

Pearson New International Edition

Agile Software Development  
Principles, Patterns, and Practices  
Robert C. Martin  
First Edition



**Pearson Education Limited**

Edinburgh Gate

Harlow

Essex CM20 2JE

England and Associated Companies throughout the world

*Visit us on the World Wide Web at: [www.pearsoned.co.uk](http://www.pearsoned.co.uk)*

© Pearson Education Limited 2014

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a licence permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London EC1N 8TS.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

**PEARSON**

ISBN 10: 1-292-02594-8

ISBN 13: 978-1-292-02594-0

**British Library Cataloguing-in-Publication Data**

A catalogue record for this book is available from the British Library

Printed in the United States of America

# Agile Software Development, Principles, Patterns, and Practices

## Pearson New International Edition

### Table of Contents

Cover

Table of Contents

Section 1. Agile Development

Chapter 1. Agile Practices

Chapter 2. Overview of Extreme Programming

Chapter 3. Planning

Chapter 4. Testing

Chapter 5. Refactoring

Chapter 6. A Programming Episode

Section 2. Agile Design

Chapter 7. What Is Agile Design?

Chapter 8. SRP: The Single-Responsibility Principle

Chapter 9. OCP: The Open-Closed Principle

Chapter 10. LSP: The Liskov Substitution Principle

Chapter 11. DIP: The Dependency-Inversion Principle

Chapter 12. ISP: The Interface-Segregation Principle

Section 3. The Payroll Case Study

Chapter 13. Command and Active Object

Chapter 14. Template Method & Strategy: Inheritance vs. Delegation

Chapter 15. Facade and Mediator

Chapter 16. Singleton and Monostate

Chapter 17. Null Object

Chapter 18. The Payroll Case Study: Iteration One Begins

Chapter 19. The Payroll Case Study: Implementation

Section 4. Packaging the Payroll System

Chapter 20. Principles of Package Design

Chapter 21. Factory

Chapter 22. The Payroll Case Study (Part 2)

Section 5. The Weather Station Case Study

Chapter 23. Composite

Chapter 24. ObserverBacking into a Pattern

## **Table of Contents**

Chapter 25. Abstract Server, Adapter, and Bridge

Chapter 26. Proxy and Stairway to Heaven: Managing Third Party APIs

Chapter 27. Case Study: Weather Station

Section 6. The ETS Case Study

Chapter 28. Visitor

Chapter 29. State

Chapter 30. The ETS Framework

Appendix A: UML Notation I: The CGI Example

Appendix B: UML Notation II: The Statmux

Appendix C: A Satire of Two Companies

Index

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

## Table of Contents

z