client and discussed the impact of massive content management on the architecture of an e-commerce site, I have been living the transition from print to the computer screen. I've seen a ton of technologies and a slew of systems. I've learned enough to know that there is a lot to discuss and figure out. When my thinking on what I had experienced reached some sort of embryonic maturity, it hatched as the first edition of this book. Now, three years later, the second edition seems to me like a toddler; not entirely steady on her feet but up and walking and talking up a storm! The discipline, as well, is just beginning to recognize itself as a distinct entity with common practices and a community of practitioners.

My big points are:

- ◆ As an organization, you have groups of people who consume the information and services you provide. To be an effective organization, you need to treat these groups as distinct audiences and make use of all the available channels of communication with them. To communicate effectively with a variety of audiences through a variety of channels, you need the organization and focus that a content management system provides.
- ◆ Content is the information and interactivity that organizations must harness in order to deliver value to their audiences.
- ◆ Content management systems (CMS) collect, manage, and publish this information and interactivity.
- ◆ A CMS is not a CD-ROM that you install, start, and forget about. Rather, it is an ongoing process of knowing your information and your audiences and how to match the two in a set of publications.

This book attempts to lay a comprehensive foundation under these concepts and create a solid methodology for the practice of content management. Content management is not an end in itself but rather a means to becoming the most effective organization you can be.

About the Second Edition

Since the first edition of this book was published I have:

- ◆ Given dozens of talks at conferences based on its content
- ◆ Given at least a dozen half- and full-day workshops based on its content
- ◆ Taught eight 10-week classes based on its content
- ◆ Spoken formally and informally with scores of people about the book.

These interactions have led me to the conclusion that the information in the book is still pertinent for the average consumer. I still spend almost all of my time explaining the simplest parts of the book. The information is still new to most people, and none have said that they “know all that already” and would like newer information. Thus, I am not motivated to update the book (generally) because the information is out of date. Clearly, as a rewrite happened, I found much to update and topics to articulate more fully. But the main thrust of the book still stands.

In general, the comments I have received about the first edition have been overwhelmingly positive. Here is a summary of what seemed to work:

- ◆ **Book size:** While people love to kid me about the size of the book, it is clear that they regard this as a mark of comprehensiveness and definitiveness.
- ◆ **The mix of upfront theory and later practical information:** People have been happy to have the background that I provide in the first part of the book. It still seems to provide the only conceptual background that is available on the subject.
- ◆ **The style and readability:** Despite its size, I often hear that people really appreciate the open style and especially the sidebars and personal anecdotes in the book.
- ◆ **The variety of audiences that are addressed:** The book seems to work well for managers, information architects, and technologists.
- ◆ **The technology-neutral approach:** People like the fact that the information in the book stands regardless of the product or platform they use.

What I have heard on the negative side is that:

- ◆ **The book is too exhaustive** (or exhausting): It is difficult to get through it all.
- ◆ **The book details the largest of projects:** If you have a smaller project, where do you start and how do you use the book?
- ◆ **Not enough specifics in the technology:** Although people do not seem to want product-specific information, they do want (in Part V) a more comprehensive approach to the technology that CM systems use.
- ◆ **Vocabulary.** Some of the vocabulary I use (particularly the word *component*) is hard to understand and doesn't match well with what is becoming the accepted standard.

Given the positive and negative reactions above, I have crafted the new edition in the following way:

- ◆ **Bringing it up to date:** I have reviewed the complete work to find any part that was out of date or where I have new material to add. As part of this, a **terminology review** has assured that the words I am using are the best for the discipline and the book.
- ◆ **Quickstart chapters and sections:** In Parts III, IV, and V, I provide new introductory chapters that give you a summary and top-line methodology for these parts. This approach helps users who do not have the time or the project size to justify an in-depth reading of these sections. They also serve to focus users who are interested in a smaller, minimal CMS project on the barest essentials of what they must do (and can safely defer) in their project. In many of the chapters in Parts III and IV, I provide a “Jumpstart” section that overviews and highlights the methodology presented in the chapter.

- ◆ **Invited sidebars:** From industry experts and CM practitioners around the world, I have solicited real-world examples and short case studies that appear in the book. These commentaries serve to enrich and solidify the concepts of the book and provide an array of opinion on the topics of the book. Because each sidebar represents the views of its author, the opinions and perspectives of these invited commentators may differ from mine. (Sidebars that are unsigned are my own.)
- ◆ **Technology taxonomy:** I have completely rewritten the final part (Part V) of the book to be a more comprehensive view of the technology behind content management. This part is not a guide to CM products, but rather a hierarchy of all the systems and sub-systems that could be included in a CMS. The systems include overviews as well as lists of features that the systems could have.

I believe that these new additions (in the neighborhood of 250 new pages) bring this work up to date and keep it at the front of this emerging discipline.

Who Should Read This Book

This book presents a complete model of content management as well as a practical guide to doing content management. It brings together current trends in content management, with my own experience and thinking, into a unified framework. It will be of foremost use to people tasked with designing or implementing content systems (programmers, designers, writers, and managers). It will also be of use to decision makers within an organization who need to develop an electronic communication or content management strategy.

The people who have the most to gain from this book fall broadly into these categories:

- ◆ **Managers** in charge of a content project. These managers need to know how to get a project initiated and completed. The information in Part III, “Doing Content Management Projects,” is most directly targeted to managers. In addition, senior level managers in charge of e-business, Web or communications strategy will benefit from this book. These people need to figure out how to do business in a wired world and, then, how to create an organization that can build and run an e-business system.
- ◆ **Practitioners** in areas such as content creation (writers and editors), content administration (database and information managers), and content publishers (site masters, designers, publishers, and Web designers). For these people there are relevant examples, methods, and overviews.
- ◆ **Programmers**, IT staff, and other technical professionals who need to understand how their skills fit into the broader framework of content management. The material in Part V, “Building a CMS,” will be of particular interest to technical folks.
- ◆ **Information architects** who want to better understand the nature of a large, organization-wide content management initiative. For these people, Part IV, “Designing a CMS,” may be particularly interesting.
- ◆ **Project staff**, who consist of the in-the-trenches creative, administrative, or publishing staff who want insight into their own jobs and to understand how their contribution fits into a larger framework.

- ◆ **Students** of business, technology, or information who want to keep up with the latest trends in information management. For them, content management represents a viable future occupation.
- ◆ **Business analysts and consultants**, who are called upon to help others figure out a content management strategy. With few standard sources to draw on in a rapidly changing field, those who help others will find help of their own in this book.

I also believe that there is value in this book for anyone else who wants to know what the new age of information management might look like. Even if you are not personally faced with creating a CMS, you may want to know what one is and how one is put together.

Why You Need This Book

To obtain maximum benefit from this book, you need to have felt the pain of too much content and not enough system to handle it. For those with a small site or only a little content to distribute, this work is overkill. For those who have tried and failed to, as we say, “tame the information beast,” this book can help. It provides tools that you can use to win the battle next time. For those who are faced with helping to create a large Web site or other publication type for the first time, this book can help you approach the problem in a coherent and reasoned way.

Content management is important. It can underlie today’s most significant digital technologies (including, among others, e-commerce, customer relationship management, personalization, advanced Web sites, and electronic communities). By understanding and properly implementing a CMS, organizations will have laid the groundwork on which the rest of these systems can stand. In so doing, they can save a tremendous amount of time and money and can unite these disparate systems with a single, enduring infrastructure.

This book matters for two additional reasons.

- ◆ The field of content management is in its infancy. I believe that this book helps define it. In my work I daily experience the confusion and frustration of people who need to define or implement a content management system for their organization and do not know how to approach it. These people are being bombarded by product-centered white papers and superficial ad-speak that present an all-too-simple picture. In contrast, this book provides a thoroughgoing and impartial framework upon which to base an understanding of the problems and the solutions of content management. It is part of a small but significant library of works on content management that are available today.
- ◆ There is a definite need for the kind of practical knowledge this book provides. The processes and practices that I, along with my colleagues, have developed can be of great use to people who need to implement and staff a content management system. From job descriptions to conversion code samples, you will find a good supply of methodologies, pointers, and insights. This practical knowledge, woven into an overall framework for implementing a content management system, should provide a powerful resource to anyone needing to understand or do content management.

When I began speaking on the subject of content management, my audiences consisted mostly of writers, marketing people, managers, editors, and librarians who were tasked with putting together a large Web site. Most had in-depth knowledge in their respective disciplines and some experience creating Web sites, but few had the resources for tackling the job they had taken on.

Today, my audiences consist of much the same people, but now they have job titles like Content Manager, Director of Web Strategy, and Chief Information Officer. In addition to creating an Internet presence, many are being tasked with developing an entire enterprise system for controlling the creation and dissemination of information. They have bigger titles and greater responsibility, but few extra tools to help them meet these new responsibilities. I hope that people in this position will find a useful methodology (or at least a kindred spirit) in this work.

How This Book Is Organized

This book consists of five parts.

Part I: What Is Content?

Content is information and functionality that has been harvested and organized toward some particular use. In this section, I dive into this definition and describe what is meant by organization and use. I use this definition to show why content is just information, but also more than information.

Part II: What Is Content Management?

Today, many people see content management as a way to create Web sites. As I present it, content management is a much broader process of collecting, managing, and publishing information to whatever medium you need. In this section, I present a full definition of content management and a complete model that you can use to understand and scope your own content management problems and solutions.

Part III: Doing Content Management Projects

This section describes content management from the manager's perspective. Given my model of content management, I turn to the practical problem of how you go about creating a CMS. Unfortunately, it is not simply a matter of buying a suitable product, installing it, and turning it on. No CMS you create or buy will tell you what content your organization should manage or why. Rather, doing content management is a process of getting your organization behind your project, designing all the details behind the system, selecting an appropriate system, and finally, implementing it.

Part IV: Designing a CMS

This section describes content management from the designer's perspective. Usually called information architect, the designer's job is to study and develop an interconnected system of collection, management, and publishing. The heart of this analysis is a metadata framework that ties all content together. In this section, I talk about this process in depth. I detail the exact sorts of information you have to amass to fully understand the system you want to create. I break the information to be collected down into a set of interrelated entities that rest on what I call the wheel of content management.

Part V: Building a CMS

This section describes content management from the perspective of the builder. Generally, CMS builders are content handlers, programmers, and information technology professionals. This section has information of interest to all three types of builders. For content handlers (who convert and tag content), it provides an under-the-hood picture of how content is constructed and how it can be processed. For programmers, it provides details on constructing publishing templates and programming content conversion systems. For IT professionals, it describes the software and hardware behind a CMS and how you might decide what is right for your organization.

Conventions Used in This Book

The book uses a variety of conventions to help you scan through it and quickly find information of interest. Most of the code samples in the book are either HTML or XML. In both of these sorts of code, I use uppercase letters for tag names and upper- and lowercase letters for tag attributes. In XML the capitalization of tag names really matters (it is a case-sensitive language). So, in a few cases, I break my all-uppercase convention where the sample code needs to be consistent with a system that uses a different convention.

Here are some of the other conventions you will see in the book:



Note

This icon presents a quick aside to the general topic. You will find information of particular note or important caveats to the current discussion.



Tip

This icon presents a short idea that you may want to implement as part of your own content management system design or implementation. There is advice, of course, throughout the book, but these paragraphs highlight “advice bytes” that you can immediately use.



Cross-Reference

This icon introduces a link between the current discussion and another that is related to it. Cross-references also appear within sentences to more closely link them to the ideas to which they apply.

This Is a Sidebar

Sidebars present an extended aside. They contain stories and other devices that give you another perspective or angle on the discussion at hand. My sidebars are written by me or by invited experts, often in a lighter tone, and emphasize some of the quirkier aspects of content management.

Acknowledgments

Jim Larkin, president of Resources Online (www.ronline.com) is as responsible for this edition as I am. Despite a more than full time job and a new baby, Jim worked tirelessly to edit and oversee this edition. His fortitude and attitude made this edition happen. Thanks Jim. Along with Jim, Tom Richards helped shepherd the sidebars from vision to reality.

To everyone who wrote a sidebar for this edition, I would like to say thanks for continuing our great conversations in print and contributing to the larger conversation that is beginning to congeal into a community. And speaking of the community, I'd like to thank the people of CM Professionals (the original 23 and the thousands to come) for their contributions to and critiques of my thinking.

I'd also like to thank my many clients who over the years have seen the value in this approach and have supported it through its many twists and turns. I'd like to extend thanks, too, to Sara Shlaer and the production staff at Wiley for making my prose consistent, bringing to life my graphics, and putting up with my last-minute changes.

Finally, I'd like to thank Mike Eisenberg and the faculty and staff of the University of Washington iSchool for their confidence and advice, and their support of my work.

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