



Extreme Programming *Explained*

EMBRACE CHANGE

KENT BECK

WITH **CYNTHIA ANDRES**

Foreword by Erich Gamma

Second Edition

Praise for *Extreme Programming Explained, Second Edition*

“In this second edition of *Extreme Programming Explained*, Kent Beck organizes and presents five years’ worth of experiences, growth, and change revolving around XP. If you are seriously interested in understanding how you and your team can start down the path of improvement with XP, you must read this book.”

—**Francesco Cirillo**, Chief Executive Officer, XPLabs S.R.L.

“The first edition of this book told us what XP was—it changed the way many of us think about software development. This second edition takes it farther and gives us a lot more of the ‘why’ of XP, the motivations and the principles behind the practices. This is great stuff. Armed with the ‘what’ and the ‘why,’ we can now all set out to confidently work on the ‘how’: how to run our projects better, and how to get agile techniques adopted in our organizations.”

—**Dave Thomas**, The Pragmatic Programmers LLC

“This book is dynamite! It was revolutionary when it first appeared a few years ago, and this new edition is equally profound. For those who insist on cookbook checklists, there’s an excellent chapter on ‘primary practices,’ but I urge you to begin by truly contemplating the meaning of the opening sentence in the first chapter of Kent Beck’s book: ‘XP is about social change.’ You should do whatever it takes to ensure that every IT professional and every IT manager—all the way up to the CIO—has a copy of *Extreme Programming Explained* on his or her desk.”

—**Ed Yourdon**, author and consultant

“XP is a powerful set of concepts for simplifying the process of software design, development, and testing. It is about minimalism and incrementalism, which are especially useful principles when tackling complex problems that require a balance of creativity and discipline.”

—**Michael A. Cusumano**, Professor, MIT Sloan School of Management, and author of *The Business of Software*

“*Extreme Programming Explained* is the work of a talented and passionate craftsman. Kent Beck has brought together a compelling collection of ideas about programming and management that deserves your full attention. My only beef is that our profession has gotten to a point where such common-sense ideas are labeled ‘extreme.’ . . .”

—**Lou Mazzucchelli**, Fellow, Cutter Business Technology Council

Extreme Programming Explained: Embrace Change

Table of Contents

Contents

Foreword to the Second Edition

Foreword to the First Edition

Preface

Chapter 1 What is XP?

Section 1 Exploring XP

Chapter 2 Learning to Drive

Chapter 3 Values, Principles, and Practices

Chapter 4 Values

Communication

Simplicity

Feedback

Courage

Respect

Others

Chapter 5 Principles

Humanity

Table of Contents

Economics

Mutual Benefit

Self-Similarity

Improvement

Diversity

Reflection

Flow

Opportunity

Redundancy

Failure

Quality

Baby Steps

Accepted Responsibility

Chapter 6 Practices

Chapter 7 Primary Practices

Sit Together

Whole Team

Informative Workspace

Energized Work

Pair Programming

Stories

Weekly Cycle

Quarterly Cycle

Slack

Table of Contents

Ten-Minute Build

Continuous Integration

Test-First Programming

Incremental Design

Chapter 8 Getting Started

Chapter 9 Corollary Practices

Real Customer Involvement

Incremental Deployment

Team Continuity

Shrinking Teams

Root-Cause Analysis

Shared Code

Code and Tests

Single Code Base

Daily Deployment

Negotiated Scope Contract

Pay-Per-Use

Chapter 10 The Whole XP Team

Testers

Interaction Designers

Architects

Project Managers

Product Managers

Executives

Table of Contents

Technical Writers

Users

Programmers

Human Resources

Roles

Chapter 11 The Theory of Constraints

Chapter 12 Planning: Managing Scope

Chapter 13 Testing: Early, Often, and Automated

Chapter 14 Designing: The Value of Time

Simplicity

Chapter 15 Scaling XP

Number of People

Investment

Size of Organization

Time

Problem Complexity

Solution Complexity

Consequences of Failure

Chapter 16 Interview

Section 2 Philosophy of XP

Chapter 17 Creation Story

Chapter 18 Taylorism and Software

Chapter 19 Toyota Production System

Table of Contents

Chapter 20 Applying XP

Choosing a Coach

When You Shouldnt Use XP

Chapter 21 Purity

Certification and Accreditation

Chapter 22 Offshore Development

Chapter 23 The Timeless Way of Programming

Chapter 24 Community and XP

Chapter 25 Conclusion

Annotated Bibliography

Index