



IMPLEMENTING DOMAIN-DRIVEN DESIGN

VAUGHN VERNON

FOREWORD BY ERIC EVANS

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Praise for *Implementing Domain-Driven Design*

“With *Implementing Domain-Driven Design*, Vaughn has made an important contribution not only to the literature of the Domain-Driven Design community, but also to the literature of the broader enterprise application architecture field. In key chapters on Architecture and Repositories, for example, Vaughn shows how DDD fits with the expanding array of architecture styles and persistence technologies for enterprise applications—including SOA and REST, NoSQL and data grids—that has emerged in the decade since Eric Evans’ seminal book was first published. And, fittingly, Vaughn illuminates the blocking and tackling of DDD—the implementation of entities, value objects, aggregates, services, events, factories, and repositories—with plentiful examples and valuable insights drawn from decades of practical experience. In a word, I would describe this book as *thorough*. For software developers of all experience levels looking to improve their results, and design and implement domain-driven enterprise applications consistently with the best current state of professional practice, *Implementing Domain-Driven Design* will impart a treasure trove of knowledge hard won within the DDD and enterprise application architecture communities over the last couple decades.”

—Randy Stafford, Architect At-Large, Oracle Coherence Product Development

“Domain-Driven Design is a powerful set of thinking tools that can have a profound impact on how effective a team can be at building software-intensive systems. The thing is that many developers got lost at times when applying these thinking tools and really needed more concrete guidance. In this book, Vaughn provides the missing links between theory and practice. In addition to shedding light on many of the misunderstood elements of DDD, Vaughn also connects new concepts like Command/Query Responsibility Segregation and Event Sourcing that many advanced DDD practitioners have used with great success. This book is a must-read for anybody looking to put DDD into practice.”

—Udi Dahan, Founder of NServiceBus

“For years, developers struggling to practice Domain-Driven Design have been wishing for more practical help in actually implementing DDD. Vaughn did an excellent job in closing the gap between theory and practice with a complete implementation reference. He paints a vivid picture of what it is like to do DDD in a contemporary project, and provides plenty of practical advice on how to approach and solve typical challenges occurring in a project life cycle.”

—Alberto Brandolini, DDD Instructor, Certified by Eric Evans and Domain Language, Inc.

“*Implementing Domain-Driven Design* does a remarkable thing: it takes a sophisticated and substantial topic area in DDD and presents it clearly, with nuance, fun and finesse. This book is written in an engaging and friendly style, like a trusted advisor giving you expert counsel on how to accomplish what is most important. By the time you finish the book you will be able to begin applying all the important concepts of

DDD, and then some. As I read, I found myself highlighting many sections . . . I will be referring back to it, and recommending it, often.”

—Paul Rayner, Principal Consultant & Owner, Virtual Genius, LLC., DDD Instructor, Certified by Eric Evans and Domain Language, Inc., DDD Denver Founder and Co-leader

“One important part of the DDD classes I teach is discussing how to put all the ideas and pieces together into a full blown working implementation. With this book, the DDD community now has a comprehensive reference that addresses this in detail. *Implementing Domain-Driven Design* deals with all aspects of building a system using DDD, from getting the small details right to keeping track of the big picture. This is a great reference and an excellent companion to Eric Evans seminal DDD book.”

—Patrik Fredriksson, DDD Instructor, Certified by Eric Evans and Domain Language, Inc.

“If you care about software craftsmanship—and you should—then Domain-Driven Design is a crucial skill set to master and *Implementing Domain-Driven Design* is the fast path to success. *IDDD* offers a highly readable yet rigorous discussion of DDD’s strategic and tactical patterns that enables developers to move immediately from understanding to action. Tomorrow’s business software will benefit from the clear guidance provided by this book.”

—Dave Muirhead, Principal Consultant, Blue River Systems Group

“There’s theory and practice around DDD that every developer needs to know, and this is the missing piece of the puzzle that puts it all together. Highly recommended!”

—Rickard Öberg, Java Champion and Developer at Neo Technology

“In *IDDD*, Vaughn takes a top-down approach to DDD, bringing strategic patterns such as bounded context and context maps to the fore, with the building block patterns of entities, values and services tackled later. His book uses a case study throughout, and to get the most out of it you’ll need to spend time grokking that case study. But if you do you’ll be able to see the value of applying DDD to a complex domain; the frequent sidenotes, diagrams, tables, and code all help illustrate the main points. So if you want to build a solid DDD system employing the architectural styles most commonly in use today, Vaughn’s book comes recommended.”

—Dan Haywood, author of *Domain-Driven Design with Naked Objects*

“This book employs a top-down approach to understanding DDD in a way that fluently connects strategic patterns to lower level tactical constraints. Theory is coupled with guided approaches to implementation within modern architectural styles. Throughout the book, Vaughn highlights the importance and value of focusing on the business domain all while balancing technical considerations. As a result, the role of DDD, as well as what it does and perhaps more importantly doesn’t imply, become ostensibly clear. Many a time, my team and I would be at odds with the friction encountered in applying DDD. With *Implementing Domain-Driven Design* as our luminous guide we were able to overcome those challenges and translate our efforts into immediate business value.”

—Lev Gorodinski, Principal Architect, DrillSpot.com



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Implementing Domain-Driven Design

Vaughn Vernon

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*This book is dedicated to my dearest Nicole and Tristan.
Thanks for your love, your support, and your patience.*

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