Agile Estimating and Planning



Mike Cohn

Praise for Agile Estimating and Planning

"Traditional, deterministic approaches to planning and estimating simply don't cut it on the slippery slopes of today's dynamic, change-driven projects. Mike Cohn's breakthrough book gives us not only the philosophy, but also the guidelines and a proven set of tools that we need to succeed in planning, estimating, and scheduling projects with a high uncertainty factor. At the same time, the author never loses sight of the need to deliver business value to the customer each step of the way."

—Doug DeCarlo, author of eXtreme Project Management: Using Leadership, Principles and Tools to Deliver Value in the Face of Volatility (Jossey-Bass, 2004)

"We know how to build predictive plans and manage them. But building plans that only estimate the future and then embrace change, challenge most of our training and skills. In *Agile Estimating and Planning*, Mike Cohn once again fills a hole in the Agile practices, this time by showing us a workable approach to Agile estimating and planning. Mike delves into the nooks and crannies of the subject and anticipates many of the questions and nuances of this topic. Students of Agile processes will recognize that this book is truly about agility, bridging many of the practices between Scrum and ExtremeProgramming."

—Ken Schwaber, Scrum evangelist, Agile Alliance cofounder, and signatory to the Agile Manifesto

"In *Agile Estimating and Planning*, Mike Cohn has, for the first time, brought together most everything that the Agile community has learned about the subject. The book is clear, well organized, and a pleasant and valuable read. It goes into all the necessary detail, and at the same time keeps the reader's burden low. We can dig in as deeply as we need to, without too much detail before we need it. The book really brings together everything we have learned about Agile estimation and planning over the past decade. It will serve its readers well."

—Ron Jeffries, www.XProgramming.com, author of *Extreme Programming Installed* (Addison-Wesley, 2001) and *Extreme Programming Adventures in C#* (Microsoft Press, 2004)

"Agile Estimating and Planning provides a view of planning that's balanced between theory and practice, and it is supported by enough concrete experiences to lend it credibility. I particularly like the quote 'planning is a quest for value.' It points to a new, more positive attitude toward planning that goes beyond the 'necessary evil' view that I sometimes hold."

—Kent Beck, author of *Extreme Programming Explained, Second Edition* (Addison-Wesley, 2005)

"Up-front planning is still the most critical part of software development. Agile software development requires Agile planning techniques. This book shows you how to employ Agile planning in a succinct, practical, and easy-to-follow manner."

—Adam Rogers, Ultimate Software

"We are true believers in the Agile methods described in this book, and have experienced a substantially positive impact from their implementation and continued use. I would highly recommend this book to anyone interested in making their software development more practical and effective."

—Mark M. Gutrich, President and CEO, Fast 401k, Inc.

Agile Estimating and Planning

Table of Contents

Cover

Half Title

Title Page

Copyright Page

Contents

About the Author

Foreword

Foreword

Foreword

Acknowledgments

Introduction

Part I: The Problem and the Goal

Chapter 1: The Purpose of Planning

Why Do It?

What Makes a Good Plan?

What Makes Planning Agile?

Summary

Discussion Questions

Chapter 2: Why Planning Fails

Planning Is by Activity Rather Than Feature

Multitasking Causes Further Delays

Features Are Not Developed by Priority



We Ignore Uncertainty

Estimates Become Commitments

Summary

Discussion Questions

Chapter 3: An Agile Approach

An Agile Approach to Projects

An Agile Approach to Planning

Summary

Discussion Questions

Part II: Estimating Size

Chapter 4: Estimating Size with Story Points

Story Points Are Relative

Velocity

Summary

Discussion Questions

Chapter 5: Estimating in Ideal Days

Ideal Time and Software Development

Ideal Days as a Measure of Size

One Estimate, Not Many

Summary

Discussion Questions

Chapter 6: Techniques for Estimating

Estimates Are Shared

The Estimation Scale

Deriving an Estimate

Planning Poker

Why Planning Poker Works

Summary



Discussion Questions

Chapter 7: Re-Estimating

Introducing the SwimStats Website

When Not to Re-Estimate

When to Re-Estimate

Re-Estimating Partially Completed Stories

The Purpose of Re-Estimating

Summary

Discussion Questions

Chapter 8: Choosing between Story Points and Ideal Days

Considerations Favoring Story Points

Considerations Favoring Ideal Days

Recommendation

Summary

Discussion Questions

Part III: Planning for Value

Chapter 9: Prioritizing Themes

Factors in Prioritization

Combining the Four Factors

Some Examples

Summary

Discussion Questions

Chapter 10: Financial Prioritization

Sources of Return

An Example: WebPayroll

Financial Measures

Comparing Returns

Summary



Discussion Questions

Chapter 11: Prioritizing Desirability

Kano Model of Customer Satisfaction

Relative Weighting: Another Approach

Summary

Discussion Questions

Chapter 12: Splitting User Stories

When to Split a User Story

Splitting across Data Boundaries

Splitting on Operational Boundaries

Removing Cross-Cutting Concerns

Don't Meet Performance Constraints

Split Stories of Mixed Priority

Don't Split a Story into Tasks

Avoid the Temptation of Related Changes

Combining Stories

Summary

Discussion Questions

Part IV: Scheduling

Chapter 13: Release Planning Essentials

The Release Plan

Updating the Release Plan

An Example

Summary

Discussion Questions

Chapter 14: Iteration Planning

Tasks Are Not Allocated During Iteration Planning

How Iteration and Release Planning Differ



Velocity-Driven Iteration Planning

Commitment-Driven Iteration Planning

My Recommendation

Relating Task Estimates to Story Points

Summary

Discussion Questions

Chapter 15: Selecting an Iteration Length

Factors in Selecting an Iteration Length

Making a Decision

Two Case Studies

Summary

Discussion Questions

Chapter 16: Estimating Velocity

Use Historical Values

Run an Iteration

Make a Forecast

Which Approach Should I Use?

Summary

Discussion Questions

Chapter 17: Buffering Plans for Uncertainty

Feature Buffers

Schedule Buffers

Combining Buffers

A Schedule Buffer Is Not Padding

Some Caveats

Summarv

Discussion Questions

Chapter 18: Planning the Multiple-Team Project



Establishing a Common Basis for Estimates

Adding Detail to User Stories Sooner

Lookahead Planning

Incorporating Feeding Buffers into the Plan

But This Is So Much Work

Summary

Discussion Questions

Part V: Tracking and Communicating

Chapter 19: Monitoring the Release Plan

Tracking the Release

Release Burndown Charts

A Parking-Lot Chart

Summary

Discussion Questions

Chapter 20: Monitoring the Iteration Plan

The Task Board

Iteration Burndown Charts

Tracking Effort Expended

Individual Velocity

Summary

Discussion Questions

Chapter 21: Communicating about Plans

Communicating the Plan

Communicating Progress

An End-of-Iteration Summary

Summary

Discussion Questions

Part VI: Why Agile Planning Works



Chapter 22: Why Agile Planning Works

Replanning Occurs Frequently

Estimates of Size and Duration Are Separated

Plans Are Made at Different Levels

Plans Are Based on Features, Not Tasks

Small Stories Keep Work Flowing

Work in Process Is Eliminated Every Iteration

Tracking Is at the Team Level

Uncertainty Is Acknowledged and Planned For

A Dozen Guidelines for Agile Estimating and Planning

Summary

Discussion Questions

Part VII: A Case Study

Chapter 23: A Case Study: Bomb Shelter Studios

Day 1Monday Morning

Estimating the User Stories

Preparing for Product Research

Iteration and Release Planning, Round 1

Two Weeks Later

Planning the Second Iteration

Two Weeks Later

Revising the Release Plan

Presenting the Revised Plan to Phil

Eighteen Weeks Later

Reference List

Index

