

Managing Technical Debt

Managing Technical Debt: Reducing Friction in Software Development

Table of Contents

Cover

Half Title

Title Page

Copyright Page

Dedication

Contents at a Glance

Contents

Foreword

Preface

Acknowledgments

About the Authors

About the Contributors

Acronyms

SEI Figures for Managing Technical Debt

Part I: Exploring the Technical Debt Landscape

Chapter 1: Friction in Software Development

The Promise of Managing Technical Debt

Technical Debt A-B-C

Examples of Technical Debt

Your Own Story About Technical Debt?

Who Is This Book For?



Principles of Technical Debt Management

Navigating the Concepts of the Book

What Can You Do Today?

For Further Reading

Chapter 2: What Is Technical Debt?

Mapping the Territory

The Technical Debt Landscape

Technical Debt Items: Artifacts, Causes, and Consequences

Principal and Interest

Cost and Value

Potential Debt versus Actual Debt

The Technical Debt Timeline

What Can You Do Today?

For Further Reading

Chapter 3: Moons of SaturnThe Crucial Role of Context

It Depends

Three Case Studies: Moons of Saturn

Technical Debt in Context

What Can You Do Today?

For Further Reading

Part II: Analyzing Technical Debt

Chapter 4: Recognizing Technical Debt

Where Does It Hurt?

What Are the Visible Consequences of Technical Debt?

Writing a Technical Debt Description

Understanding the Business Context for Assessing Technical Debt

Assessing Artifacts Across the Technical Debt Landscape

What Can You Do Today?

For Further Reading



Chapter 5: Technical Debt and the Source Code

Looking for the Magic Wand

Understand Key Business Goals

Identify Questions About the Source Code

Define the Observable Measurement Criteria

Select and Apply an Analysis Tool

Document the Technical Debt Items

Then Iterate

What Happens Next?

What Can You Do Today?

For Further Reading

Chapter 6: Technical Debt and Architecture

Beyond the Code

Ask the Designers

Examine the Architecture

Examine the Code to Get Insight into the Architecture

The Case of Technical Debt in the Architecture of Phoebe

What Can You Do Today?

For Further Reading

Chapter 7: Technical Debt and Production

Beyond the Architecture, the Design, and the Code

Build and Integration Debt

Testing Debt

Infrastructure Debt

The Case of Technical Debt in the Production of Phoebe

What Can You Do Today?

For Further Reading

Part III: Deciding What Technical Debt to Fix

Chapter 8: Costing the Technical Debt



Shining an Economic Spotlight on Technical Debt

Refine the Technical Debt Description

Calculate the Cost of Remediation

Calculate the Recurring Interest

Compare Cost and Benefit

Manage Technical Debt Items Collectively

What Can You Do Today?

For Further Reading

Chapter 9: Servicing the Technical Debt

Weighing the Costs and Benefits

Paths for Servicing Technical Debt

The Release Pipeline

The Business Case for Technical Debt as an Investment

What Can You Do Today?

For Further Reading

Part IV: Managing Technical Debt Tactically and Strategically

Chapter 10: What Causes Technical Debt?

The Perplexing Art of Identifying What Causes Debt

The Roots of Technical Debt

What Causes Technical Debt?

Causes Rooted in the Business

Causes Arising from Change in Context

Causes Associated with the Development Process

Causes Arising from People and Team

To Conclude

What Can You Do Today?

For Further Reading

Chapter 11: Technical Debt Credit Check

Identifying Causes: Technical Debt Credit Check



Four Focus Areas for Understanding the State of a Project Diagnosing the Causes of Technical Debt in Phoebe Diagnosing the Causes of Technical Debt in Tethys What Can You Do Today? For Further Reading Chapter 12: Avoiding Unintentional Debt Software Engineering in a Nutshell Code Quality and Unintentional Technical Debt Architecture, Production, and Unintentional Technical Debt What Can You Do Today? For Further Reading Chapter 13: Living with Your Technical Debt Your Technical Debt Toolbox On the Three Moons of Saturn Technical Debt and Software Development Finale Glossary



Α В C D F

Р

Q R S Т

٧

References

Index

