Contents

Part I

1	Fun	damentals of Agile Distributed Software Development
	Darj	a Šmite, Nils Brede Moe, and Pär J. Ågerfalk
	1.1	Introduction
		1.1.1 Distributed Software Development
		1.1.2 Agile Software Development
	1.2	Merging Agility with Distribution
	1.2	Merging Aginty with Distribution

Motivation

		1.1.1 Distributed Software Development	3
			4
	1.2		4
			5
		1.2.2 All or Nothing versus Á la carte	6
	1.3	Current Practice	6
	1.4	Conclusions	7
		References	7
Part	II	Transition	
	-	ementing Extreme Programming in Distributed Software	
]	Proj	ect Teams: Strategies and Challenges	1
]	Liko	ebe M. Maruping	
	2.1		1
2	2.2	Implementing XP Practices: Where Is an Organization to Start? 1	2
		2.2.1 The Promise of XP	2
		2.2.2 Understanding How Your Software Project Team Is	
		Structured and Why It Matters	3
2	2.3	Case Overview	4
4	2.4	XP in Distributed Software Project Teams: Implementation	
		Strategies and Pitfalls to Avoid	6
			6
		2.4.2 Collective Ownership	8



3

19

20 χv

2.4.3

2.4.4

xvi Contents

		2.4.5 Simplicity of Design	21
		2.4.6 Sustainable Pacing	22
			23
			24
			25
			26
			27
	2.5		28
			29
		Further Reading	30
3	Tra	nsitioning from Distributed and Traditional to Distributed and	
	Agil	e: An Experience Report	31
	Dan	iel Wildt and Rafael Prikladnicki	
	3.1	Introduction	3 1
	3.2	Case Overview	32
	3.3		34
		e	35
		3.3.2 A Fully Cultural Transition from Traditional to Agile	
		1	37
		3.3.3 Benefits of Using Agile Methods in Distributed Environment 4	
	3.4		11
	3.5		15
		References	15
4		oring Agility: Promiscuous Pair Story Authoring and Value	
			17
		e Tendon	
	4.1		17
	4.2		18
		e e e e e e e e e e e e e e e e e e e	18
			50
		3	51
			53
		3 11	51
	4.3		52
		· · · · · · · · · · · · · · · · · · ·	52
		•	53
		<u> </u>	63
		,	53
		8	53
	4.4	,	54
			54
		C	55
		4.4.3 Promiscuous Pair Story Authoring 6	66

Contents	xvi
contents	XV1

	4.5	4.4.4 Economic Value of Story Points	. 68
-	C	References	
5		um and Global Delivery: Pitfalls and Lessons Learned tiano Sadun	. 71
	5.1	Introduction	. 71
	5.2	Cases Overview	. 72
	3.2	5.2.1 Background	. 72
		5.2.2 Project NOR1	
		5.2.3 Project NOR2	
	5.3	The Experiences	
	0.0	5.3.1 Signing Agreements	
		5.3.2 Establishing Remote Access	
		5.3.3 Overcoming Communication Barriers	
		5.3.4 Actively Managing Distributed Agile Projects	
		5.3.5 Dealing with Idle Time	
		5.3.6 Achieving Motivation and Peer Feeling	
		5.3.7 Adapting Governance and Steering	
	5.4	Conclusions	. 88
	2	References	
6	Ons	hore and Offshore Outsourcing with Agility: Lessons Learned	. 91
	Clift	ton Kussmaul	
	6.1	Introduction	
	6.2	Case Overview	
		6.2.1 Background	
		6.2.2 Project Organization	
		6.2.3 Introduction of Agility	
		6.2.4 Overview of Project Activities	
		6.2.5 Cross-border Relationship Dynamics	
	6.3	Lessons Learned	
		6.3.1 People	
		6.3.2 Processes	
		6.3.3 Coordination	
	6.4	Conclusions	
		References	
		Further Reading	. 105
7	Con	tribution of Agility to Successful Distributed Software	
,		elopment	107
		nee Sarker, Charles L. Munson, Suprateek Sarker, and Suranjan	. 107
		kraborty	
	7.1	Introduction	107
	7.1	Distributed Project Success	
	7.2	Types of Agility	
	1.5	xypoovixemiy	

xviii Contents

	7.4	Study Background
	7.5	Contribution of Agility to Distributed Project Success
	7.6	Conclusions
		References
8	Pren	aring your Offshore Organization for Agility: Experiences in
U		a
		kanth Srinivasan
	8.1	Introduction
	8.2	Distributed Agile Software Development in India
	8.3	Experiences from AgileCo
		8.3.1 Case Overview
		8.3.2 Personnel Selection and Training
		8.3.3 Teaching and Mentoring
		8.3.4 Managing Customer Expectations
	8.4	Experience from BankCo
		8.4.1 Case Overview
		8.4.2 Impact of Senior Leadership Vision
		8.4.3 Heterogeneous Process Environment
		8.4.4 Agile Coaching
	8.5	Conclusions
		References
Par	t III	Management
1 41		
9	Imp	roving Global Development Using Agile
		erto Avritzer, Francois Bronsard, and Gilberto Matos
	9.1	Introduction
	9.2	The Projects
	9.3	Deploying Agile Techniques in Global Projects
		9.3.1 Organizational Issues
		9.3.2 Communication Issues
		9.3.3 Process Issues
		9.3.4 Tools and Technical Issues
	9.4	Improving Global Projects Using Agile Processes 143
	9.5	Conclusions
		References
10	Tur	ning Time from Enemy into an Ally Using the Pomodoro
•	Tecl	mique
	Xiac	ofeng Wang, Federico Gobbo, and Michael Lane
		Introduction
	1	_ =====================================
	10.2	Time Is an Enemy?
	10.2	Time Is an Enemy?
	10.2	Time Is an Enemy?
	10.2	Time Is an Enemy?

Contents xix

	10.4 The Application of the Pomodoro Technique in Sourcesense	
	Milan Team	. 154
	10.4.1 Background of Sourcesense Milan Team	. 154
	10.4.2 The Development Process of Sourcesense Milan Team	
	10.4.3 Pomodoro as Time-box	. 156
	10.4.4 Pomodoro as a Unit of Effort	. 159
	10.4.5 Addressing Remote Collaboration with Teams That Do	
	Not Employ the Pomodoro Technique	. 161
	10.5 Turning Time into an Ally	
	10.5.1 Shared Pomodoro	
	10.5.2 Collective Breaks	. 162
	10.5.3 Estimation and Tracking	
	10.5.4 One Pomodoro Rules All Sites?	
	10.6 Conclusions	
	References	
11	MBTA: Management By Timeshifting Around	. 167
	Erran Carmel	
	11.1 Management by Wandering and Flying Around	. 167
	11.2 Enter Timeshifting	
	11.3 Conclusions	
	References	. 170
12	The Dilemma of High Level Planning in Distributed Agile Software	
	Projects: An Action Research Study in a Danish Bank	. 171
	Per Svejvig and Ann-Dorte Fladkjær Nielsen	
	12.1 Introduction	
	12.2 Research Methodology	
	12.2.1 Action Research	
	12.2.2 Research Settings	. 173
	12.3 The Action Research Cycle	
	12.3.1 Diagnosing the Problem and the Underlying Causes	
	12.3.2 Action Planning	
	12.3.3 Action Taking	. 175
	12.3.4 Evaluating and Learning	. 180
	12.4 Conclusions	. 181
	12.4.1 Applying a Holistic Approach to High Level Planning	. 181
	12.4.2 Using Action Research to Software Process Improvement	. 182
	12.4.3 Summary	. 182
	References	. 182
13	Tools for Supporting Distributed Agile Project Planning	. 183
	Xin Wang, Frank Maurer, Robert Morgan, and Josyleuda Oliveira	
	13.1 Introduction	
	13.2 Distributed Planning Tool Requirements	. 185
	13.2.1 Agile Planning Requirements	186

xx Contents

	13.2.2 Requirements for Collaborative Interactions 18	37
	13.3 Tool Review	
	13.3.1 Wikis	8
	13.3.2 Web Form-Based Applications	
	13.3.3 Card-Based Planning Systems	0
	13.3.4 Plugin for Integrated Development Environment 19	
	13.3.5 Synchronous Project Planning Tool	
	13.3.6 Digital Tabletop-Based Agile Planning Tool 19)3
	13.4 Tool Evaluation)3
	13.5 Practical Advice	
	13.5.1 Advice for Agile Planning Tool User	
	13.5.2 Advice for Designers of Distributed Agile Planning Tools . 19	
	13.6 Conclusions	
	References	
14	Combining Agile and Traditional: Customer Communication in	
	Distributed Environment	1
	Mikko Korkala, Minna Pikkarainen, and Kieran Conboy	
	14.1 Introduction	1
	14.2 Customer Communication in Distributed Agile Development 20)2
	14.2.1 Issues Hindering the Customer Communication in	
	Distributed Agile Development)4
	14.3 Findings	
	14.3.1 Case Context	
	14.3.2 The Use of Agile Methodologies in the Case Project 20	
	14.3.3 The Use of Customer Communication Media	
	14.3.4 Identified Customer Communication Challenges 21	
	14.4 Discussion and Lessons Learned	
	References	
15	Coordination Between Global Agile Teams: From Process to	_
	Architecture	7
	Jan Bosch and Petra Bosch-Sijtsema	
	15.1 Introduction	
	15.2 Large-Scale Software Development	
	15.3 Case Study Companies	
	15.3.1 Case Company GLOembed	
	15.3.2 Case Company GLOtelcom	
	15.3.3 Case Company GLOsoftware	
	15.4 Coordination and Integration Inter-team Challenges	24
	15.4.1 Top-Down Approach Challenges	
	15.4.2 Interaction Problems	25
	15.5 Coordination Through Architecture	26
	15.5.1 Road Mapping	27
	15.5.2 Requirements	
	15.5.3 Architecture	

Contents xxi

		15.5.4 Development	229
		15.5.5 Integration or Composition	
		15.5.6 Architecture-Centric Software Engineering	
	15.6	Conclusions	
	15.0	References	
16	Con	sidering Subcontractors in Distributed Scrum Teams	235
	Jaku	b Rudzki, Imed Hammouda, Tuomas Mikkola, Karri Mustonen,	
	and '	Tarja Systä	
	16.1	Introduction	235
		16.1.1 Company Context	236
		16.1.2 Methodology	236
		16.1.3 Main Results	237
	16.2	Subcontractors in an SSP Company	238
		16.2.1 Why Subcontractors?	
			239
		16.2.3 Subcontractor Selection Process	240
	16.3	Subcontractors in Scrum Teams	242
		16.3.1 Scrum	242
		16.3.2 Communication	
		16.3.3 Planning and Progress Tracking	
		16.3.4 Code Sharing and Development Feedback	
		16.3.5 Knowledge Sharing	
		16.3.6 Team Spirit	
	16.4	Subcontractors and Project Phases	
		16.4.1 Preparation	
		16.4.2 Development	
		16.4.3 Release	
	16.5	Conclusions	
		16.5.1 Practical Implications	252
		16.5.2 Research Implications	
		16.5.3 Summary	
		Appendix	
		References	
		Further Reading	
Par	t IV	Teams	
1.77	TT. •	Community Deposits of CCD Deposits of the	250
17		g Scrum Practices in GSD Projects	239
		Introduction	250
		Research Methodology	
		Distributed Daily Scrums	
	17.3	17.3.1 Application of Daily Scrums to Distributed Projects	
		17.3.2 Benefits of Daily Scrums	403

xxii Contents

	17.3.3 Challenges of Daily Scrums	. 263
	17.4 Scrum-of-Scrums Meetings	. 264
	17.4.1 Application of Scrum-of-Scrums to Distributed Projects.	
	17.4.2 Benefits of Scrums-of-Scrums	
	17.4.3 Challenges of Scrums-of-Scrums	. 266
	17.5 Sprints	
	17.5.1 Application of Sprints to Distributed Projects	
	17.5.2 Benefits of Sprints	. 267
	17.5.3 Challenges of Sprints	
	17.6 Sprint Planning Meetings	. 268
	17.6.1 Application of Sprint Planning Meetings to Distributed	
	Projects	. 268
	17.6.2 Benefits of Sprint Planning Meetings	
	17.6.3 Challenges of Sprint Planning Meetings	
	17.7 Sprint Demos	
	17.7.1 Application of Sprint Demos to Distributed Projects	
	17.7.2 Benefits of Sprint Demos	
	17.7.3 Challenges of Sprint Demos	
	17.8 Retrospective Meetings	. 271
	17.8.1 Application of Retrospective Meetings to Distributed	
	Projects	
	17.8.2 Benefits of Retrospective Meetings	
	17.8.3 Challenges of Retrospective Meetings	
	17.9 Backlogs	. 272
	17.9.1 Application of Backlogs to Distributed Projects	
	17.9.2 Benefits of Backlogs	
	17.9.3 Challenges of Backlogs	. 273
	17.10 Frequent Visits	. 273
	17.10.1 First Visit	
	17.10.2 Further Visits	
	17.10.3 Benefits of Frequent Visits	. 275
	17.10.4 Challenges of Frequent Visits	
	17.11 Multiple Communication Modes	. 276
	17.11.1 Benefits of Multiple Communication Modes	. 2/6
	17.11.2 Challenges of Multiple Communication Modes	
	17.12 Conclusions	. 277
	References	. 211
18	Feature Teams—Distributed and Dispersed	279
10	Jutta Eckstein	. 217
	18.1 Introduction	279
	18.2 Context	280
	18.3 Historical Structures of Distributed Teams	. 280
	18.3.1 Consequences	
	18.4 Ruilding Agile Teams	

Contents xxiii

	18.4.1 Feature Teams—Co-located or Dispersed
	18.5 Technical Service Team Ensures Conceptual Integrity
	18.6 Conclusions
	References
	Further Reading
19	Roles and Responsibilities in Feature Teams
	Jutta Eckstein
	19.1 Introduction
	19.2 Context
	19.3 Configuration of a Feature Team
	19.4 Product Owner
	19.4.1 Team of Product Owners
	19.4.2 Lead Product Owner
	19.4.3 Collaborating with Both: Customers and Feature Team 293
	19.5 Coach—Also Known as Scrum-Master
	19.6 Architect and Architecture
	19.6.1 Chief Architect
	19.7 Project Manager
	19.8 Key Roles Support Their Teams Directly
	19.9 Conclusions
	References
	Further Reading
	<u></u>
20	Getting Communication Right: The Difference Between Distributed
	Bliss or Miss
	Jan-Erik Sandberg and Lars Arne Skaar
	20.1 Introduction
	20.2 Background Overview
	20.2.1 Background
	20.3 Starting a Distributed Agile Project
	20.4 Low-cost and Effective Communication
	20.5 Empower the Team
	20.6 Common Architecture Across Locations
	20.7 On "Proxies"
	20.8 Conclusions
	References
21	A Task-Driven Approach on Agile Knowledge Transfer
	Jörn Koch and Joachim Sauer
	21.1 Introduction
	21.2 Case Overview
	21.3 Hands-On Approach (Task-Driven Approach)

xxiv Contents

	21.3.1 Joint Task Planning 21.3.2 Question-Driven Task Scheduling 21.3.3 Adequate Task Design 21.3.4 Scrupulous Task Sign-Off 21.4 Conclusion References	316 317 318 318
22	Architecture-Centric Development in Globally Distributed Projects	
	Joachim Sauer	
	22.1 Introduction	321
	22.2 Case Overview	
	22.3 Software Architecture and Architecture-Centric Development	
	22.3.1 Software Architecture	
	22.3.2 Architecture-Centric Development in General	
	22.3.3 Architecture-Centric Development in Agile Distributed	
	Settings	324
	22.4 Distributed Continuous Integration and Collective Ownership	325
	22.5 Practical Advice for Software Architects	326
	22.6 Conclusions	
	References	328
Par	V Epilogue	
23	Agility Across Time and Space: Summing up and Planning for the	
	Future	333
	Darja Šmite, Nils Brede Moe, and Pär J. Ågerfalk	
	23.1 The Beginning of the End	
	23.2 Current Themes	
	23.3 Practical Advice	
	23.4 Areas for Improvement and Future Research	
	23.5 The End of The End	537
Ind	v.	330