



DevSecOps Adventures

A Game-Changing Approach with
Chocolate, LEGO, and Coaching Games

—
Second Edition

—
Dana Pylayeva

Apress®

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To my daughter, Erica, who inspires me, challenges me, and supports me all the way. Thank you for being a sounding board for my game design ideas and for making this book better by editing my writing.

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About the Author



Dana Pylayeva is a business games designer, trainer, and DevOps culture coach who is known for infusing playfulness into the most serious workplaces. She offers a unique blend of expert-level knowledge, exceptional facilitation skills, professional coaching mindset, and a diverse technical background (as a former Java developer, DBA manager, and application architect).

Dana is equally effective in coaching teams, coaching leaders, and navigating the complexity of enterprise transformations. She enjoys working with clients across a diverse span of industries (legal publishing, automotive, digital marketing, retail, fintech, music streaming, non-profits, etc.). In her 25+ years of experience, she has been fortunate to work with clients from the United States, Canada, the United Kingdom, Ireland, France, India, Japan, Malaysia, and Australia. She speaks at conferences internationally and has delivered her workshops at 80 conferences in 18 countries.

Dana holds a Certified Enterprise Coach (CEC) designation from Scrum Alliance, Professional Certified Coach (PCC) credentials from the International Coaching Federation (ICF), and a Certified Professional Co-Active Coach (CPCC) certification from Co-Active Training Institute.

Dana is passionate about helping others grow and giving back to the Agile/Scrum community. Through the years, she has been involved in various community roles as a volunteer, reviewer, track chair, program chair, and conference chair at Agile Alliance and Scrum Alliance organizations. She is the founder of the [Big Apple Scrum Day](#) conference in NYC and a co-organizer of several local user groups.

About the Technical Reviewer



Bernie Maloney's career started with a flash and a bang. Literally. His first position was designing devices that protect telephone networks from lightning strikes. A few career pivots later, he had a flash of insight: it was possible to tap into latent potential in every person, every team, and every organization.

The teams he's worked with have grown businesses to beyond \$1B/qtr, delivering products from consumer electronics to network infrastructure to services and payments at firms including TiVo, Cisco, Wells Fargo, and more. He teaches private and public workshops, including several on Agile Product Development and Agile Leadership at Stanford Continuing Studies.

As a trainer, speaker, and coach, Bernie helps clients achieve performance breakthroughs with their teams, their organizations, and themselves. More, he believes that Accelerating GeniusSM is possible in every person and business, and leads both to outrageous effectiveness and a whole lot more fun.

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My very first appreciation goes to Gene Kim, Kevin Behr, and George Spafford for writing *The Phoenix Project*. If it wasn't for their inspiring and eye-opening book that resonated so strongly with my own experience, I wouldn't have started thinking about creating a game to share these insights with my "reluctant to read" colleagues.

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I am grateful to every conference participant who played these very first versions of the *Chocolate*, *LEGO*, and *Scrum* game at SGNOLA, SGBER, Toronto Agile and Software, Agile Days 2015, XP2015, and Agile2015. Your active engagement, excitement, questions, and feedback inspired me to continue refining this game further. Your inquiries and interest in bringing this simulation to your organizations convinced me to start working on the very first facilitator's guide for it on Leanpub.

I want to thank *myself* for jumping into the unknown and signing up for Play4Agile 2015 unconference—a three-day event on the top of a mountain in the middle of German woods. (What was I thinking?)

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Thank you, Steve Anglin, Mark Powers, and the editorial team at Apress for later discovering this book on Leanpub and for all your help and guidance during the first edition publishing process. Thank you to Melissa Duffy for inviting me to start working on the second edition, and to Laura Berendson, Gryffin Winkler, and Nirmal Selvaraj for being extremely supportive and patient as I was discovering that I had so much more content to share (or completely rewrite) in the second edition.

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Bernie, after being blown away by the quality of your technical review of the first edition, I knew there was no other expert in my network who would be more suited for reviewing the second one. I appreciate you for agreeing to support me once again! Your detailed and methodical reviews of each chapter, ability to spot any inconsistencies, and all the ideas you've shared improved the quality of the final product.

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I am grateful to all the trainers and coaches around the world who have been running my DevSecOps coaching games, translating materials to their languages, modifying them to their contexts, and even taking these games online during COVID. Thank you Karl Métivier, Dr. Peter Fassbinder, Wayne Hetherington, Norma Hernandez Garcia, Jorge Gándara, and José Luis Ortiz for taking the time to speak with me about your experiences, and for your permission to include the highlights of our conversations as the field stories in the final chapter of this book.

Finally, to my dearest family (my husband, Alex Indman, and my daughter, Erica Indman) I appreciate you for playing along with my crazy aspirations and ideas, being the first readers, first players, tireless LEGO-sorting assistants, and so much more. Thank you for giving me the freedom to experiment and for supporting me all the way!

CHAPTER 1

Introduction

It's been ten years since my very first attempt to share my own excitement about DevOps ideas with a small group of reluctant co-workers at an internal Agile community of practice. Little did I know back then that a small experiment in making ideas from *The Phoenix Project*¹ more digestible through a gamified experience would turn into an internationally acclaimed collection of DevOps culture games, open doors to conference-speaking experiences in 15 different countries, and even give me enough courage to quit my full-time job and start my own Agile Play Consulting business.

The book you are holding in your hands today (or reading on your screens) is a second edition. A lot has changed since 2013 in the DevOps space. As the DevOps community has been learning more about safety culture and embracing ideas from Ron Westrum and Amy Edmondson in the past 10 years, I've also recognized that the original version of my game (published by Apress in 2017) was lacking in-depth coverage of this important topic. The version of the workshop I run today includes extensive coverage of the third way of DevOps (culture of experimentation and learning) with two supplemental games: *Fear in the Workplace*² and *Safety in the Workplace*.³

¹<https://www.amazon.com/Phoenix-Project-DevOps-Helping-Business-ebook/dp/B078Y98RG8>

²<https://www.thegamecrafter.com/games/fear-in-the-workplace>

³<https://www.thegamecrafter.com/games/safety-in-the-workplace>

As a reader of this second edition, you will benefit from my continued facilitation experience and the experience of the many trainers who've incorporated these coaching games into their DevOps trainings and coaching worldwide. Together we've been able to bring this workshop to public conferences and private workshops, influencing the mindsets of organizations and helping kick-start their DevSecOps transformation initiatives in automotive, FinTech, insurance, academia, and even government. In this book, you will get a glimpse into these experiences, read about key takeaways from participants, and appreciate the modifications of the game that they inspired.

You will be pleased to find improved facilitation instructions, an expanded list of debriefing techniques, as well as a list of frequently asked questions I've encountered from various participants.

By now, this is a solid, tried-and-true workshop that you can rely on in your stand-alone training sessions or as a part of a larger DevSecOps transformation initiative. Equally accessible to techies and non-techies, it will reliably generate excitement, introduce participants to fundamental ideas of DevSecOps, and create shared understanding of the cultural changes required for its successful implementation in your organization.

Who This Book Is For

Congratulations on picking up this book! It makes you a curious person who is at least open to the idea of experimenting with non-conventional ways of teaching and training. Using simulations and coaching games in one's training is not for the faint of heart, yet it is a rewarding experience for the facilitator (NPS scores anyone?) as well as for their workshop participants.

Executed well, this workshop will make the experience more engaging, help with long-term knowledge retention, and trigger a change in participants' mindsets. Sounds hard? Fear not! This is exactly the reason I am writing this book—to set you up for success in delivering impactful training, facilitating tough conversations, and prepping the way for DevSecOps transformation success.

Audience

This workshop is designed to resonate equally well with technical and non-technical participants. If you are running it internally at your organization or for a private client where you can influence the workshop roster, consider inviting people from different parts of the organization. Development teams, business personnel, information security professionals, architects, IT operations staff—every role currently involved in product development, software delivery, security, and operations in your organization—will benefit from it and will be able to grasp the concepts from this training. Encourage them to take on a role in the game that is different from their current “real life” role for added benefit.

If you are a functional manager, a director, or a chapter lead involved in DevSecOps transformation or team design, performance management, and skills development planning, you can benefit from running this workshop as well. The *LEGO and Chocolate* game will give you a good understanding of foundational DevOps concepts as well as lead you through an experience of shifting bottleneck dynamics. The bottlenecks in the game will feel strikingly familiar! The learnings from this workshop will help you to avoid inadvertently creating the same bottlenecks. You will be able to make better team design choices and to establish more impactful goals and policies to enable knowledge silo reduction.

It is even more crucial for you and your peers to experience a “safe” introduction to conversations about fear, learn about the detrimental effect it can have on innovation capacity, as well as showcase the

importance of destigmatizing failure. The *Fear in the Workplace* and *Safety in the Workplace* games are perfect for experimenting with these initial conversations.

Another type of audience that can benefit from these games is a team with an unhealthy dynamic, fear symptoms, and/or interpersonal conflict. If you are a Scrum Master, an Agile Coach, or a team lead working with a team in conflict, make sure to check out Chapters 9 and 10 for more info.

Facilitators

This book is written with you in mind. If you are an internal DevOps/DevSecOps trainer, an Agile Coach, or a Scrum Master, this collection of games and this book will be a welcomed addition in your toolbox. Consider bringing these in when you notice any one of the following dynamics:

- Your organization is experiencing a typical misalignment of goals between business/customers, development team, operations team, and security (see Figure 1-1).
- Agile practices and principles are used in the development organizations only, while Operations continues to use a plan-driven waterfall approach.
- Your developers have no idea about the post-deployment performance of their software.
- Delayed, infrequent deployments of product increments cause service disruption in production.
- Every new security vulnerability causes a major panic, requiring a lengthy manual patching of all the environments. Security is an afterthought.

If you are an external trainer offering public workshops, these games can be facilitated as part of a stand-alone multi-day DevSecOps training, or as a DevOps extension to a standard Scrum training. Alternatively, they can be brought in as individual coaching games for improving Agile team dynamics, enabling psychological safety, and facilitating difficult conversations with teams.

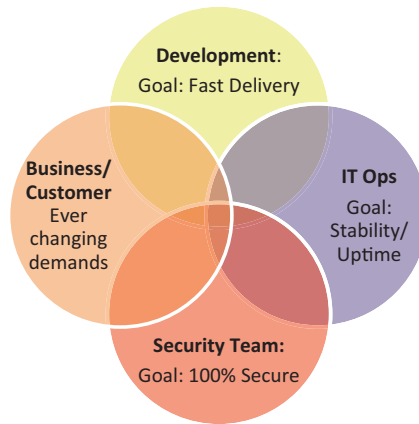


Figure 1-1. *Misalignment of goals in a typical product development organization*

Organizations

LEGO and *Chocolate* simulation resonates the most in medium- to large-size organizations, the ones that are either just starting their DevSecOps initiatives, or the ones disappointed with not seeing the benefits expected from their “tools first” DevSecOps transformation approach.

The *Fear in the Workplace* and *Safety in the Workplace* coaching games can be effective in organizations of any size and any DevSecOps maturity level. My latest successful experience was applying them both in facilitating a team conflict resolution for my client, a well-regarded music company known in the Agile/DevOps communities as an innovator and culture trendsetter.

Keep your eyes open for symptoms of fear in your workplace, as they may show up in unexpected places! Bring out the deck of fear monster cards in coaching sessions or introduce them at your community of practice (CoP). You will be surprised at how many places the little fear monsters will come in handy.

Debriefing tips from Chapter 11 as well as a selection of special facilitation techniques (*Liberating Structures*)⁴ described in this book can be applied independently from the rest of the book and can enhance group collaboration in organizations of any size.

Facilitating Culture Change with Games

This book is making a case for being very intentional about facilitating a cultural change as part of your DevSecOps transformation initiative. Too many initiatives start with automation, building CI/CD pipelines, and implementing monitoring dashboards as the most tangible parts of DevOps, while leaving the other parts of CAMS⁵ acronym to chance.

Cultural change, however, is the most difficult one as it involves changing people's perception of their reality. Luc de Brabandere, a professor at École Centrale in Paris, calls it a “forgotten half of change”⁶ and argues that for a change to stick we must change both our reality (tools, practices, skills, policies) and our perception of this reality (culture change, or “this is how we work around here”) for ourselves, our management, and our clients.

⁴<https://www.liberatingstructures.com/>

⁵CAMS (Culture, Automation, Measurement, and Sharing) is a term describing DevOps pillars coined by John Willis, one of the luminaries of the DevOps movement.

⁶Luc de Brabandere, *The Forgotten Half of Change: Achieving Greater Creativity Through Changes in Perception*, Dearborn Trade Publishing, 2005.

In my experience, people respond well to skillful and meaningful introduction of playful elements, games, and role-playing simulations in training, coaching, and change management. In addition to the games described in this book, I've had success with using games for facilitating organizational restructure after layoffs at a large Canadian retailer, for reorganizing development teams at the time of their rapid growth at a healthcare company in Chicago, and many others.

Games allow people to disconnect from their challenges and roles in “the real world” and transition into a “magic world” of a simulation—a safe space for experimenting, failing, and learning together, the world where their current titles don't matter and winning/losing is not a big deal. The fascinating part of this transition is that they typically bring their behavioral patterns and their mindsets with them!

People act in the game as they would in the real world; however, the playful setting of the “game world” makes it easier to learn as a group. The game flow and rounds of debriefing make it possible to step back, debrief these dysfunctions, discuss the impact, and continue experimenting with a new set of behaviors in the next round of the game. This shared playful experience gives the group a common vocabulary, powerful metaphors to invoke from their “real world” when similar situations emerge. Still not convinced?

Check out the work of Nick Wignall, who has a PhD in clinical psychology and speaks about seven benefits of playfulness for adults, which include unlocking our creative thinking and enacting smarter decision making, as well as helping us shift from worry and anxiety to curiosity and passion.⁷

There is one more reason for using games and simulations to facilitate change. They increase the “stickiness” of your training message as well as participants' “Aha!” moments. Sharon Bowman in her “Training from the Back of the Room” work emphasized positive emotional experiences,

⁷<https://nickwignall.com/benefits-of-playfulness/>

multi-sensory stimulation, and novelty among the elements used in brain-friendly training.

Studies at Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, and Harvard Medical School found that our brain assembles the data received from sensory inputs into a complete picture that becomes a memory of an event. Engaging multiple senses while learning helps amplify its effectiveness. Additionally, when we experience an emotional reaction, it becomes a part of the memory, strengthening it dramatically.

The *LEGO and Chocolate game* is designed to engage all five senses and tap into the emotional side of the brain. Working with LEGO bricks, stickers, colorful labels, and chocolate candies, participants experience the downside of local optimization and learn to expand their view to include the entire system. Using avatars, personas, and role cards, participants gain an understanding of Dev, Ops, and Security roles as well as their interdependencies. They try out a mindset of each role for the duration of the game.

Throughout the game, they experience a range of emotions and learn to expand the boundaries of individual roles, acquire T-shaped skills, and incorporate security practices through the entire life cycle. They build new environments, protect them from hackers' attacks, and work with demanding customers, trying to satisfy their ever-changing demands. The game takes players through a gamified DevSecOps transformation journey, facilitating their first baby steps toward embracing the DevOps culture.

What you will notice when facilitating the *Fear in the Workplace* game is that its playful "monster" cards allow players to really go deep into discussions. Visually engaging and silly, these cards help players externalize their emotions and feelings; make fears less personal, less scary; and enable serious conversations about conflicts or culture challenges in teams or their workplaces.

The culture of an organization will not change overnight. As a change agent, you know the multitude of change management models (Kotter,

ADKAR, Kanban, and others) designed to increase the likelihood of successful organizational change. Thoughtful and skillful use of coaching games (followed by in-depth debriefing) can help you lessen resistance to change and create more awareness and more desire for the participants to embrace a new way of working, and a new culture. While not a magic wand, playfulness is your gentle wind that over time can make a dune by moving tiny grains of sand in a new direction.

How I Got Started with Designing Coaching Games

My interest in the DevOps movement originated when I stepped into a DBA manager role. I had years of experience under my belt as a PowerBuilder developer and Java developer, an application architect, and as a typical developer in 2013, with a very limited understanding of what happens in the Operations world. It was an opportunity for me to try something new. I remember thinking:

“How hard can it be? I know how to write a CREATE TABLE statement or implement a stored procedure, among other things. I am sure I can figure out how to manage DBAs!”

Little did I know what I was getting myself into—a “second level of escalation” meant carrying a pager 24x7x365 and responding to a page if a DBA on call did not acknowledge it within five minutes. Thanksgiving weekend, which I’ve always enjoyed, turned into a nightmare after accepting this new role. The round-the-clock support, war room, and hourly conference calls with senior management—all to ensure that Black Friday traffic would not be impacted by database performance. If it wasn’t for the help of my amazing team members, I doubt I would’ve survived!

A few years later, I came across *The Phoenix Project* by Gene Kim, Kevin Behr, and George Spafford, and I couldn’t put the book down! It was

describing my experience and my pain, yet it was also showing the way out. I wanted everyone to read this book!

At that time, I was one of the organizers of a company-wide internal learning forum designed to cross-pollinate knowledge among various technology groups. I tried facilitating a book club, running a book raffle, but people didn't want to read. I was at my wits' end, until one day I came across a Gamification course on Coursera. Bingo! Creating a game was one idea I hadn't yet tried. Luckily, our October agenda was wide open and gave me a perfect opportunity to play-test the minimum playable version of the game. The rest is history, which you can read about in Chapter 16.

The *Fear in the Workplace* game was born out of necessity much later as I was already working as an Agile Coach at another company. My own team was experiencing a lot of pain and dysfunction caused by a lack of alignment with a new manager, post-merger culture clashes, and many other issues. My observations, experiments, and desire to help the team (myself included) became a breeding ground for this new game. Around the same time, I was invited to keynote the Agile Games 2018 conference and settled on a "Team up to Eradicate Fear" title, committing to the very first public appearance of the *Fear in the Workplace* game. This was my first card game designed and published on The Gamecrafter.

While doing research for my keynote, I discovered the fascinating work of William A. Kahn⁸ and Amy C. Edmondson on psychological safety.

When Amy C. Edmondson's book *The Fearless Organizations*⁹ came out later that year, it inspired me to start working on the Safety in the Workspace extension. This new addition to my games collection helped me amplify the impact of coaching conversations about fears and toxic cultures in workplaces and teams.

⁸ Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724.

⁹ <https://www.amazon.com/Fearless-Organization-Psychological-Workplace-Innovation/dp/1119477247>

How About You Now?

As you flip through this book and try out these coaching games, I hope you will start noticing the impact they make for your team. Perhaps you may even consider designing a coaching game of your own!

If you'd like to deep dive into it, pick up a copy of Jesse Schell's *The Art of Game Design: A Book of Lenses!*¹⁰ This book is a treasure, a "must read" for anyone interested in creating games. Consider exploring a community games collection on TastyCupcakes.org. Connect with me and other geeks from Agile Games communities¹¹ for brainstorming, play testing, and collaboration. Let's bring more playfulness into workplaces near and far!

¹⁰ <https://www.amazon.com/Art-Game-Design-Lenses-Third-ebook/dp/B07X59RN6N>

¹¹ A few of my favorite community events: Play4Agile (Germany), Play4AgileNA (Canada), Agile Games (Boston).

CHAPTER 2

About This Book

This book is a facilitation guide. It provides a set of detailed instructions on how to prepare for, facilitate, and debrief three coaching games. It also shares stories, questions, and reflections from previous workshop participants, allowing you to be well prepared with the answers when it is your turn to run these games with your audience.

The book is focused on a few essential key concepts of DevOps/ DevSecOps culture and is not trying to be an all-encompassing primary source of learning in these fields. It does, however, describe a unique approach to introducing these concepts in a way that resonates with techies and non-techies alike (including those non-techies who are in charge of managing budgets, and the ones who can either support or limit your ability to fully implement tooling, infrastructure, and upskilling necessary for the success of DevSecOps).

What's New in the Second Edition?

If you have the original book handy, the first thing you'll notice is that the second edition has twice as many chapters. My intention is to not only double the size, but also double the impact for trainers, coaches, and organizations who are using these games to kick-start their DevOps/ DevSecOps initiatives.

This edition includes the latest version of the *LEGO and Chocolate* game with a description of modified flow in Sprint 3, redesigned game components (updated role cards and handouts, new in-room facilitator's

signage), and new in-depth coverage of my two other games: *Fear in the Workplace* and *Safety in the Workplace*. Together, these three coaching games provide comprehensive gamified coverage across the three ways of DevOps.

There is expanded coverage of practices and ideas from DevSecOps and added emphasis on the importance of debriefing (Chapter 12). I am especially excited about integrating several Liberating Structures¹ into the latest workshop design. In the second edition, I will describe how you can use them to amplify the effectiveness of debriefing, bring out all voices in a large group discussion, and equally engage both the introverts and the extroverts in the room.

I hope you will also find the second edition easier to read. I've streamlined facilitation instructions based on feedback from my train-the-trainer workshop participants (including those who were non-native English speakers).

How to Use This Book

You will find a brief history of DevOps/DevSecOps in Chapter 3 and an overview of the key learning concepts in Chapter 4. Use these chapters as a quick refresher in preparation for facilitating this workshop, or skip them if you are already familiar with the concepts described there.

A good portion of this book (Chapters 5–9) provides a detailed description of the *LEGO and Chocolate* simulation, including room setup for various group sizes (allowing you to scale the game from 12 to 100+ participants), facilitation scripts, a list of game supplies/components,

¹ McCandless, K., Lipmanowicz, H. “The Surprising Power of Liberating Structures: Simple Rules to Unleash A Culture of Innovation.” <https://www.amazon.com/Surprising-Power-Liberating-Structures-Innovation>