

Contents at a Glance

Introduction	1
Part I: Starting Your Software Project	7
Chapter 1: Examining the Big Picture of Project Management	9
Chapter 2: Initiating a Software Project	25
Chapter 3: Creating the Software Scope	55
Part II: Planning Your Software Project	77
Chapter 4: Planning for Communications	79
Chapter 5: Planning for Software Project Risks	107
Chapter 6: Planning for Software Quality	131
Chapter 7: Building the Project Team	147
Chapter 8: Creating Project Time Estimates	165
Chapter 9: Building Your Project Budget	191
Part III: Executing Your Software Project Plan	209
Chapter 10: Working the Project Plan	211
Chapter 11: Working with Project People	229
Chapter 12: Procuring Goods and Services	245
Part IV: Controlling Your Software Project	263
Chapter 13: Managing Changes to the Software Project	265
Chapter 14: Using Earned Value Management in Software Projects	281
Chapter 15: Tracking Project Performance	295
Part V: Closing Your Software Project	313
Chapter 16: Finalizing the Project Management Processes	315
Chapter 17: Documenting Your Software Project	333
Part VI: The Part of Tens	347
Chapter 18: Ten Ways to Make Your Software Project Crash and Burn	349
Chapter 19: Ten Ways to Make Any Software Project Better	359
Appendix: Formal Project Management Training and Certification	369
Index	375

Table of Contents

Introduction 1

About This Book.....	1
Who Should Read This Book?.....	2
How This Book Is Organized.....	3
Part I: Starting Your Software Project	3
Part II: Planning Your Software Project.....	3
Part III: Executing Your Software Project Plan	4
Part IV: Controlling Your Software Project	4
Part V: Closing Your Software Project.....	4
Part VI: The Part of Tens	5
Appendix	5
Icons Used in This Book.....	5
Where to Go from Here.....	6

Part 1: Starting Your Software Project 7

Chapter 1: Examining the Big Picture of Project Management 9

Defining Software Projects	10
Defining Software Project Management	10
Comparing Projects and Operations	12
Examining Project Constraints	13
Understanding Universal Constraints (Time, Cost, and Scope)	13
Managing time constraints.....	15
Managing cost constraints	16
Managing the scope	16
Controlling Scope Creep.....	17
Making Sense of Project Success (Or Failure).....	18
Starting and Finishing Software Projects	19
Understanding What Makes Software Project Management So Special.....	20
Breaking Moore's Law	21
Dealing with Moore	21
Dealing with the first-time, first-use penalty.....	23

Chapter 2: Initiating a Software Project 25

Identifying the Project Purpose.....	25
Talking to the stakeholders.....	26
Reaching project consensus	30



- Dealing with Politics31
- Moving from Here to There.....32
 - Initiating the project34
 - Planning the project.....36
 - Examining project planning approaches.....37
 - Executing the project.....38
 - Controlling the project38
 - Closing the project.....38
- Living with Stakeholders.....39
 - Loving your project team.....39
 - Loving your project sponsor40
 - Balancing stakeholder expectations.....40
- Completing a Project Feasibility Study42
 - What feasibility studies do (and don't do)43
 - Finding a feasibility consultant.....43
- Understanding How Executives Select Projects.....44
 - Using the benefit comparison selection model.....45
 - Using a scoring model46
 - Facing a murder board.....46
 - Finding a project's ROI.....46
- Writing the Product Description49
- Making Your Project Wish List51
 - Finding the ideal tools51
 - Building a dream team.....52
 - Finding a preferred vendor53
- Recognizing Doomed Projects.....54

Chapter 3: Creating the Software Scope 55

- Understanding Product Scope and Project Scope.....56
 - Completing stakeholder analysis56
 - Interviewing stakeholders now to avoid surprises later.....57
- Managing Stakeholder Objectives.....58
 - Knowing the sources of common conflicts58
 - Resolving common conflicts60
- Building the Software Scope61
 - Dealing with regulations and options62
 - Dealing with project constraints64
 - Getting to the signature.....66
- Creating the Project Scope67
 - Knowing what the project scope statement must include68
 - What a project scope doesn't include70
- Creating a Work Breakdown Structure70
 - Creating your very own WBS.....71
 - Making updates to the WBS73
 - Using a code of accounts.....73

***Part II: Planning Your Software Project*77**

Chapter 4: Planning for Communications79

The Importance of Communicating Effectively.....	80
Ensuring accurate communication	80
How not to communicate	82
Care and Feeding of Nerds	83
Avoiding Communication Breakdowns	85
Facing the risks of communication meltdowns.....	85
Managing communications across the enterprise.....	87
Calculating the Communication Channels.....	88
Building an Effective Communication Management Plan	91
Knowing the six things every communication plan needs	91
The communication responsibility matrix: Determining who communicates to whom	93
Setting up ten-minute meetings.....	94
Defining Who Needs What Information.....	96
What executives want to hear	96
What functional managers need to hear	97
What your project team needs to hear.....	98
What you need to hear	99
Defining When Communication Is Needed	100
Creating a communication schedule	100
Hosting team and stakeholder meetings.....	102
Defining Communication Modalities	104
Modalities for formal communication	104
Modalities for informal communication.....	105
Automating communications.....	105

Chapter 5: Planning for Software Project Risks107

Identifying Pure and Business Risks	108
Dealing with pure risks in software projects	109
Assessing business risks	109
Accepting everyday technology risks with your software project	110
Determining Stakeholder Risk Tolerance.....	111
Mitigating Risks Early On	112
Managing Risks in Your Organization	113
Identifying risks	113
Ranking risks.....	114
Relying on Quantitative Analysis	116
Creating a Contingency Reserve	117
Using Software Models for Risk Management	118
Using the waterfall model.....	119
Using the spiral model.....	121

Using the V model	123
Using the scrum development model	124
Preparing a Risk Response Plan	126
Avoiding risks	127
Transferring risks	128
Mitigating risks	128
Accepting the risks	129
Examining Risk Responses and Impacts	129
Handling the ripple effect of risk response	130
Getting to say, “I told you so!”	130
Chapter 6: Planning for Software Quality	131
Defining Quality	131
Referring to the product scope	132
Referring to the project scope	133
Avoiding gold-plated software	134
Examining quality versus grade	135
Working with a Quality Policy	136
Working ISO programs	137
Getting a Total Quality Management workout	137
Slipping into the sixth sigma	140
Using homegrown, in-house quality solutions	142
Balancing Time, Cost, and Quality	142
Examining optimal quality	143
Considering quality when making changes	144
Chapter 7: Building the Project Team	147
Determining Your Project Needs	148
Revisiting the work breakdown structure	148
Creating a roles and responsibilities matrix	148
Finding the Talent	152
Asking the Right Questions (In the Right Way)	152
Asking questions that facilitate resource management	153
Asking questions that facilitate leadership potential	154
Finding a star	155
Working with organizational structures	155
Determining Who Is Really in Charge	156
Functioning in a functional organization	157
Mixing it up in a matrix	158
Prospering in the projectized structure	159
Cooling in a composite structure	161
Hosting Your First Project Team Meeting	161
Working with Organizational Policies	162
Chapter 8: Creating Project Time Estimates	165
Organizing Information Before You Build a Timeline	166
Understanding the Importance of a Project Network Diagram	166

Preparing to Create Your PND168

- Determining What May Happen — and When168
- Factoring in external dependencies170
- Putting together all the pieces.....170
- Relying on network templates171
- Identifying subnets and fragnets172

Using Historical Information to Complete

- Inexact Activity Time Estimates172

Identifying Activity Duration Influencers173

- Documenting project assumptions173
- Documenting project constraints173
- Considering the project risks.....174
- Considering resource requirements and capabilities.....175
- Anticipating the first-time, first-use penalty176

Making the Project Duration Estimate176

- Creating a rough order of magnitude estimate.....177
- Creating an analogous estimate177
- Creating a parametric estimate178

Estimating Do’s and Don’ts178

Using PERT for the Most Accurate Estimates179

Knowing What to Say if the Boss Wants an Estimate Now180

Understanding the Way PND Paths Interact181

- Calculating the critical path.....181
- Calculating float.....182
- Applying float to the project.....184

Creating the Project Schedule185

- Working with the project calendar.....185
- Working with a resource calendar.....186
- Using resource-leveling heuristics187
- Crashing and fast tracking your project.....188

Chapter 9: Building Your Project Budget191

Creating Cost Estimates191

- Using the right resources (and using them wisely)192
- Creating a rough estimate193
- Creating a budget estimate194
- Creating a definitive estimate194

Creating an Accurate Estimate.....195

Considering Project Profitability.....197

Planning for Contingencies198

Controlling Project Costs199

- Understanding accounting blue dollars199
- Understanding work-for-hire accounting199
- Following simple strategies to manage project expenses.....200

Having More Project than Cash.....202

- Completing root cause analysis203
- Reducing the project scope205
- Begging for cash206

Recognizing Budgetary Problems Before You Get to the Root Cause Analysis Stage	207
Dealing with a Budget Problem that Your Bosses Know about (But Haven't Addressed)	208

Part III: Executing Your Software Project Plan.....209

Chapter 10: Working the Project Plan211

Authorizing the Project Work	211
Creating a work authorization system.....	212
Using a project management information system	212
Ensuring Quality in Execution	213
Understanding the Interoperability of the Quality Management Plan	216
Following Quality Assurance	217
Following the Quality Policy	218
Managing Software Project Risks	219
Gathering the ingredients for a solid risk management plan	220
Examining typical risks.....	221
Getting a plan together	221
Gathering information to identify real risks	222
Monitoring and Controlling Risks	224
Managing Secondary and Residual Risks.....	225
Documenting Risk Management Effectiveness.....	226

Chapter 11: Working with Project People229

Examining the Phases of Team Development.....	229
Understanding the life cycle of a typical project team.....	230
Making a team out of a group of people	232
Training the project team.....	232
Doing Some Fun Team-Building Exercises	233
Managing Project Conflicts	234
Dealing with stakeholders.....	235
Dealing with project team members.....	236
Documenting project conflicts and resolutions	237
Using Your Super Magic Project Manager Powers.....	238
Forcing a decision	238
Relying on expert power	239
Using coercive power	240
Rewarding the project team.....	242
You and Your Positional Power	243

Chapter 12: Procuring Goods and Services245

Finding a Vendor	246
Using RFLs to solicit vendors	247
Hosting a bidders' conference.....	248

A day in the life of a bidders' conference.....248
 Setting up criteria for RFPs249
 Selecting the Vendor.....250
 Considering market conditions250
 Using a screening system251
 Using the help of others251
 Implementing a weighting system.....252
 Negotiating for the Best Solution253
 Starting with price.....253
 Considering time, cost, and quality issues254
 Administering Contracts255
 Selecting the contract type256
 Writing the terms and conditions256
 Creating the statement of work258
 Solving problems and compromising259
 Closing the Vendor Contract260
 Auditing the goods and services261
 Signing off for the procured goods and services261

Part IV: Controlling Your Software Project.....263

Chapter 13: Managing Changes to the Software Project265

Introducing the Controlling Process Group.....266
 Controlling the Project Scope.....266
 Examining the project scope267
 Creating and following a change control system269
 Determining the value of the proposed change271
 Correcting mistakes271
 Controlling Project Costs272
 Managing project cost variances273
 Estimating the cost of change.....274
 Forecasting variance274
 Controlling the Project Schedule275
 Managing project time variances275
 Estimating impact of change on the project schedule277
 Forecasting schedule variances278

**Chapter 14: Using Earned Value Management
 in Software Projects281**

Defining Earned Value Management281
 Understanding what earned value is (and isn't)282
 Discovering the other pieces of the EV formula282
 Determining a project's worth283
 Discovering the Earned Value Management Formulas284

Playing with Values	286
Calculating your PV	286
Calculating earned value	287
Calculating your AC	287
Creating a new EAC	288
Determining the estimate to complete the project	289
Uh-oh! What's your variance?	289
Finding your cost and schedule performance indexes	292

Chapter 15: Tracking Project Performance 295

Planning Project Metrics	296
Establishing project goals	296
Planning for project metrics	297
Determining realistic project milestones	298
Implementing a Tracking Plan	298
Using project baselines	299
Stressing accuracy in reporting	300
Using a Project Management Information System	302
Tracking Project Performance	302
Using earned value management	303
Creating Pareto charts	303
Creating control charts	306
Communicating Project Performance	308
Relying on the communication management plan	308
Automating project communications	309
Hosting status meetings	310
Sharing good and bad news	311

Part V: Closing Your Software Project 313

Chapter 16: Finalizing the Project Management Processes 315

Closing the Software Project	315
Completing quality control	317
Completing scope verification	318
Closing Out Vendor Contracts	319
Auditing vendors' work and deliverables	320
Paying the bills	322
Completing the Project (Or at Least Transferring It to Someone Else)	322
Celebrating!	324
Releasing project team members from the project team	325
Case Study: Completing a Project Post Mortem	328

Chapter 17: Documenting Your Software Project333

- Using Teamwork When Writing Documentation334
- Completing the Lessons Learned Documentation.....335
 - Getting your historical information together
at the beginning of a project336
 - Creating a lessons learned spreadsheet
at the beginning of the project.....336
- Organizing Your Lessons Learned Document338
 - Organizing the summary of your document.....338
 - Organizing the meat of the document339
 - Organizing your references, contributors, and resources339
 - Documenting the project’s successes340
 - Documenting the project’s failures340
 - Documenting the better approach.....341
 - Offering advice for future project managers.....341
- Creating the User Manual and Help System342
 - Using the project scope as a reference.....343
 - Establishing operational transfer.....343
 - Avoiding helpless help systems346

***Part VI: The Part of Tens*.....347**

Chapter 18: Ten Ways to Make Your Software Project Crash and Burn349

- Failing to Plan349
- Ignoring Risk Management.....350
- Letting Your Ego Lead the Project351
- Letting Your Iron Triangle Melt352
- Hiding from the Project Team.....353
- Hovering over the Project Team353
- Creating Unrealistic Schedules.....354
- Consistently Being Inconsistent.....355
- Doing Nothing.....356
- Being a Wimp357

Chapter 19: Ten Ways to Make Any Software Project Better359

- Asking the Right Questions.....359
- Being a Good Communicator.....360
- Showing Your Leadership Skills361
- Creating the Right Project Plan361
- Finding the Correct Sponsor.....362

Recognizing Failure Before It Arrives	363
Planning, Planning, and a Little More Planning.....	364
Documenting Your Project Even if You Don't Want To.....	365
Hosting a Successful Project Meeting.....	365
Establishing Project Rules Before the Project Begins	367
Communicating Good and Bad News	367
<i>Appendix: Formal Project Management Training and Certification</i>	<i>369</i>
Getting Up Close and Personal with the Project Management Institute	369
Finding Out Whether the Project Management Professional Certification Is for You	370
Understanding what a PMP certification says to others.....	371
Understanding what the PMP certification gets you	371
Getting started.....	372
What Is the CAPM Certification?	373
Deciding between the PMP and the CAPM	374
<i>Index.....</i>	<i>375</i>