

# Contents

About the Authors .....	<i>ix</i>
About the Technical Reviewer .....	<i>x</i>
Acknowledgments .....	<i>xi</i>
Introduction .....	<i>xiii</i>

## Chapter 1 Welcome to XML .....1

What Is XML? .....	2
XML Examples .....	15
XSLT Programs and XPath Expressions .....	20
Stylesheet Languages and Browsers .....	30
Conclusion .....	39

## Chapter 2 Well-Formed Documents and Namespaces ..41

HTML, XML, and XHTML .....	41
XML Documents Without a DTD .....	48
Names and Namespaces .....	52
XLink Attributes and XLink Graphs .....	60
An XLink Example .....	65
Namespace Controversies and RDDI .....	74
Conclusion .....	79

## Chapter 3 DTDs and Validation .....81

DTDs and Validation .....	81
DTD Syntax and Examples .....	88
General and Parameter Entities .....	93
DTD Modification and Reuse .....	102
XHTML Modularization and XHTML Basic .....	107
What's Wrong with the DTD? .....	120
The DTD, the XML Document, and the Infoset .....	120
Conclusion .....	123

<b>Chapter 4 XML Parsing</b>	<b>125</b>
Basic SAX Programming	126
SAX Filters	143
SAX Parsing for Non-XML Data	157
DOM Programming	169
Traversal Interfaces	182
Book Picker as DOM Builder	186
Conclusion	193
 <b>Chapter 5 XPath, XSLT, and XLink Processing</b>	 <b>195</b>
An XLink Application: Creating and Using a Linkbase	196
The XPath Language and Data Model	198
XPath Data Model and the Node-Set Data Type	208
Path Expressions	214
XSLT Processing Model	223
Parameters, Variables, and Result Tree Fragments	234
Named Templates and Recursion	236
The Code of the XLink Application	242
Conclusion	253
 <b>Chapter 6 More XSLT: Algorithms and Efficiency</b>	 <b>255</b>
Specific Patterns and Timing	256
Distinct Nodes and Keys	259
Grouping and Tables	263
Converting Flat to Hierarchical Structure	273
List Processing and Recursion Depth	280
Generating Large Data Sets	284
Extension Functions	293
The Longest Verse, Revisited	297
Conclusion	307

<b>Chapter 7 XML Repository</b>	<b>309</b>
The Structure of XML Data	310
The Structure of the Database	319
The Structure of the Application	320
Driver, Database, Connection, and Statement	331
Query Implementations 1: UPDATE Queries	339
Query Implementations 2: Refset Actions	353
Conclusion	358
 <b>Chapter 8 RELAX NG and XML Schema</b>	 <b>361</b>
RELAX NG History and Current Condition	362
RELAX NG Overview	369
Modularity and Reuse	383
The datatypeLibrary and XML Schema Data Types	392
XML Schema Part 1: Structures	401
Conclusion	424
 <b>Chapter 9 Web Services</b>	 <b>425</b>
What's a Web Service?	425
An Example	431
Client Variations	448
Overview of SOAP 1.2	456
XML Encoding and RPC Conventions	462
The Office Equipment Web Service	467
Publish-Find-Bind with UDDI	479
Conclusion	489
 <b>Appendix A Installation Guide</b>	 <b>491</b>
Version Updates	492
The Java Framework	492
The Windows Framework	495
If Space Is at a Premium	498
Database Connectivity	498
Large Data Files	499
Web Services Examples (Chapter 9)	499
Additional Platforms	500

<b>Appendix B</b>	<b>Web Applications</b>	<b>501</b>
General Framework		501
CGI		502
Improvements to Backend Processing		503
ASPs		503
Java Servlets and JSPs		505
<b>Appendix C</b>	<b>HTTP Protocol</b>	<b>509</b>
URIs, URLs, and URNs		509
Overall Operation		510
Request Commands (Methods)		513
Server Response Codes		514
<b>Appendix D</b>	<b>Online Resources</b>	<b>517</b>
Standards		517
Sources of Information		519
Sources of Software		522
Keep Looking		523
<b>Appendix E</b>	<b>Troubleshooting in JSP</b>	<b>525</b>
Looking at Servlet Code for JSP		525
Error Pages		527
Writing Modular JSPs		529
Classpath Problems in Java/JSP		530
<b>Index</b>		<b>531</b>