



TRAIN OF THOUGHTS

DESIGNING THE EFFECTIVE WEB EXPERIENCE

JOHN C. LENKER, JR.

New
Riders



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TRAIN OF THOUGHTS—Designing the Effective Web Experience

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Dear Reader:

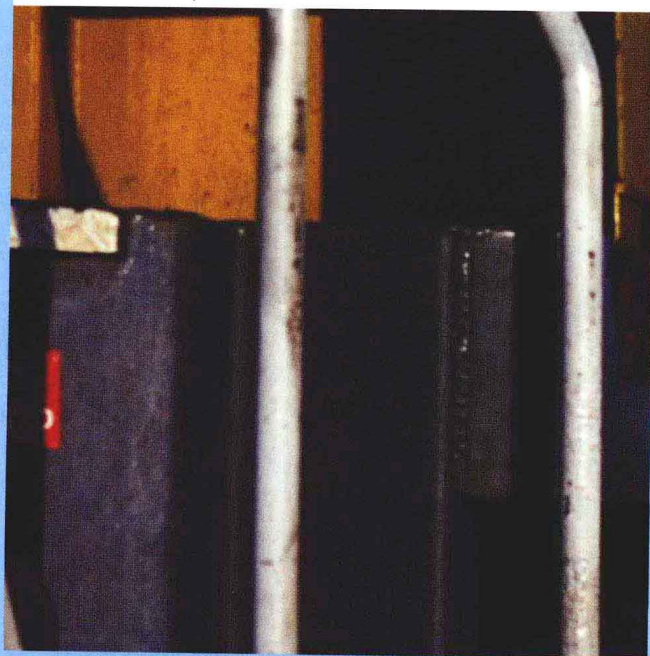
As the reader of this book, you are our most important critic and commentator. We value your opinion and want to know what we're doing right, what we could do better, in what areas you'd like to see us publish, and any other words of wisdom you're willing to pass our way.

As Executive Editor at New Riders, I welcome your comments. You can fax, email, or write me directly to let me know what you did or didn't like about this book—as well as what we can do to make our books better. When you write, please be sure to include this book's title, ISBN, and author, as well as your name and phone or fax number. I will carefully review your comments and share them with the authors and editors who worked on the book.

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Finally, to Truth, I say thanks.



I dedicate this book to the memory of my father,
JOHN C. LENKER (1941-1994).

In his life he both dreamed big dreams and worked hard to realize those dreams. From a cook in a small-town pizza joint, to a captain in the Marine Corps, to the president of Green Giant, Europe; he pursued excellence in everything that he did. He's the example that has always inspired me to strive to do the same.

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Julie currently serves Allen Interactions—a computer-based training company—as an instructional interactivity designer and project manager. Ms. Dirksen has also worked as a project manager with WisdomTools, an online training company created from the Research and Development Division of Indiana University's Center for Excellence in Education, developing internationally implemented collaborative web and Lotus Notes training environments. Ms. Dirksen also has several years' experience working in corporate training.

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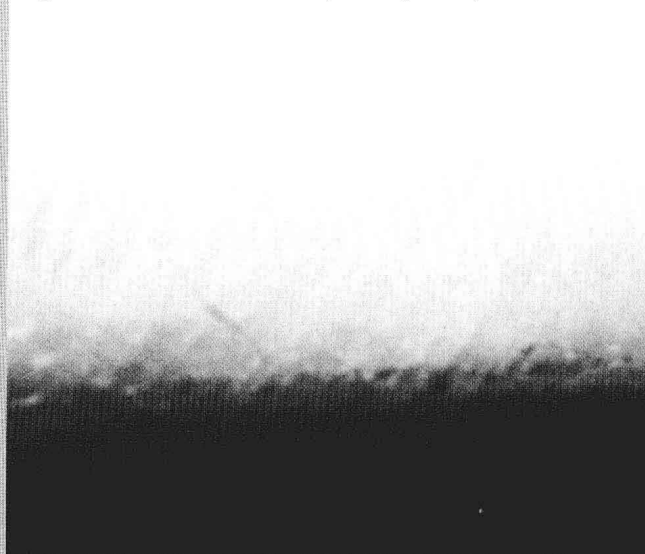


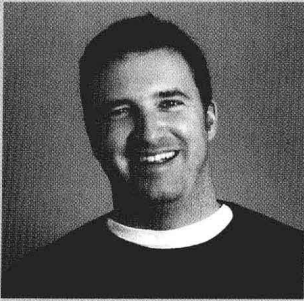
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Jennifer is an interactive media and graphic design consultant with a passion to provide her clients with visually and mentally engaging media. Her keen interest and talents in usability, visual design, communication, and technology have provided opportunities ranging from interactive producer to lead designer, where she has led initiatives on numerous training, entertainment, and promotional projects.

Over the past five years, she worked on projects for numerous Fortune 500 companies as well as the US Air Force. Her work has been featured in *Flash 5 Magic* and *Flash 5 Cartoons and Games*. Her collaboration with Allen Interactions has sparked a relentless pursuit to blend human psychology and usability factors with innovative design and technology.

Originally from Detroit, she holds a BFA from Wayne State University, graduating with top honors. Jennifer currently resides in Minneapolis and enjoys design, computers, photography, travel, cooking, and biking. Her work can be viewed at <http://www.jenniferjesse.com>.





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Steve is a freelance interactive designer and consultant. He specializes in visualization—helping organizations bring the true meaning of their messages out in their designs. Steve has applied his talents in projects for major corporations, including:

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Steve has a B.A. from Minneapolis College of Art and Design (MCAD) where he majored in interactive and graphic design. He also holds a Bachelor of Individualized Studies from the University of Minnesota, which emphasized marketing and organizational psychology.

Steve has won numerous awards including, *HOW* magazine—Interactive Design Annual 2000, Best of Show and CMYK Interactive 2000—Best of Show, as well as numerous scholarships.

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- > My mother and father
- > My 1971 Nikkomat 35mm with a 1x, 2x, 4x macro system and a 180-300 telephoto lens



DESIGNER
BRAD RANDALL

Brad is a freelance graphic designer based in Minneapolis. His interests and capabilities also include illustration, furniture design, and industrial design. He has passion for appreciating and creating meaningful and affordable utilitarian design accessible to everyone.

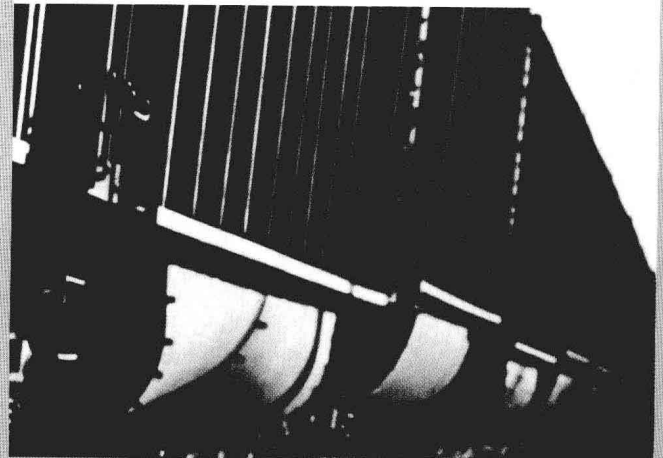
Brad received a BFA from the Minneapolis College of Art and Design (MCAD), where he garnered top honors. He was awarded the Wanda Gag Merit Scholarship, the Yamamoto Moss Merit Scholarship, and the Van Derlip Award. Since graduating, he has done work for 3M, Martin/Williams, Uno, and invioni.

In his time away from the mouse and keyboard, Brad enjoys seeing, creating, reading, Frisbee golf, good food, and good company.

For more information about Brad Randall and to view an online sample of his portfolio visit <http://www.trainofthoughts.com>.

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- > Jan Jancourt
- > Catherine Russell
- > Stephen and Carol Randall



FOREWORD: DR. MICHAEL ALLEN

This book isn't politically correct. It's just plain correct.

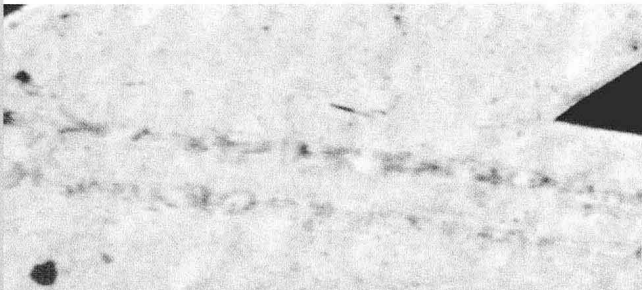
At least for the moment.

If ever there were an example of ready, fire, aim, it's the Web. What an unexpected spurt of growth it had—from an indispensable form of document sharing among governmental and university research organizations, to the ubiquitous backbone of contemporary communications and commerce it has become almost overnight!

It isn't right to cry out "Who could see it coming?" however. Many visions of the future have included descriptions of universal, instantaneous access to information. Every Star Trek fan knew that someday we'd just ask the computer for any information or analysis we needed, with most results politely returned in just a moment—often without a delay in the rhythm of conversation.

What we didn't see was how fast the future would arrive, and we weren't prepared for it on a broad scale. Of course, as Yogi Berra said, "The future isn't what it used to be." If this book were politically correct, it would continue to portray the future and the Web as we saw them years ago. And it would not be correct.

After years in its cocoon, the Internet's metamorphosis produced something of a giant moth. Suddenly, the Web was everywhere, overtaking postal services and forcing telephone systems to embrace it or fall to the wayside. Computer operating systems needed optimization for access, computer applications needed to become Web-compatible, and people—well, people needed to learn new applications, new behaviors, new jargon, and adapt. To be in fashion, corporations needed to provide new services, staff differently, compete differently, market and sell differently whether they knew why or not. No one would say the impact of the Internet has been anything less than profound, although to find an unanimously upheld evaluation might be more than difficult. At the very least, the moth ate holes in many long-lived if not stodgy structures.



Has its effect been good or bad? It's too soon to tell. There has been some good, some bad. The fact is, we're not ready for the Web yet. Sure, many of us have been working on interactive applications, tools for their development, and principles of design for decades. But with the sudden advent of an omnipresent Web, legions of designers and developers have undertaken the challenge of designing Web sites. These people are smart, energetic, and talented. They are at home with technology, cool design, and creativity. They are off and running, but they don't know where they are going. Many become lost and drop out before getting their Web applications launched. Others regrettably unveil Web applications that do their owners in or succeed only in causing a radical reconsideration of the scope and nature of the task at hand.

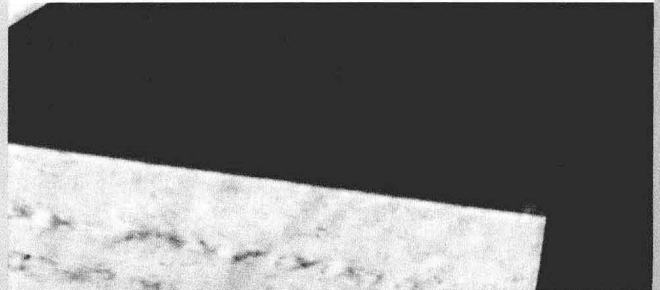
What's wrong? Simple. Energy and good intentions do not a good Web site make.

The models emulated by so many are close derivatives of models appropriate for print publications. They are flat, non-interactive, uninteresting, boring. They are content-centric, imperfect in design, and of doubtful value on most viewers' screens. As John says, "Because many experience designers view design for the Web as an extension of print design, much of the multimedia that's produced for the Web is perceptually ineffective." Indeed.

This book is correct. At least for the moment.

There is a tremendous amount to be learned as we experiment with the Web and explore new uses and new designs. We will know more, probably much more, about good design in the future. But what John shares in this book is unfortunately the needlessly uncommon wisdom of today. In Web design, the "just do it" philosophy hasn't worked out so well.

What should be known more widely is that much current design is bad—dreadfully bad. John is not hesitant to point out wide ranging



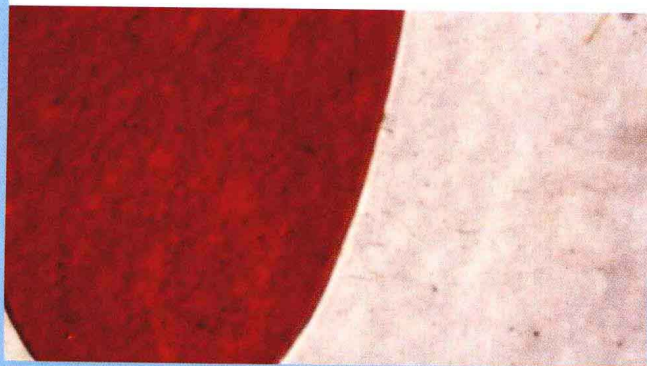
weaknesses from the rampant tendency to force feed content down the throats of Web guests to the details of design aesthetics that destroy many effective long-lasting relationships between people and Web services.

Until Web sites are people-focused and experience-focused, instead of being content-focused; innumerable misperceptions about what can be achieved through the Web will constrain its second metamorphosis in which it will become something beautiful, pleasant, and indeed welcome. The technology is here, although it could easily be much better, and the opportunity is here too as millions have affordable, convenient access, but there has been too much focus on the technology and the message rather than on the true purpose of the experience and desired outcomes.

Train of Thoughts provides a clear destination. People have rightly criticized the inefficiency of Web experiences and their poor user interfaces. They are there and they are horrific. But correcting inefficiencies and user interfaces doesn't get us where we really want to be. We need not to be in a place of doing things right as much as one where we're doing the right things.

John properly sees the Web as a purveyor of personal experiences that meet our needs not only efficiently but effectively. Without mincing words, John decries concerted efforts to reach efficiency in senseless, worthless experiences—the “ditches of mediocrity.” We can do better. It is known how to do better. We must do better.

When the Web is done right, we learn, we buy, we experience, we laugh, we grow, we return with enthusiasm because our time is well-spent. We feel connected with others through the technology, not separated and isolated. We feel appreciated because our individual values and preferences are honored. We are glad to live in the time of the Web.



This book is correct. At least for the moment.

John is clear about not only where we need to go, but also how we can get there. As our experience grows, we will undoubtedly find better ways to produce the experiences and outcomes we seek. But processes that work have been devised, applied, and tested. Why not spend a little time learning how to save a lot of time?

As have many others, I spent a lot of time teaching students an essentially linear method of application design that we now know to have very objectionable flaws. As we worked to remedy the flaws, we evolved our processes into much better approaches which are iterative and far more effective. Those many people who have not been acquainted with more effective approaches will find this book enlightening—maybe invaluable. Experience teaches us much, but unless that experience is shared, its value is minute.

When John first joined Allen Interactions Inc. he brought with him an enormous creative talent that we were happy to tap. In exchange, we did our best to share with him our experience in the design and development of interactive applications that “enhance the human mind and spirit” (our mission statement). As all teachers hope, the student has become the teacher. John has absorbed and synthesized outcomes from his wide-ranging experiences and shared very useful and often very pragmatic advice. The case studies and galleries alone will make your time with the book beneficial. Most of all, we hope you will join the campaign for Web designs that are not only tolerable but also enriching to our lives in a complex world.

Michael W. Allen

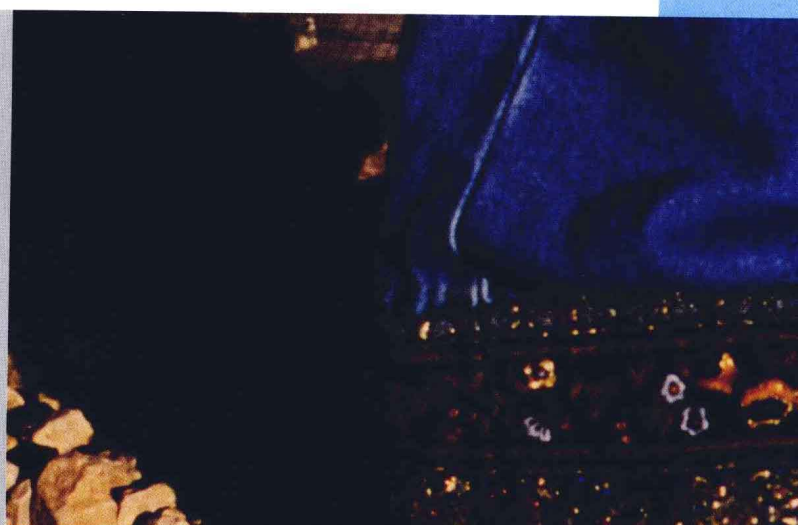


INTRODUCTION TO PART ONE

- 2 i1.00 INITIAL EXPERIENCE DESIGN STANDARDS HAVE BEEN TENACIOUS EVEN THOUGH THEY'RE INADEQUATE.
- 4 i1.00.01 Enter the 'usability' experts.
- 4 i1.00.02 The movement toward accepting usability as the de facto governing philosophy for Web experience design has largely been driven by Dr. Jakob Nielsen.
- 5 i1.00.03 Hopes for the Web have been dashed.
- 6 i1.00.04 My purpose in writing this book is neither to dismiss all usability standards carte blanche nor to endorse the notion that creativity is the dominant consideration when designing and developing an online resource.
- 7 i1.00.05 Warning: This book was not written to acquiesce to the status quo of established industry 'best practices.'
- 7 i1.00.06 Disclaimer: I'm neither a psychologist nor a social scientist.

CHAPTER 01

- 8 **01.00 'USERS' VERSUS PEOPLE—UNDERSTANDING WHAT MOTIVATES ONLINE BEHAVIOR**
- 10 **01.00.01** Practicality is not an underlying human motivation.
- 10 **01.00.02** Journeying along a well-conceived experiential pathway *is* what makes interacting with a Web enterprise compelling.
- 11 **01.00.03** As arguably the most influential Web usability consultant, Jakob Nielsen has, through a narrow set of heuristics, succeeded in convincing Web enterprises to base their experience design policies on a single facet of people's experiential needs.
- 11 **01.00.04** Poor usability isn't the primary reason why Web enterprises have experienced widespread failure.
- 12 **01.00.05** The core of an effective Web experience is NOT *user*-centered design but *person*-centered design.
- 13 **01.00.06** As consumers of online experiences are becoming more sophisticated and demanding, understanding and applying psychological and sociological principles in the design of online resources is becoming increasingly critical.
- 13 **01.01 PEOPLE GO ONLINE TO CONSUME**
- 14 **01.01.01** The fact is, expediency and practicality are not sufficient to meet our consumptive needs in either the physical world or the mediated world of the Web.
- 14 **01.01.02** We consume information to build knowledge and attain deeper understanding.
- 15 **01.01.03** We consume diversions such as entertainment to give our minds a break from the burnout that comes from thinking too much about one thing day in and day out.
- 15 **01.01.04** We consume goods to meet a multitude of tangible and intangible needs.
- 17 **01.01.05** We consume services to ease our burdens.
- 17 **01.02 PEOPLE GO ONLINE FOR SOCIAL REASONS**
- 18 **01.02.01** We go online to fulfill the social desire to find people, places, and things with which we can identify.
- 18 **01.02.02** We seek intellectual identification in a quest to answer these questions: "Is there anyone out there who thinks the way I do? Am I intellectually alone?"
- 19 **01.02.03** We seek ideological identification in a quest to answer these questions: "Is there anyone out there who believes the way I do? Am I ideologically alone?"
- 20 **01.02.04** We seek emotional identification in a quest to answer these questions: "Is there anyone out there who feels the way I do? Am I emotionally alone?"
- 20 **01.02.05** We seek social interaction and acceptance in a quest to answer this question: "How will the world embrace my intellectual, ideological, and emotional uniqueness?"



21 01.03 PEOPLE GO ONLINE FOR EMOTIONAL REASONS

22 01.03.01 It's impossible to design effective Web experiences without taking human emotion into consideration.

23 01.03.02 The Web is a vehicle for emotional fulfillment.

23 01.03.03 We seek to fill an emotional void on the Web.

24 01.03.04 We seek enjoyment on the Web.

24 01.03.05 We seek intensity on the Web.

26 01.03.06 We seek catharsis on the Web.

26 01.03.07 We seek drama on the Web.

27 01.03.08 Sterilizing Web experiences is a seriously flawed experience design strategy.

28 01.04 GRAPPLING WITH OUR MISDIRECTION

28 01.04.01 Our industry *will* evolve just like every other industry has before us—through the natural selection of a free-market economy.

29 01.04.02 We must stay on the road of progress and out of the ditches of mediocrity.

29 01.04.03 We must qualify our experience design recommendations with appropriate analysis.

31 01.04.04 As Dr. Donald Norman says, humans are 'active, creative, social beings.'

31 01.05 SUMMARY

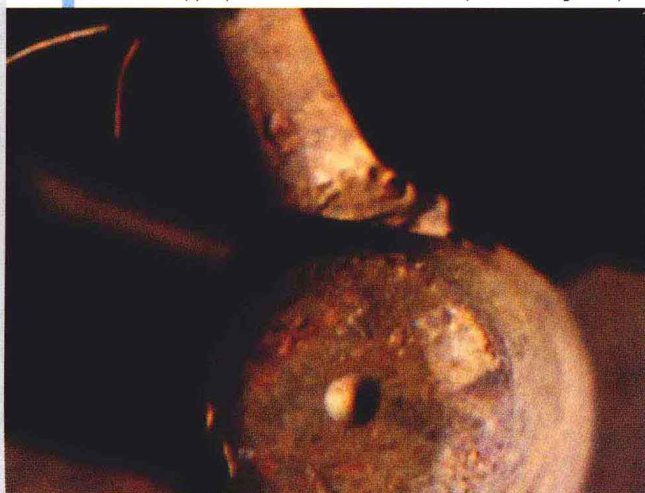
CHAPTER 02

34 02.00 AFFECTING OUTCOMES—CONVERTING MOTIVATION INTO ONLINE RESULTS

- 36 02.00.01 The goal of experience design is to elevate a person's readiness to absorb and respond to our online messages.
- 36 02.00.02 Before people can be effectively influenced, they must first believe; to believe, they must first understand; to understand, they must first be effectively informed.
- 37 02.00.03 Response interactions can best be achieved as the culmination of an iterative online learning process during which the things people learn continually build their confidence in and enthusiasm for the message.
- 38 02.00.04 We need to have a basic understanding of learning theory.
- 38 02.00.05 We need to understand the various ways people approach learning: *accretion*, *tuning*, and *restructuring*.
- 39 02.00.06 It's important to understand that helping people interpret, comprehend, and make desired conclusions regarding our ideas involves more than exposing them to materials related to the subjects.
- 39 02.00.07 In guiding comprehension, we must understand the best ways to approach the psychomotor, cognitive, and affective domains of learning.
- 40 02.00.08 To successfully instruct people in the cognitive and affective domains of learning, the methods of instruction should be similar to those employed in the psychomotor domain.
- 41 02.00.09 We must *enlighten* people without *overburdening* them.
- 42 02.00.10 The Web is a medium that can allow us to help more people than ever before in their pursuit of understanding.
- 42 02.00.11 Now that we have a better understanding of the *learning process*, we can better understand the components of an effective *teaching process*.
- 45 02.00.12 The goal is to lead people through a message in a way that results in a desired outcome.
- 46 02.00.13 Aristotle's philosophy most closely follows the three-stage cognitive framework that we all carry around with us to interpret communications.

47 02.01 ATTRACT—TUNING PEOPLE INTO OUR ONLINE MESSAGES

- 47 02.01.01 Use credentials to establish *credibility* with an audience.
- 48 02.01.02 The burden to persuade varies depending on the reputation of the person or organization making the presentation.
- 49 02.01.03 Superb execution can draw people to a message.
- 50 02.01.04 Other factors attract people to and keep them exploring online resources.
- 50 02.01.05 It's important that we help people quickly establish the appropriateness of an online message when they first encounter an online resource.
- 51 02.01.06 Appropriateness is determined by answering the question 'Is this good for me, bad for me, or just plain neutral?'



51 02.02 INFORM—DRAWING PEOPLE INTO OUR ONLINE MESSAGES

52 02.02.01 We must tap into an audience's latent energy.

52 02.02.02 Pathos is a vehicle for enhancing associative learning.

54 02.02.03 An example of associative learning.

55 02.02.04 Uncapping latent emotional energy is extremely crucial to helping people learn.

55 02.02.05 The story form is a powerful learning device.

56 02.02.06 Using the story form can enhance our information-processing capabilities.

56 02.02.07 Especially when used as an analogy to cause an audience to understand a parallelism in real life, a story has done its job when it has caused an audience to *feel* something for the subject at hand.

57 02.03 INVOKE—PERSUADING PEOPLE TO BUY INTO OUR ONLINE MESSAGES AND TAKE ACTION

58 02.03.01 Everything that we communicate is intended to prepare people to receive the key insight.

61 02.03.02 Stories that set up patterns of anticipation can be powerfully capitalized on in the *invoke* stage of our online communication.

61 02.03.03 The role of the key insight is not only to get people thinking but also to guide that thinking into a place of receptiveness for the recommended course of action.

62 02.03.04 The example of Big Dog versus Mom & Pop was designed to be silly, but the lesson it teaches is very serious.

62 02.03.05 We must elicit performance from our audiences or else our communication has been in vain.

63 02.03.06 Providing reinforcement and requesting feedback closes the loop on the current communication and opens the door for future online communication.

64 02.03.07 The steps in our three-part communication model are iterative, not linear.

65 02.03.08 This iterative communication model works like a corkscrew.

65 02.04 SUMMARY

CHAPTER 03

68 03.00 COMPOSING NOTIONS—MAKING ONLINE INFORMATION MEANINGFUL

70 03.00.01 Effective examples of notion sequences aren't encountered very often on the Web because the role of hierarchy in the organization of information has been widely misunderstood.

71 03.00.02 The need to keep people on track is a familiar concept, but why is it so important?

72 03.00.03 To understand an information flow, it's helpful to first look at it from the microlevel and then from the macrolevel.

74 03.00.04 Note that trains are of variable lengths.

74 03.00.05 To illustrate the variable nature of message length, let's examine a simple message that expresses the idea 'I love you.'

75 03.00.06 The main distinction between a thought and an idea is that a thought is easy to express in a moment.

76 03.00.07 Notions are the pearls that we string together to make our online messages valuable.

77 03.00.08 Experiential needs must be considered at the microlevel as much as they need to be considered at the macrolevel.

77 03.00.09 An effective notion provides the next rung in a person's ascent into understanding.

78 03.00.10 It's as important that we consider how people will embrace each notion as it is important that we consider how people will embrace the whole of a message and of an online resource in general.

79 03.00.11 What are permissible tolerances?

79 03.00.12 What is functional efficiency?

81 03.00.13 What makes a pattern complete?

81 03.00.14 How do we subordinate design to an objective?

82 03.00.15 We find meaning in a notion by associating the thought it expresses with what we already know and then by reflecting upon it until we gain either deeper or broader insight.

83 03.00.16 As mentioned in 02.00.04, the *Cognitive Constructionist Theories* address how we form and maintain our conceptual frameworks—sometimes referred to as knowledge structures, schema, or mental-models.

83 03.00.17 Interestingly, we don't actually remember everything about a stimulus that we perceive.

84 03.01 EXPECTATION INFLUENCES THE EFFICIENCY OF COMPREHENSION

84 03.01.01 Expectations vary depending on the primary nature of a person's consumptive motivation.

85 03.01.02 Knowledge—People generally expect that *finding* an online resource with appropriate information for their interests will take some effort.

86 03.01.03 Products—People's expectations vary when seeking products on the Web depending on the product's category.

87 03.01.04 Services—Expectations for services-related resources also vary depending on the type of service being sought.

88 03.01.05 Diversion—Resources that offer diversions such as games, chats, and imagery on a free basis are not expected to be of the same caliber as resources that offer these same services for sale.

90 03.01.06 Propaganda—When people decide to invest some of their valuable time consuming information about a cause, they realize that an organization is attempting to persuade them, sway their thinking in some way, or solicit a contribution.

90 03.01.07 People's expectations regarding how technology should function vary widely.

91 03.01.08 When expectation is met with realization, a person's mind becomes engaged in the flow of information.

