Head First Object-Oriented Analysis & Design

A Brain-Friendly Guide to OOA&D

Impress friends with your UML prowess

Bend your mind around dozens of OO exercises

Avoid embarrassing relationship mistakes

Turn your OO designs into serious code

Load important OO design principles straight into your brain

See how polymorphism, encapsulation and inheritance helped Jen refactor her love life

O'REILLY®

Brett D. McLaughlin, Gary Pollice & David West
Praise for *Head First OOA&D*

"*Head First Object-Oriented Analysis and Design* is a refreshing look at the subject of OOA&D. What sets this book apart is its focus on learning. There are too many books on the market that spend a lot of time telling you why, but do not actually enable the practitioner to start work on a project. Those books are very interesting, but not very practical. I strongly believe that the future of software development practice will focus on the practitioner. The authors have made the content of OOA&D accessible and usable for the practitioner."

— Ivar Jacobson, Ivar Jacobson Consulting

"I just finished reading *HF OOA&D*, and I loved it! The book manages to get across the essentials of object-oriented analysis and design with UML and use cases, and even several lectures on good software design, all in a fast-paced, easy to understand way. The thing I liked most about this book was its focus on why we do OOA&D—to write great software! By defining what great software is and showing how each step in the OOA&D process leads you towards that goal, it can teach even the most jaded Java programmer why OOA&D matters. This is a great ‘first book’ on design for anyone who is new to Java, or even for those who have been Java programmers for a while but have been scared off by the massive tomes on OO Analysis and Design."

— Kyle Brown, Distinguished Engineer, IBM

"Finally a book on OOA&D that recognizes that the UML is just a notation and that what matters when developing software is taking the time to think the issues through."

— Pete McBreen, Author, *Software Craftsmanship*

"The book does a good job of capturing that entertaining, visually oriented, ‘Head First’ writing style. But hidden behind the funny pictures and crazy fonts is a serious, intelligent, extremely well-crafted presentation of OO Analysis and Design. This book has a strong opinion of how to design programs, and communicates it effectively. I love the way it uses running examples to lead the reader through the various stages of the design process. As I read the book, I felt like I was looking over the shoulder of an expert designer who was explaining to me what issues were important at each step, and why."

— Edward Sciore, Associate Professor, Computer Science Department
  Boston College

"This is a well-designed book that delivers what it promises to its readers: how to analyze, design, and write serious object-oriented software. Its contents flow effortlessly from using use cases for capturing requirements to analysis, design, implementation, testing, and iteration. Every step in the development of object-oriented software is presented in light of sound software engineering principles. The examples are clear and illustrative. This is a solid and refreshing book on object-oriented software development."

— Dung Zung Nguyen, Lecturer
  Rice University
Praise for other Head First books by the authors

“When arriving home after a 10-hour day at the office programming, who has the energy to plow through yet another new facet of emerging technology? If a developer is going to invest free time in self-driven career development, should it not be at least remotely enjoyable? Judging from the content of O’Reilly’s new release Head Rush Ajax, the answer is yes…Head Rush Ajax is a most enjoyable launchpad into the world of Ajax web applications, well worth the investment in time and money.”

— Barry Hawkins, Slashdot.org

“By starting with simple concepts and examples, the book gently takes the reader from humble beginnings to (by the end of the book) where the reader should be comfortable creating Ajax-based websites... Probably the best web designer centric book on Ajax.”

— Stefan Mischook, Killersites.com

“Using the irreverent style common of the Head First/Head Rush series of books, this book starts at the beginning and introduces you to all you need to know to be able to write the JavaScript that will both send requests to the server and update the page with the results when they are returned...One of the best things about this book (apart form the excellent explanations of how the code works) is that it also looks at security issues...If you learn Ajax from this book you are unlikely to forget much of what you learn.”

— Stephen Chapman, JavaScript.About.com

“Head Rush Ajax is the book if you want to cut through all the hype and learn how to make your web apps sparkled...your users will love you for it!”

— Kristin Stromberg, Aguirre International

“If you know some HTML, a dollop of CSS, a little JavaScript, and a bit of PHP, but you’re mystified about what all the Ajax hype is about, this book is for you...You’ll have a blast learning Ajax with Head Rush Ajax. By the time you’ve reached the end of the book, all those web technologies that didn’t quite fit together in your head will all snap into place and you’ll have The Ajax Power! You’ll know the secrets behind some of the most popular web applications on the Internet. You’ll impress your friends and co-workers with you knowledge of how those interactive maps and web forms really work.”

— Elisabeth Freeman, Director, Technology, The Walt Disney Internet Group
Co-Author, Head First Design Patterns and Head First HTML with CSS & XHTML

“If you thought Ajax was rocket science, this book is for you. Head Rush Ajax puts dynamic, compelling experiences within reach for every web developer.”

— Jesse James Garrett, Adaptive Path

“This stuff is brain candy; I can’t get enough of it.”

— Pauline McNamara, Center for New Technologies and Education
Fribourg University, Switzerland
Praise for other Head First Books

“I *heart* Head First HTML with CSS & XHTML – it teaches you everything you need to learn in a ‘fun coated’ format!”


“My wife stole the book. She’s never done any web design, so she needed a book like Head First HTML with CSS & XHTML to take her from beginning to end. She now has a list of web sites she wants to build – for our son’s class, our family, ... If I’m lucky, I’ll get the book back when she’s done.”

— David Kaminsky, Master Inventor, IBM

“Freeman’s Head First HTML with CSS & XHTML is a most entertaining book for learning how to build a great web page. It not only covers everything you need to know about HTML, CSS, and XHTML, it also excels in explaining everything in layman’s terms with a lot of great examples. I found the book truly enjoyable to read, and I learned something new!”

— Newton Lee, Editor-in-Chief, ACM Computers in Entertainment
http://www.acmcie.org

From the awesome Head First Java folks, this book uses every conceivable trick to help you understand and remember. Not just loads of pictures: pictures of humans, which tend to interest other humans. Surprises everywhere. Stories, because humans love narrative. (Stories about things like pizza and chocolate. Need we say more?) Plus, it’s darned funny.

— Bill Camarda, READ ONLY

“This book’s admirable clarity, humor and substantial doses of clever make it the sort of book that helps even non-programmers think well about problem-solving.”

— Cory Doctorow, co-editor of Boing Boing
Author, “Down and Out in the Magic Kingdom”
and “Someone Comes to Town, Someone Leaves Town”

“I feel like a thousand pounds of books have just been lifted off of my head.”

— Ward Cunningham, inventor of the Wiki
and founder of the Hillside Group


— Satish Kumar
To all the brilliant people who came up with various ways to
gather requirements, analyze software, and design code...

...thanks for coming up with something good enough to
produce great software, but hard enough that we needed this
book to explain it all.
Brett McLaughlin is a guitar player who is still struggling with the realization that you can’t pay the bills if you’re into acoustic fingerstyle blues and jazz. He’s just recently discovered, to his delight, that writing books that help people become better programmers does pay the bills. He’s very happy about this, as are his wife Leigh, and his kids, Dean and Robbie.

Before Brett wandered into Head First land, he developed enterprise Java applications for Nextel Communications and Allegiance Telecom. When that became fairly mundane, Brett took on application servers, working on the internals of the Lutris Enhydra servlet engine and EJB container. Along the way, Brett got hooked on open source software, and helped found several cool programming tools, like Jakarta Turbine and JDOM. Write to him at brett@oreilly.com.

Gary Pollice is a self-labeled curmudgeon (that’s a crusty, ill-tempered, usually old man) who spent over 35 years in industry trying to figure out what he wanted to be when he grew up. Even though he hasn’t grown up yet, he did make the move in 2003 to the hallowed halls of academia where he has been corrupting the minds of the next generation of software developers with radical ideas like, “develop software for your customer, learn how to work as part of a team, design and code quality and elegance and correctness counts, and it’s okay to be a nerd as long as you are a great one.”

Gary is a Professor of Practice (meaning he had a real job before becoming a professor) at Worcester Polytechnic Institute. He lives in central Massachusetts with his wife, Vikki, and their two dogs, Aloysius and Ignatius. You can visit his WPI home page at http://web.cs.wpi.edu/~gpollice/. Feel free to drop him a note and complain or cheer about the book.

Dave West would like to describe himself as sheik geek. Unfortunately no one else would describe him in that way. They would say he is a professional Englishman who likes to talk about software development best practices with the passion and energy of an evangelical preacher. Recently Dave has moved to Ivar Jacobson Consulting, where he runs the Americas and can combine his desire to talk about software development and spread the word on rugby and football, and argue that cricket is more exciting that baseball.

Before running the Americas for Ivar Jacobson Consulting, Dave worked for a number of years at Rational Software (now a part of IBM). Dave held many positions at Rational and then IBM, including Product Manager for RUP where he introduced the idea of process plug-ins and agility to RUP. Dave can be contacted at dwest@ivarjacobson.com.