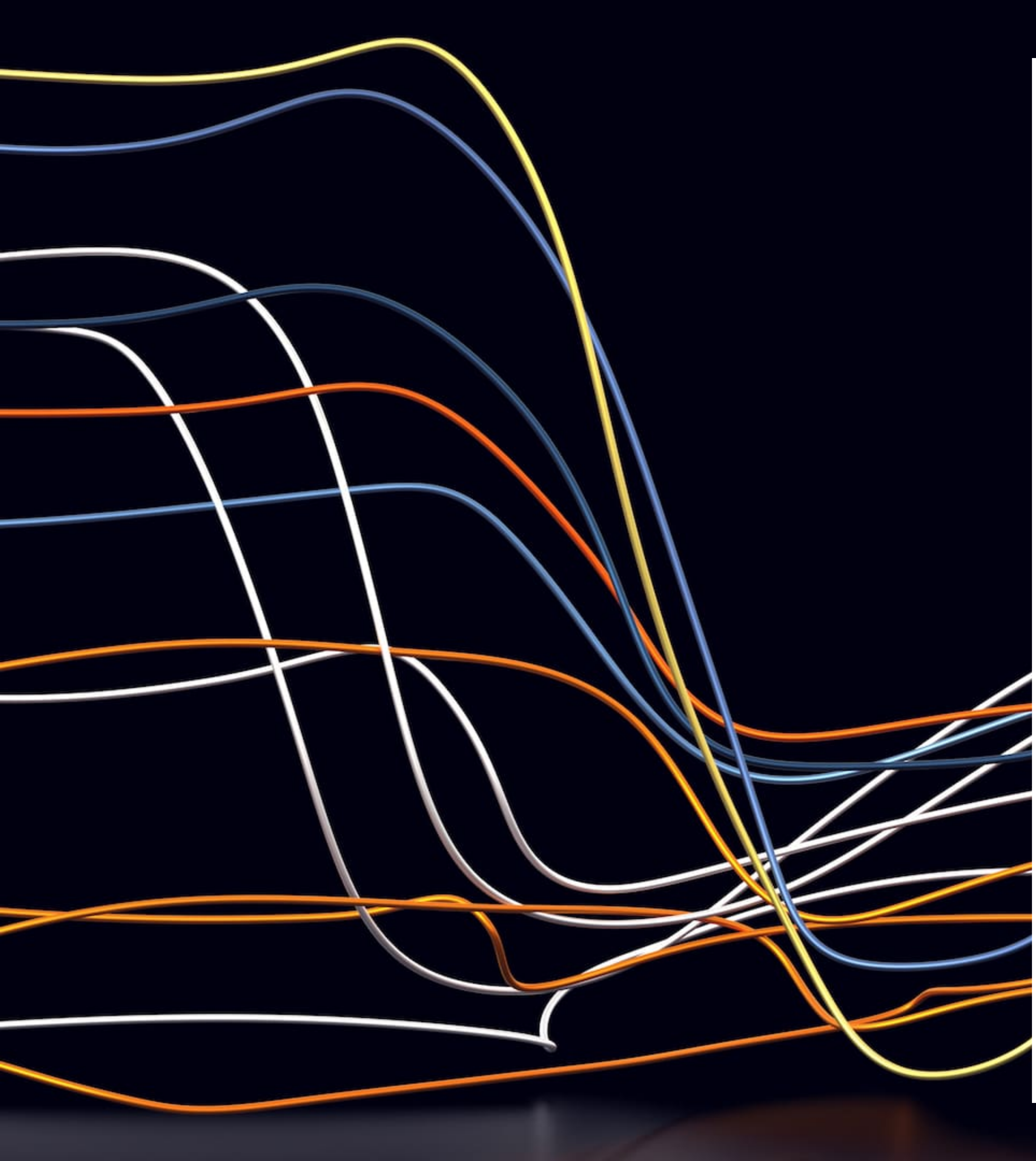
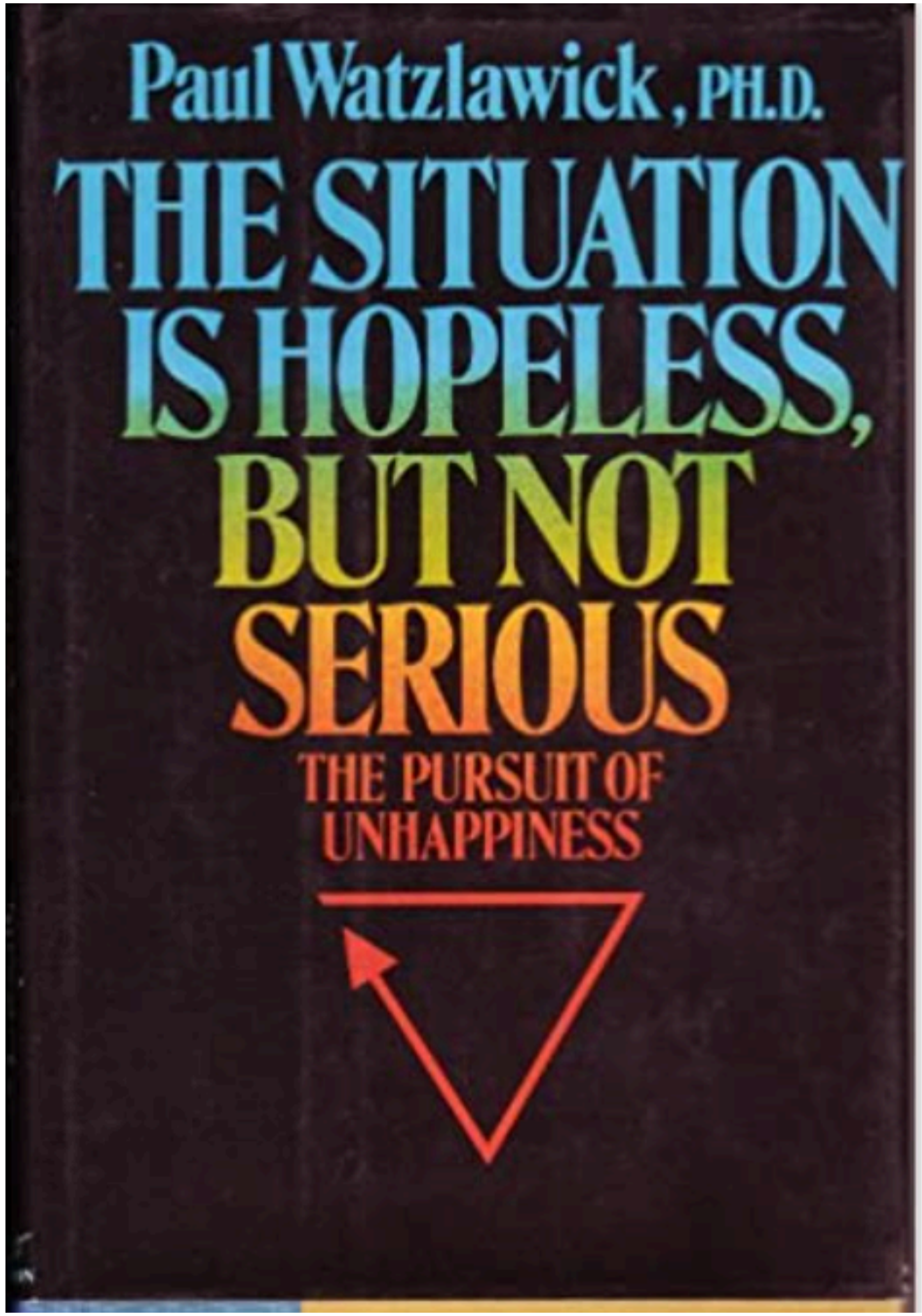


INNOQ Technology Day 2021

A Practical Guide to Destroy Cross-Functional Teams

INNOQ

SVEN JOHANN



Paul Watzlawick, PH.D.

THE SITUATION IS HOPELESS, BUT NOT SERIOUS

THE PURSUIT OF UNHAPPINESS

Happiness

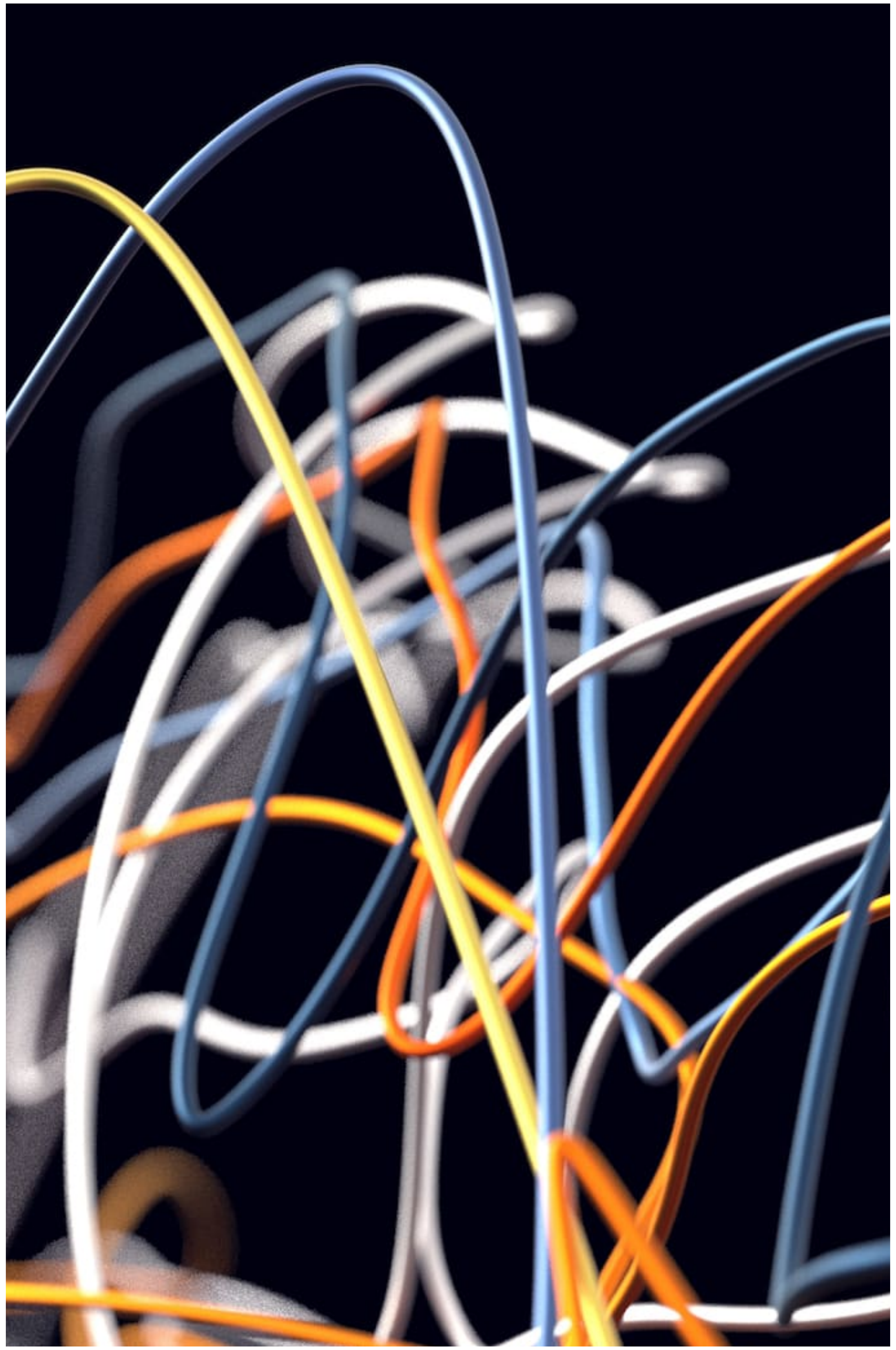
Nobody knows

We know what makes you unhappy

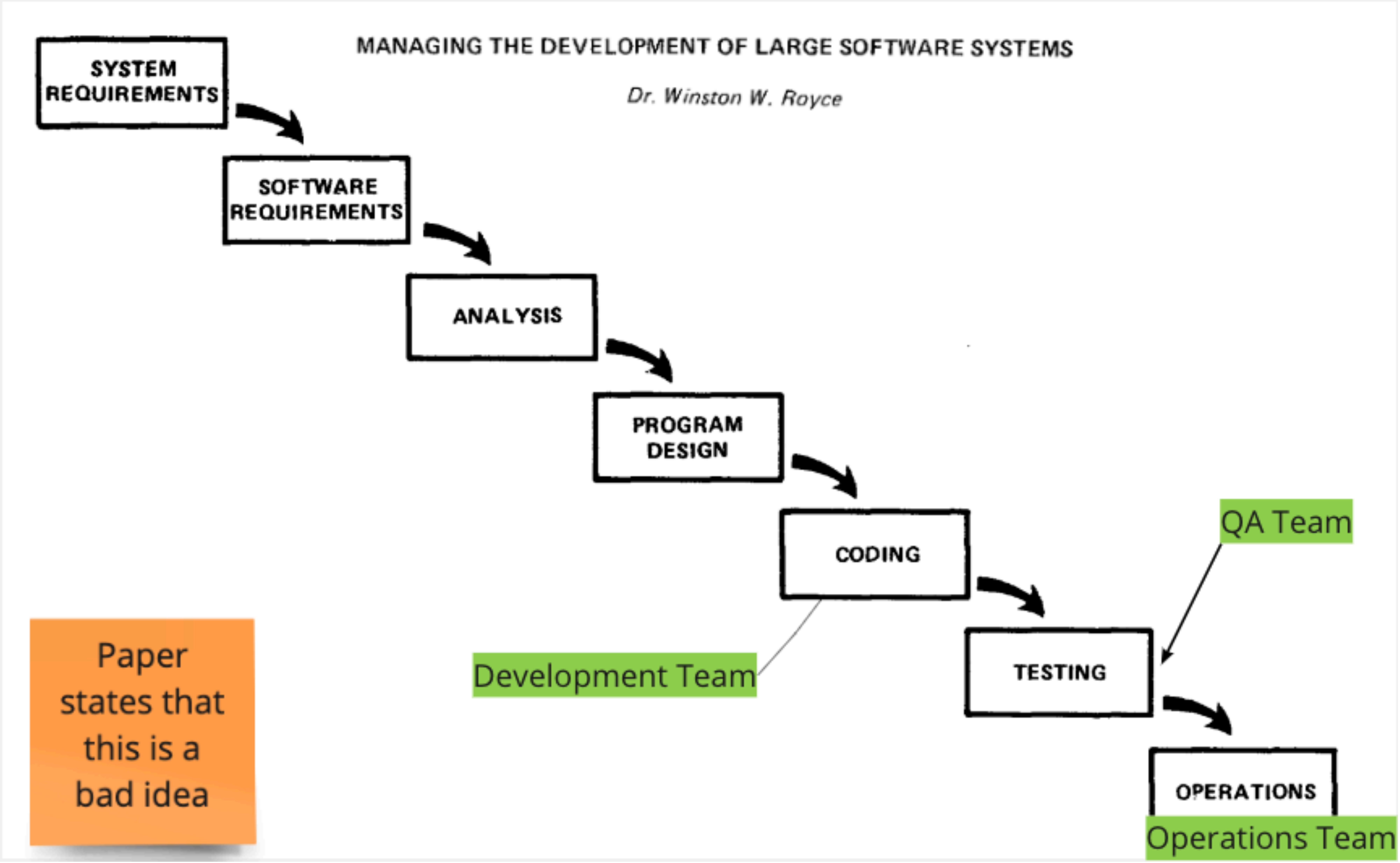
Start with stopping those approaches

Agenda

- Why cross-functional teams?
- Skillsets of a cross-functional team
- 4 approaches which makes you fail
- Ideas what to do instead



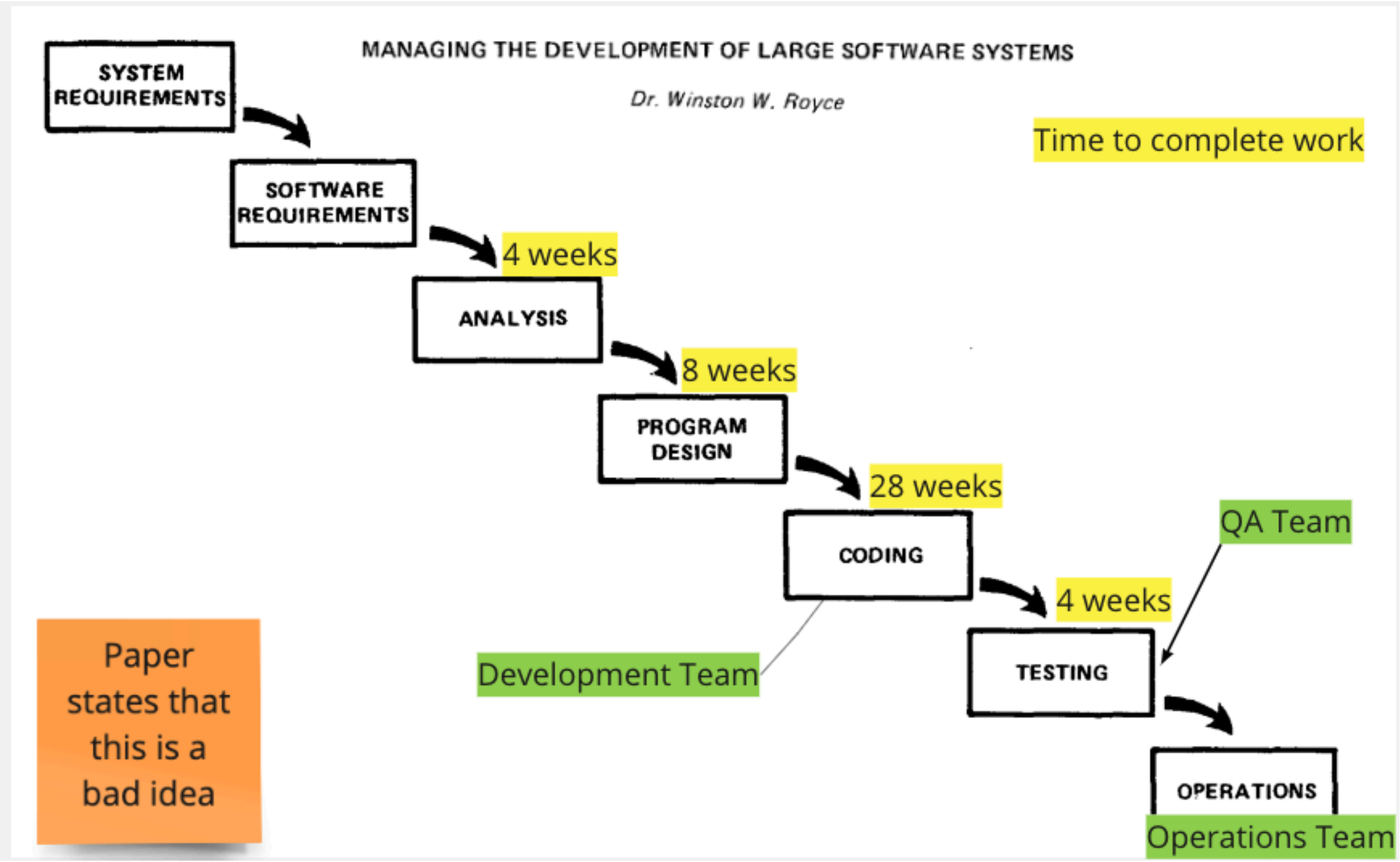
Cross-functional Teams History



MANAGING THE DEVELOPMENT OF LARGE SOFTWARE SYSTEMS

Dr. Winston W. Royce

Paper states that this is a bad idea



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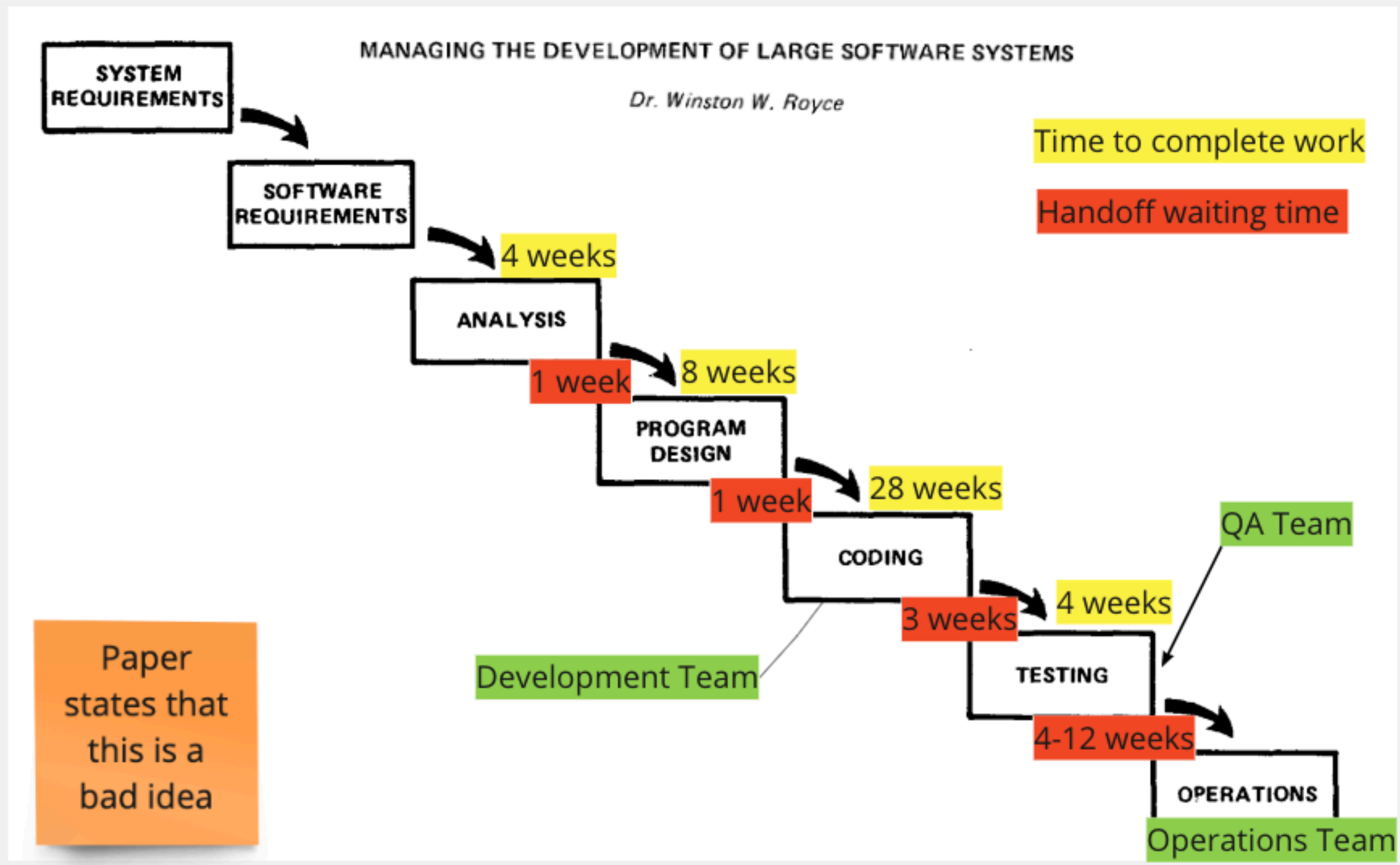

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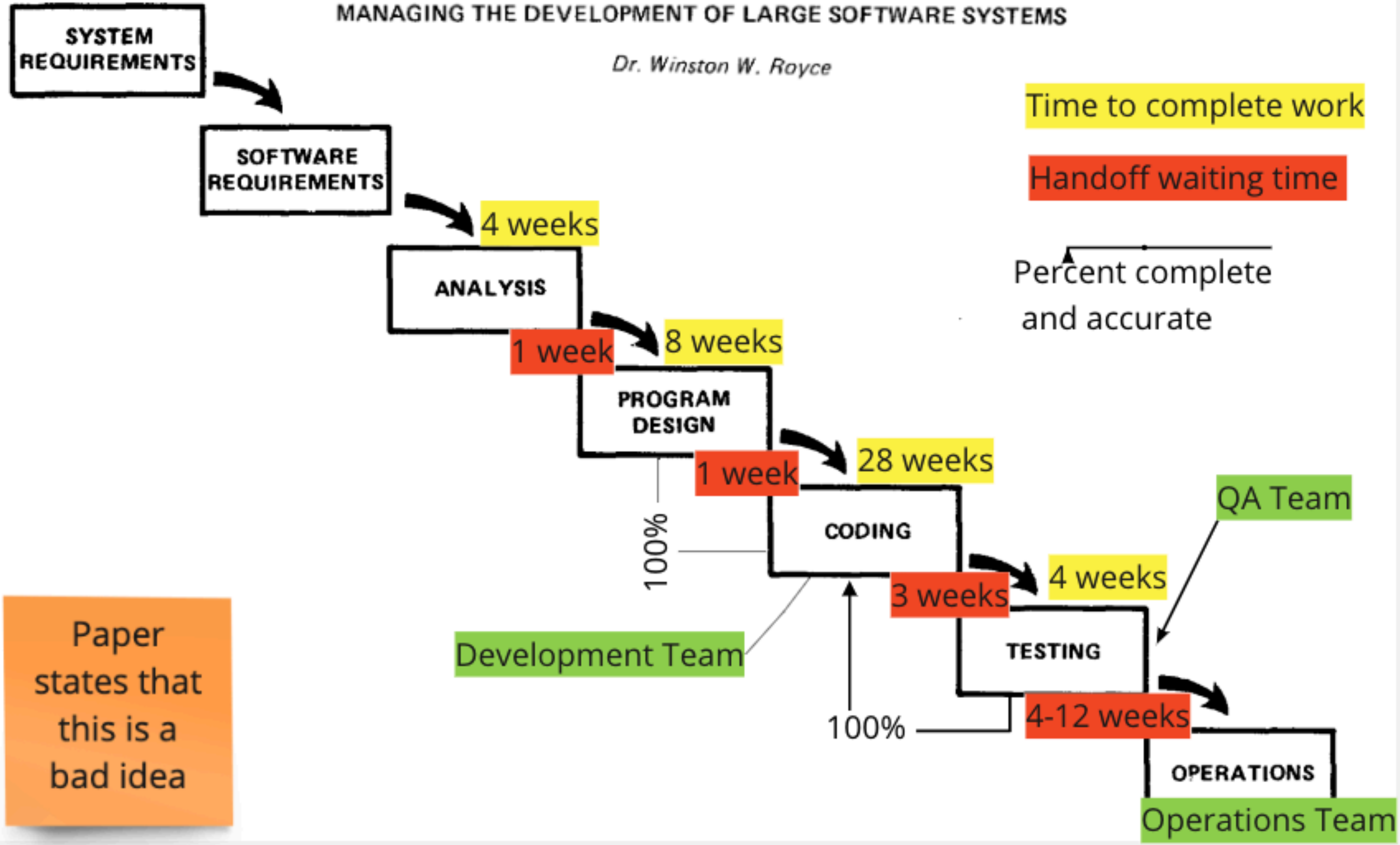


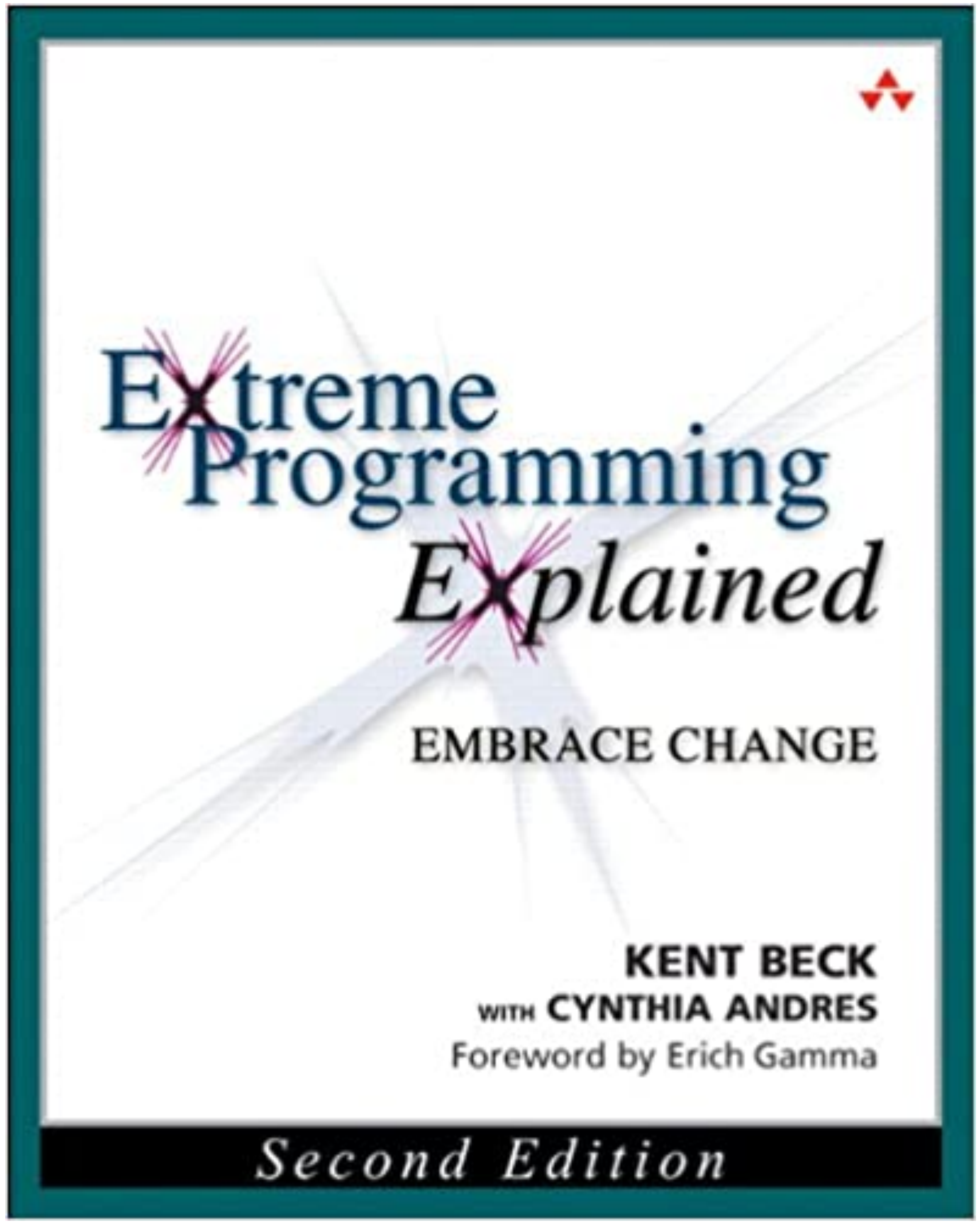
Time to complete work

Handoff waiting time

Percent complete and accurate

Paper states that this is a bad idea

25 years later: Extreme Programming



Extreme Programming Explained

EMBRACE CHANGE

KENT BECK
WITH CYNTHIA ANDRES
Foreword by Erich Gamma

Second Edition

One Team

Programmer

Architect

Product Mgr

Project Mgr

User, Customer

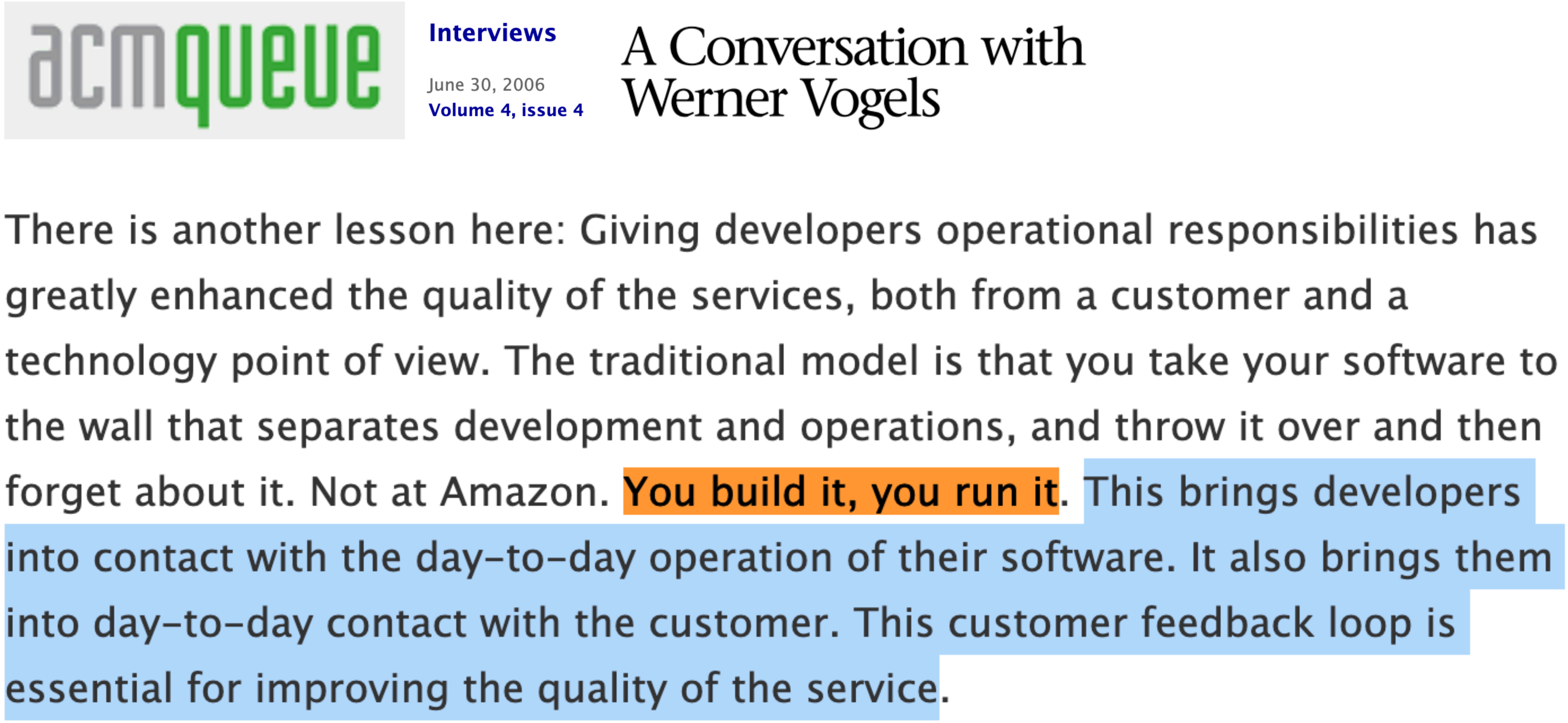
QA

(Tech. Writer, HR)

Operations?

Security?

Faster?



acmqueue

Interviews

June 30, 2006

Volume 4, issue 4

A Conversation with Werner Vogels

There is another lesson here: Giving developers operational responsibilities has greatly enhanced the quality of the services, both from a customer and a technology point of view. The traditional model is that you take your software to the wall that separates development and operations, and throw it over and then forget about it. Not at Amazon. **You build it, you run it**. This brings developers into contact with the day-to-day operation of their software. It also brings them into day-to-day contact with the customer. This customer feedback loop is essential for improving the quality of the service.

Werner Vogels, CTO

amazon.com

https://queue.acm.org/detail.cfm?id=1142065

https://www.se-radio.net/2006/12/episode-40-interview-werner-vogels/

Immediate Customer Feedback feeds the Backlog

You can’t get any faster than that

If speed is important to you:

YOU WANT A CROSS-FUNC. TEAM

Skillset of a Cross-Functional Team

Problem domain

(finance, logistics, health, …)

Software Development

(languages, frameworks, tools, methods, patterns, process, …)

QA

(Testautomation; functional, explorative, performance, penetration, ...)

Operations and support

(monitoring, logging, alerting, tracing, on-call, incidents and problem handling, post mortem, …)

Infrastructure

(deployment, compute, storage, network, security, ...)

UX

Security

(threat modelling, secure coding patterns, OWASP, DAST, SAST, …)

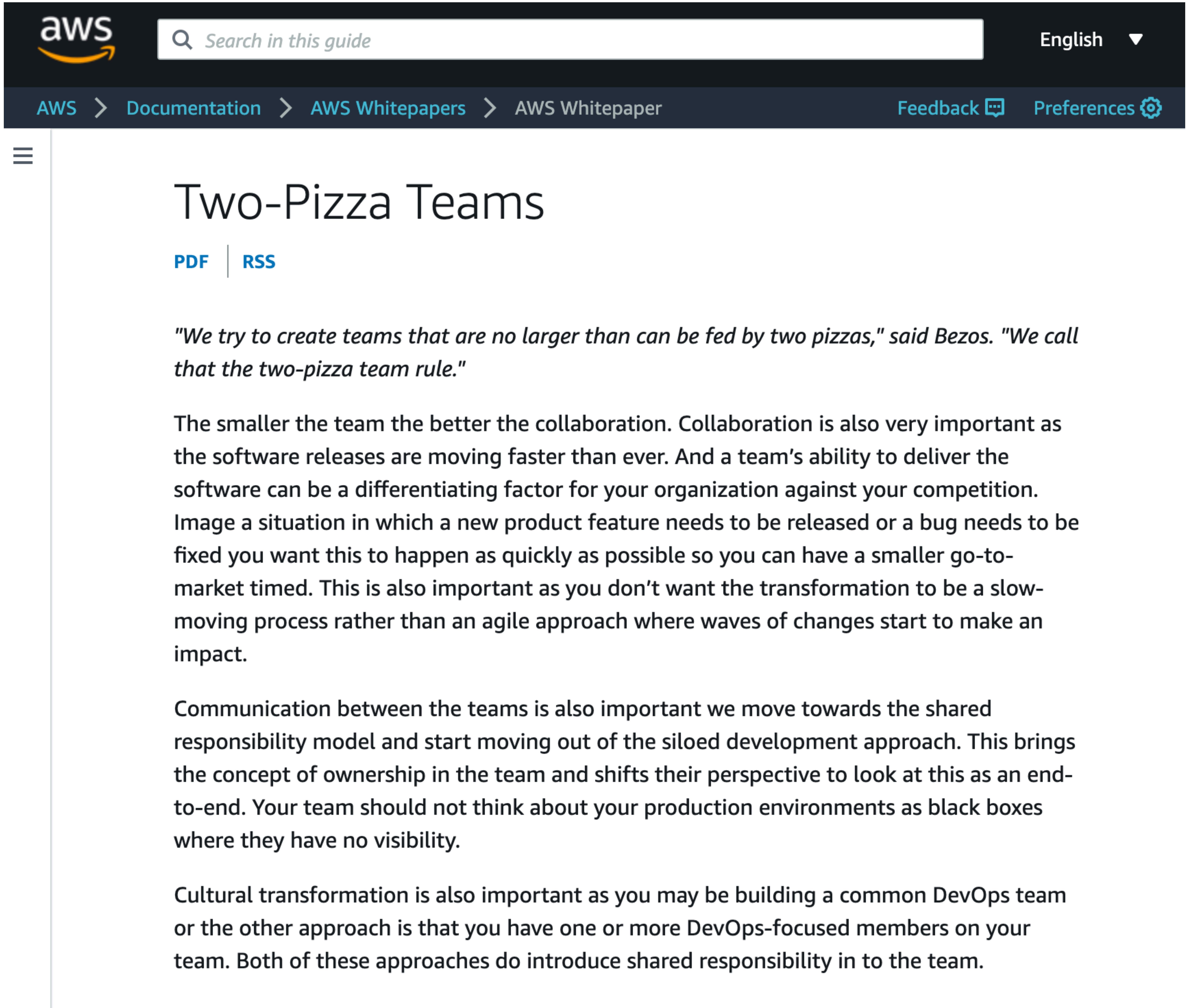
Cost-efficiency and rentability

(data products, FinOps, FinDev)

Required Skillsets

- Problem domain (finance, logistics, health, …)
- Dev (languages, frameworks, tools, methods, patterns, process, …)
- QA (Testautomation; functional, explorative, performance, penetration, …)
- Operations and support (monitoring, logging, alerting, tracing, on-call, incidents and problem handling, post mortem, …)
- Infrastructure (deployment, compute, storage, network, security, …)
- Security (threat modelling, OWASP, DAST, SAST, …)
- UX (exploration and testing, …)
- Cost-efficiency and rentability (data products, interpretation, …)

How Large is such a Cross-functional Team?



Two-Pizza Teams

"We try to create teams that are no larger than can be fed by two pizzas," said Bezos. "We call that the two-pizza team rule."

The smaller the team the better the collaboration. Collaboration is also very important as the software releases are moving faster than ever. And a team's ability to deliver the software can be a differentiating factor for your organization against your competition. Image a situation in which a new product feature needs to be released or a bug needs to be fixed you want this to happen as quickly as possible so you can have a smaller go-to-market timed. This is also important as you don't want the transformation to be a slow-moving process rather than an agile approach where waves of changes start to make an impact.

Communication between the teams is also important we move towards the shared responsibility model and start moving out of the siloed development approach. This brings the concept of ownership in the team and shifts their perspective to look at this as an end-to-end. Your team should not think about your production environments as black boxes where they have no visibility.

Cultural transformation is also important as you may be building a common DevOps team or the other approach is that you have one or more DevOps-focused members on your team. Both of these approaches do introduce shared responsibility in to the team.

https://docs.aws.amazon.com/whitepapers/latest/introduction-devops-aws/two-pizza-teams.html

5-9 people?

Required Skillsets

- Problem domain (finance, logistics, health, ...)
- Dev (languages, frameworks, tools, methods, patterns, process, ...)
- QA (Testautomation; functional, explorative, performance, penetration, ...)
- Operations and support (monitoring, logging, alerting, tracing, on-call, incidents and problem handling, post mortem, ...)
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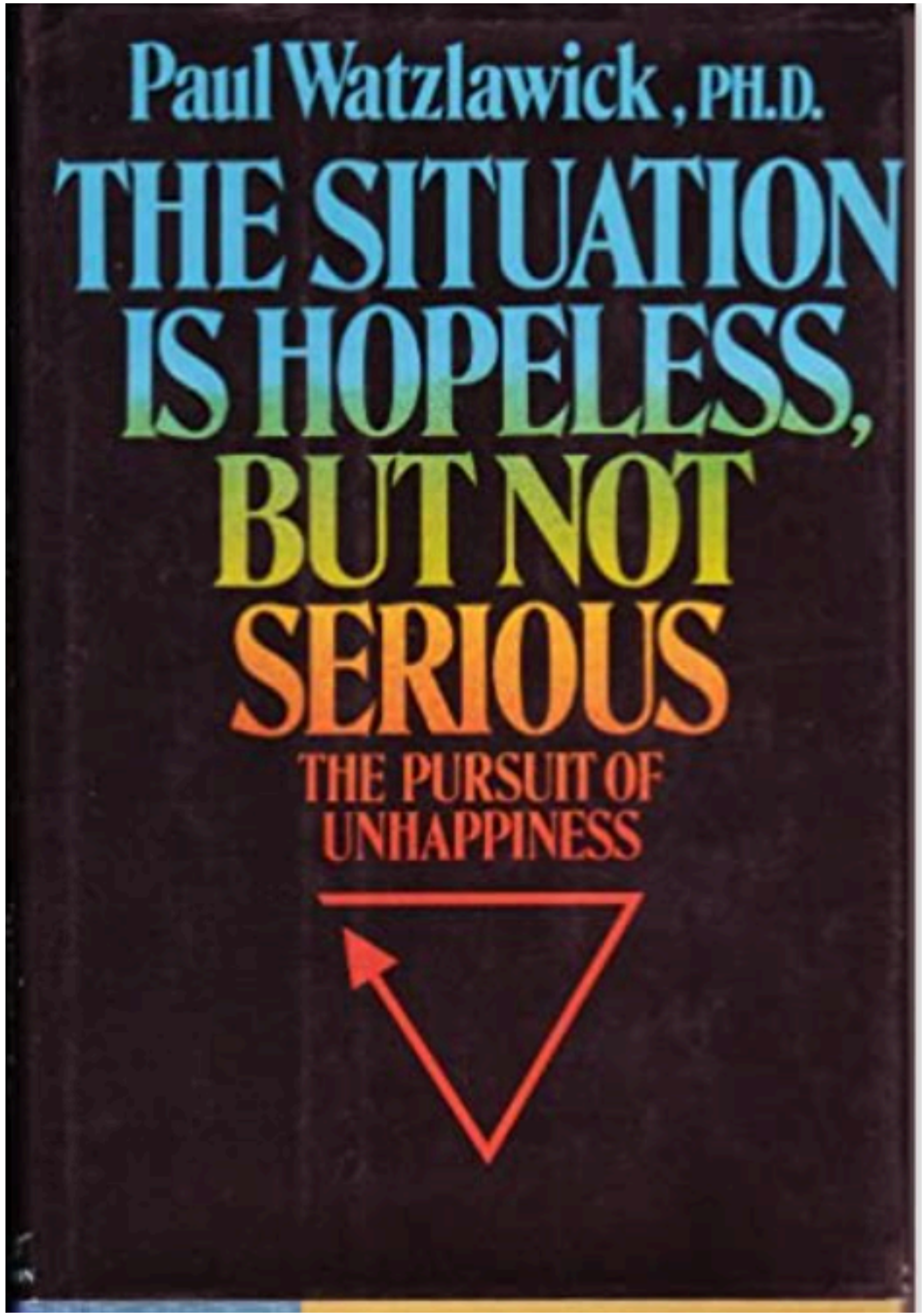
- UX (exploration and testing, …)
- Cost-efficiency and rentability (data products, interpretation, …)

Not all teams are equal

Maybe two teams have security requirements - but not equally important

How do we get all those skills into a Two Pizza Team?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Start with stopping those approaches

Skill Acquisition Trivialisation

Magic Operations & Security

Value Autonomy over Speed

Believe you are amazon.com

Combine approaches for faster results

Skill Acquisition Trivialisation

Usual Team Setup for all required skills:

Scrum Master

PO

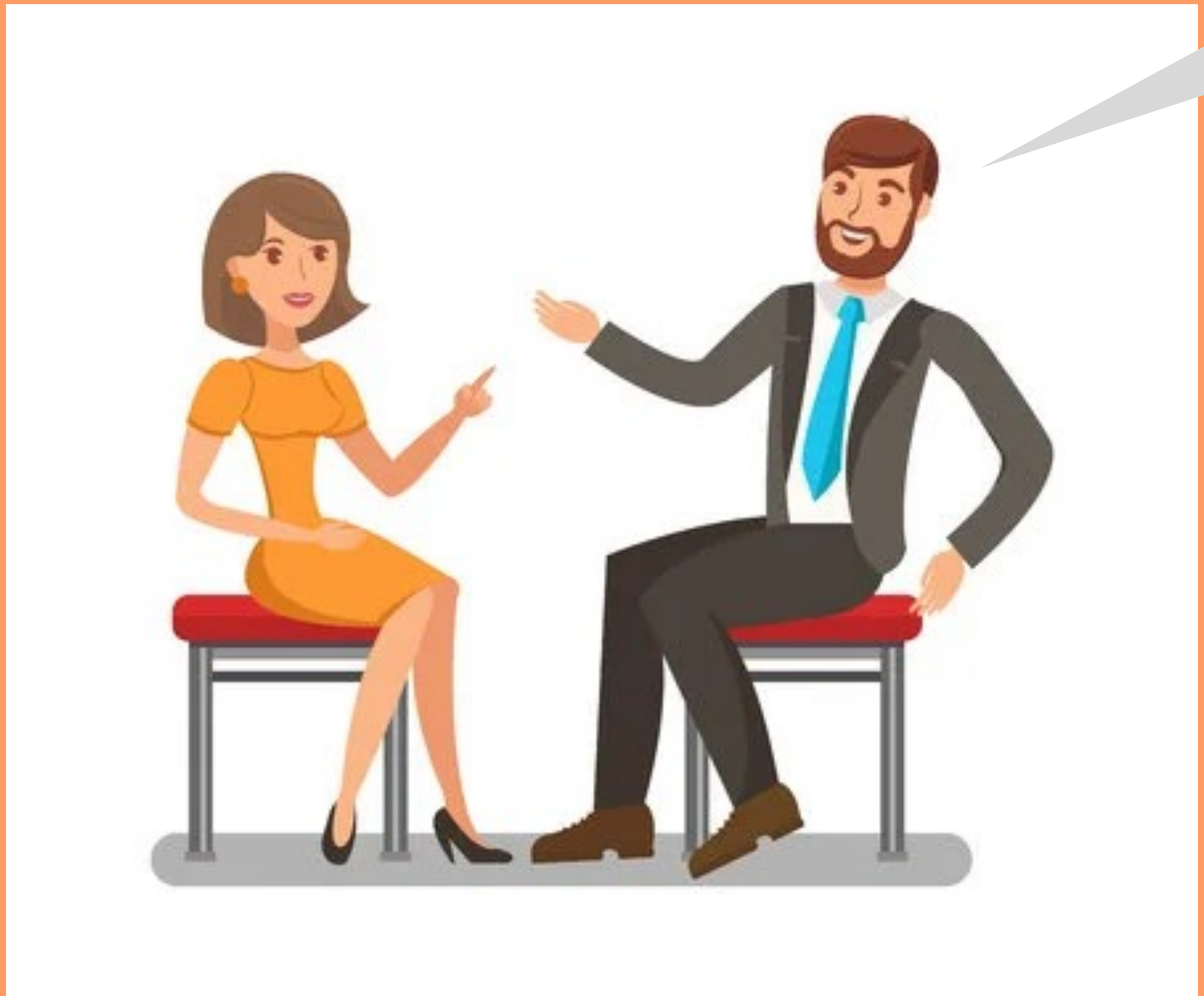
(Senior) Developers

(QA)

I expect
from highly paid
professional developers
that they are able to
operate their service
securely and cost
efficient

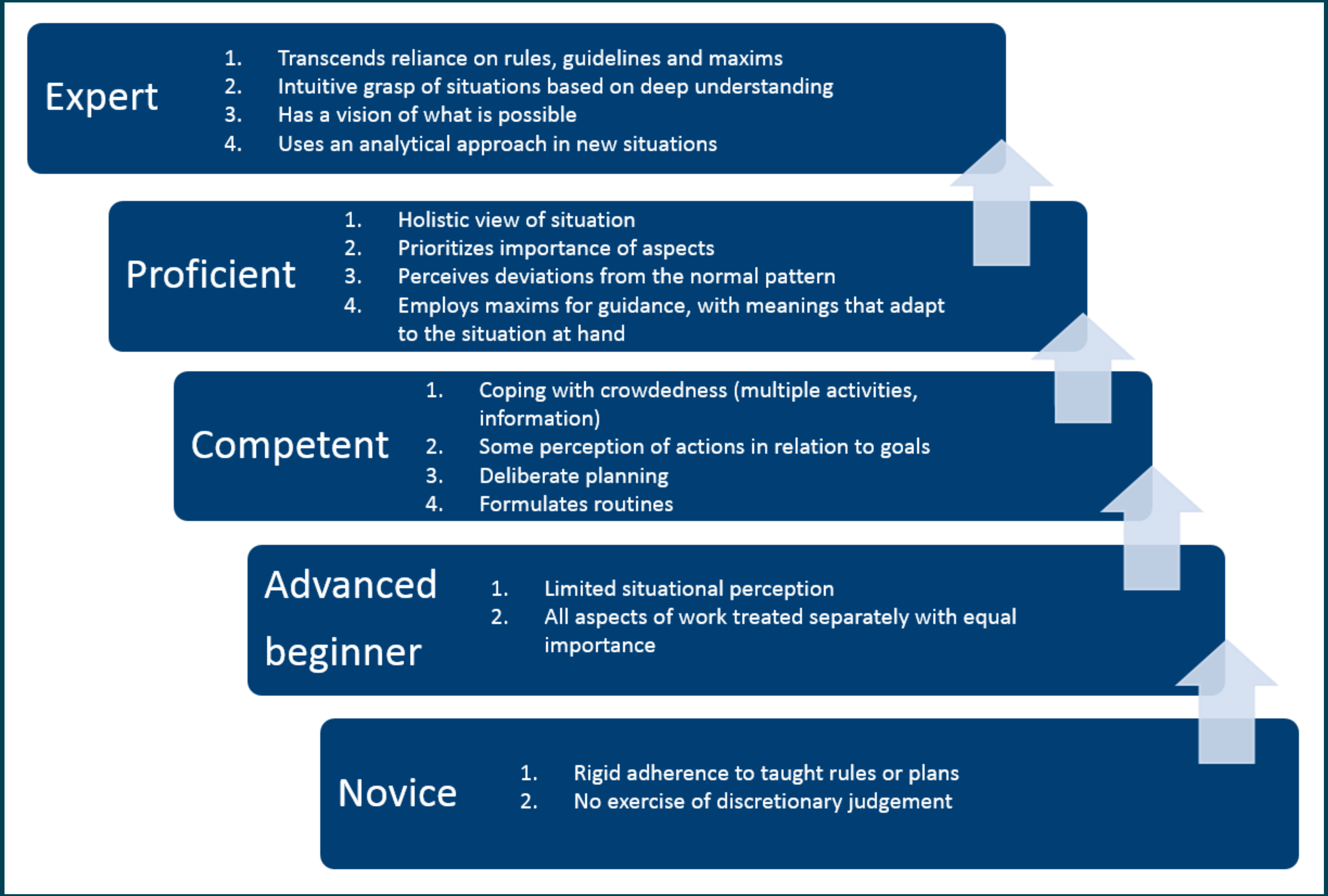
https://comicvine.gamespot.com/pointy-haired-boss/4005-92790/

I trust my team
that they can operate...
(but don't spend money
to acquire those skills)



https://www.123rf.com/clipart-vector/conversation_cartoon.html

Dreyfus Model of Skill Acquisition



Expert

1. Transcends reliance on rules, guidelines and maxims
2. Intuitive grasp of situations based on deep understanding
3. Has a vision of what is possible
4. Uses an analytical approach in new situations

Proficient

1. Holistic view of situation
2. Prioritizes importance of aspects
3. Perceives deviations from the normal pattern
4. Employs maxims for guidance, with meanings that adapt to the situation at hand

Competent

1. Coping with crowdedness (multiple activities, information)
2. Some perception of actions in relation to goals
3. Deliberate planning
4. Formulates routines

Advanced beginner

1. Limited situational perception
2. All aspects of work treated separately with equal importance

Novice

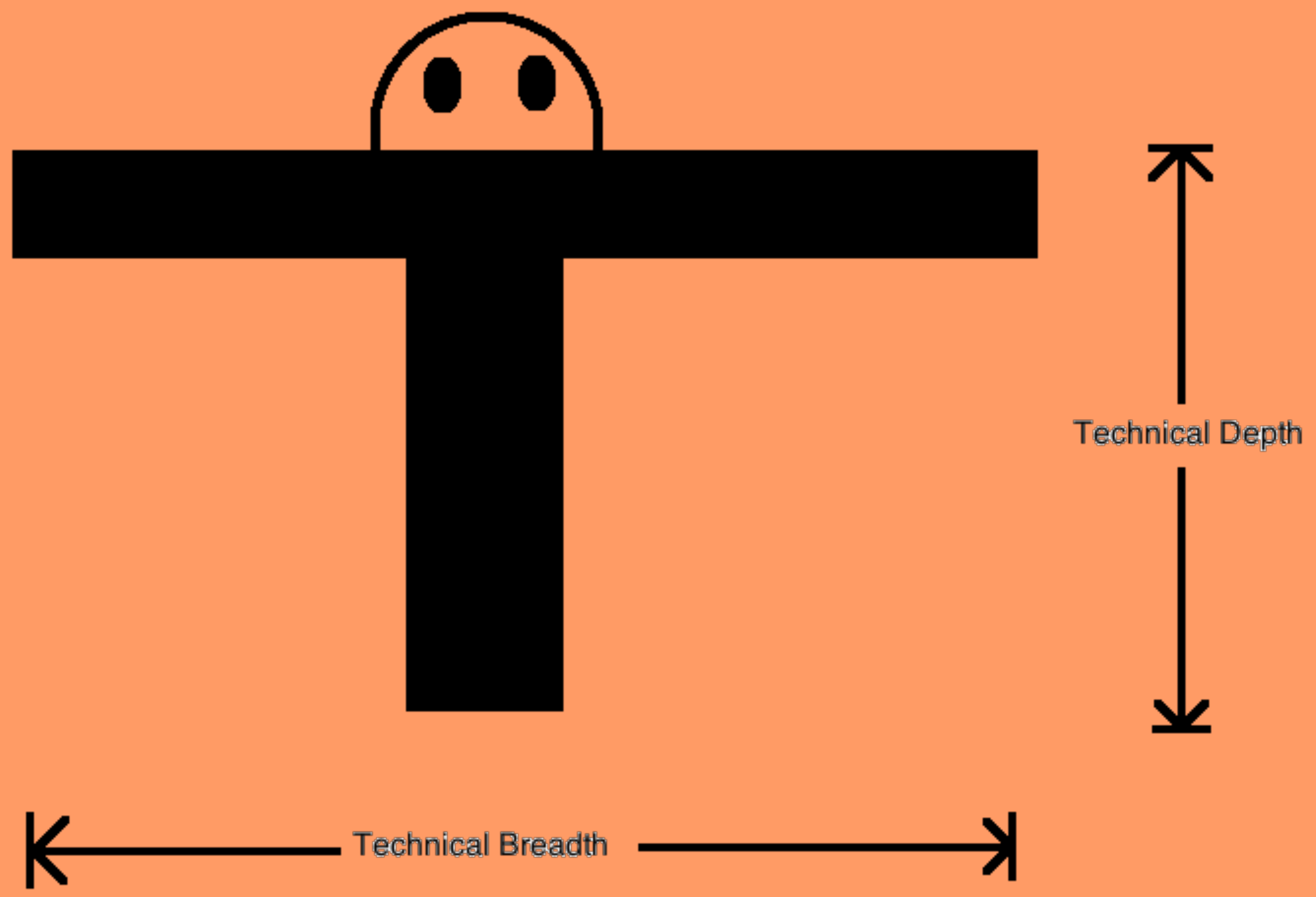
1. Rigid adherence to taught rules or plans
2. No exercise of discretionary judgement

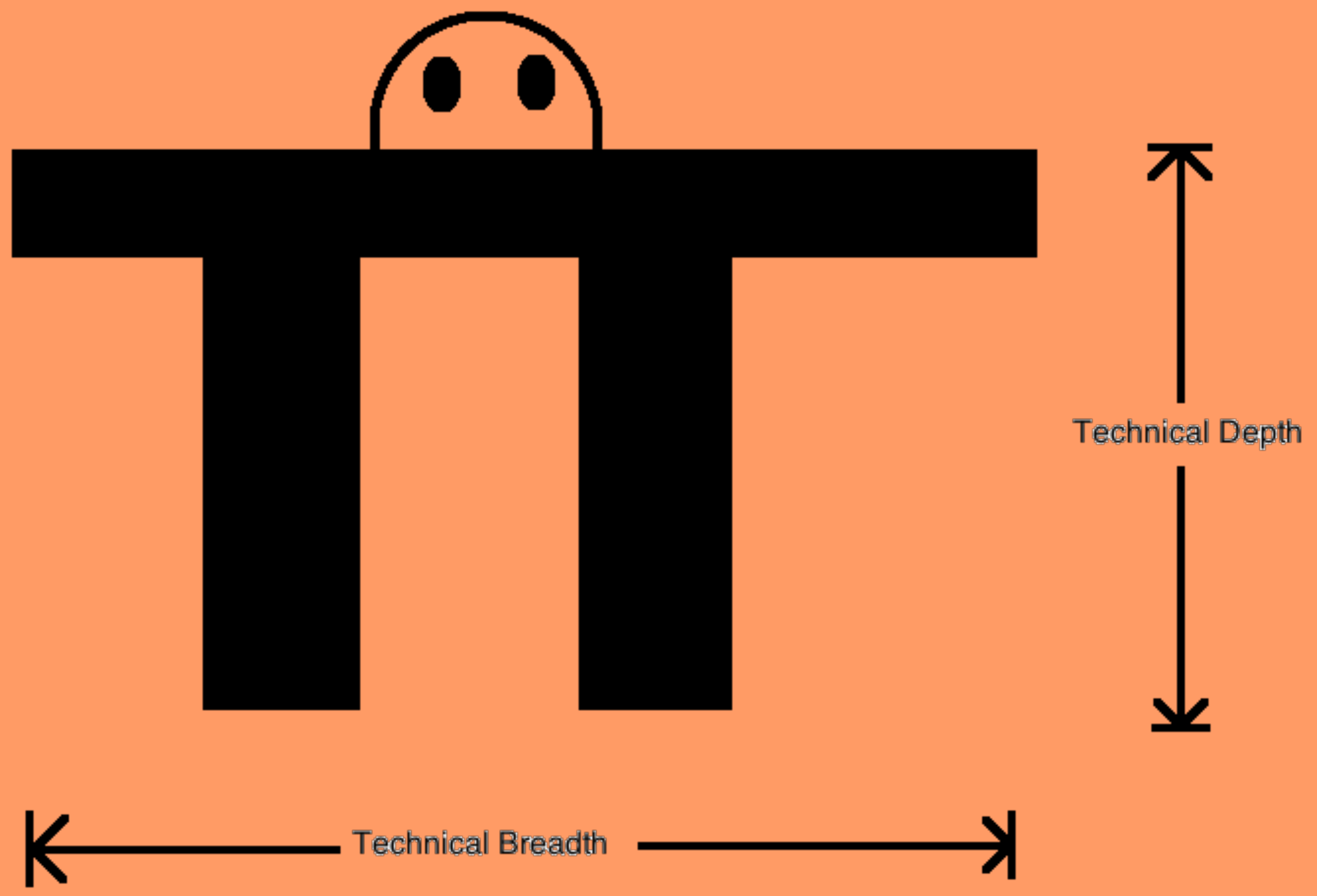
https://lo.unisa.edu.au/mod/book/view.php?%20id=611284&chapterid=10411

Please make yourself competent in [X] in the evening/weekend/workday

Fail Tip #1:

Act as if deep ops, infra, security, UX knowledge can be picked up fast and easy



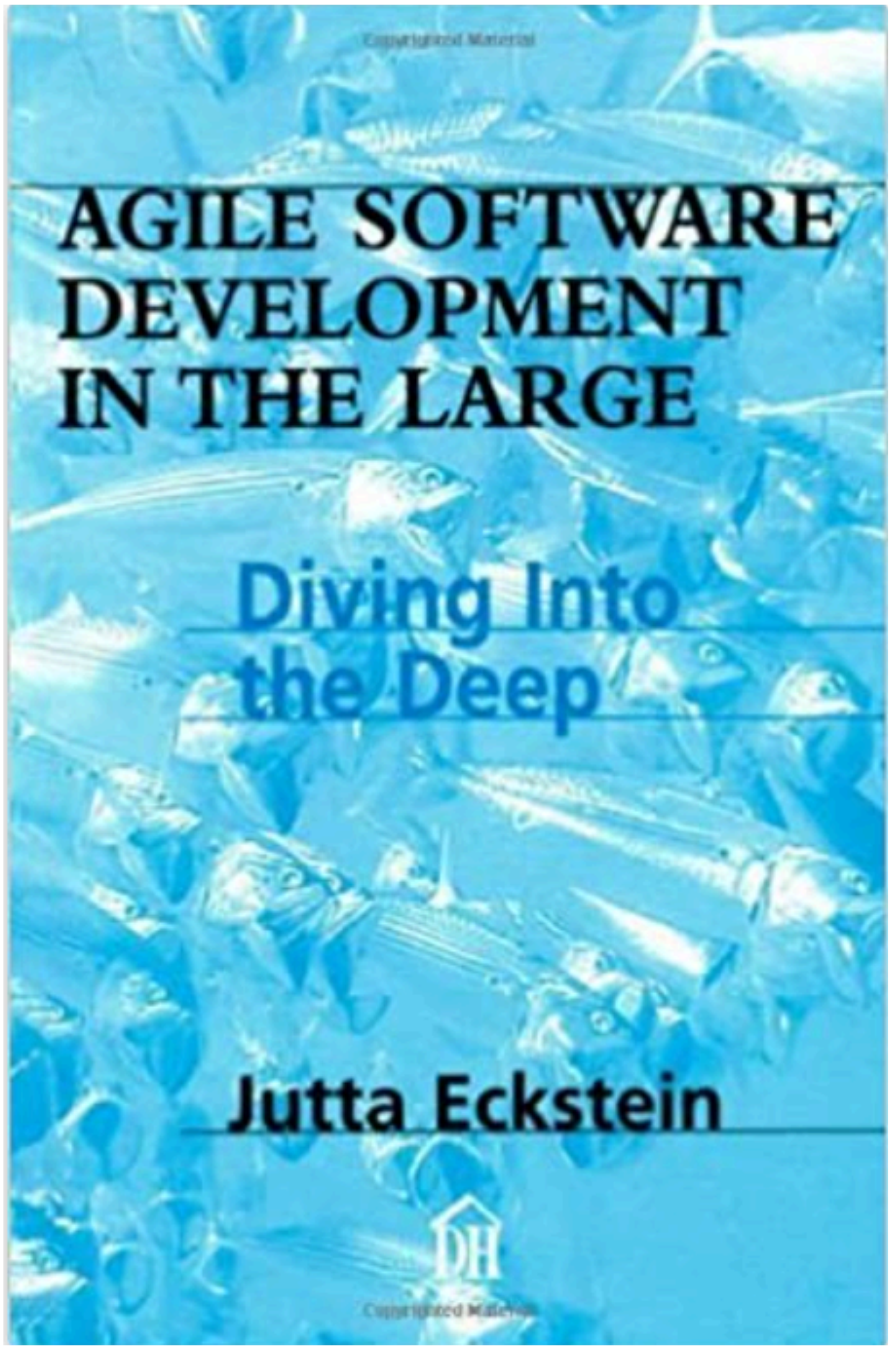


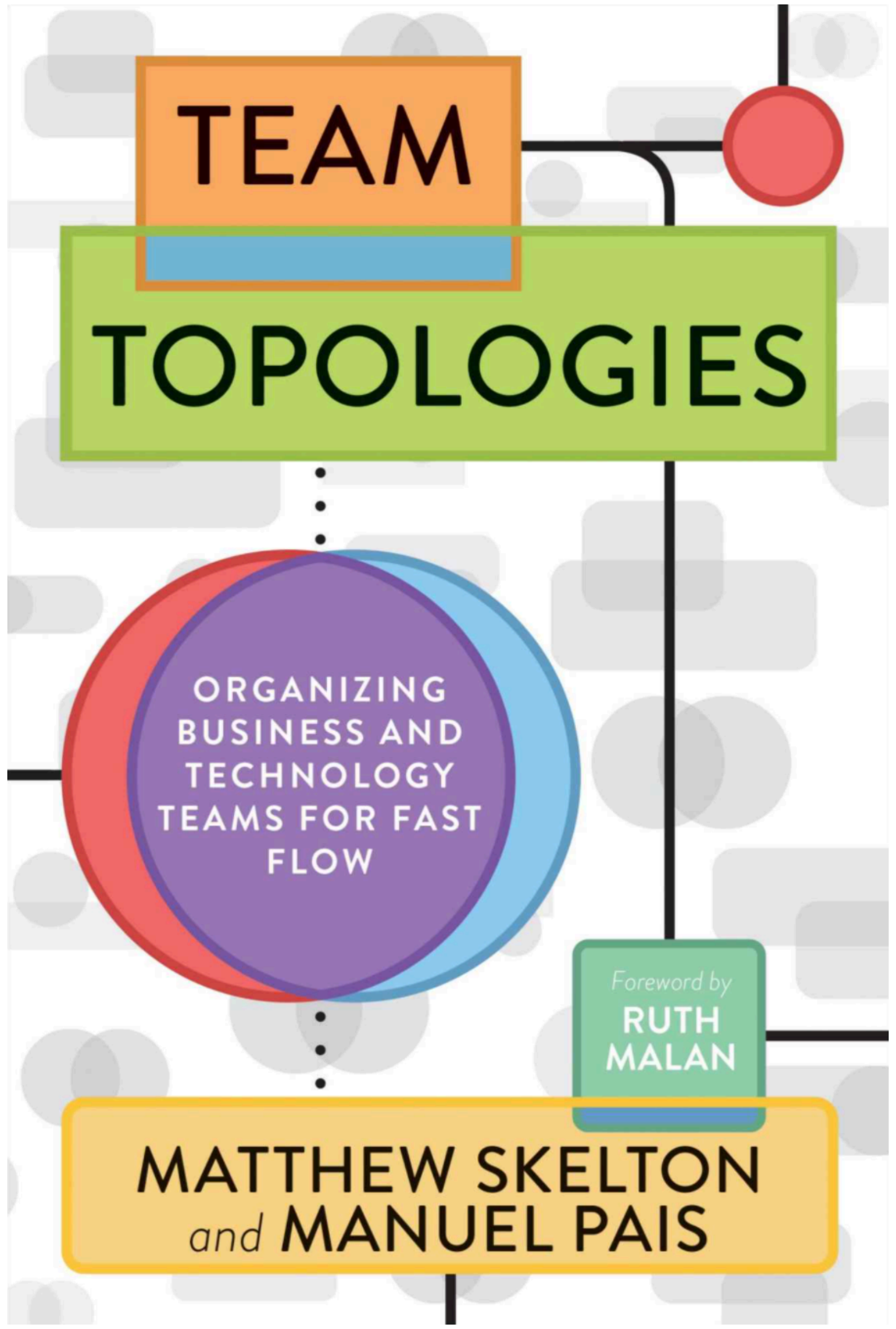
https://medium.com/@cminion/t-shaped-people-pi-shaped-people-and-cthulhu-shaped-people-b44888e0bac4

201
traffiQ
RMV
Stadt Frankfurt am Main

Mitigation Tip #1

Get the right people and skills on the bus





Eckstein 2004

Skelton/Pais 2019

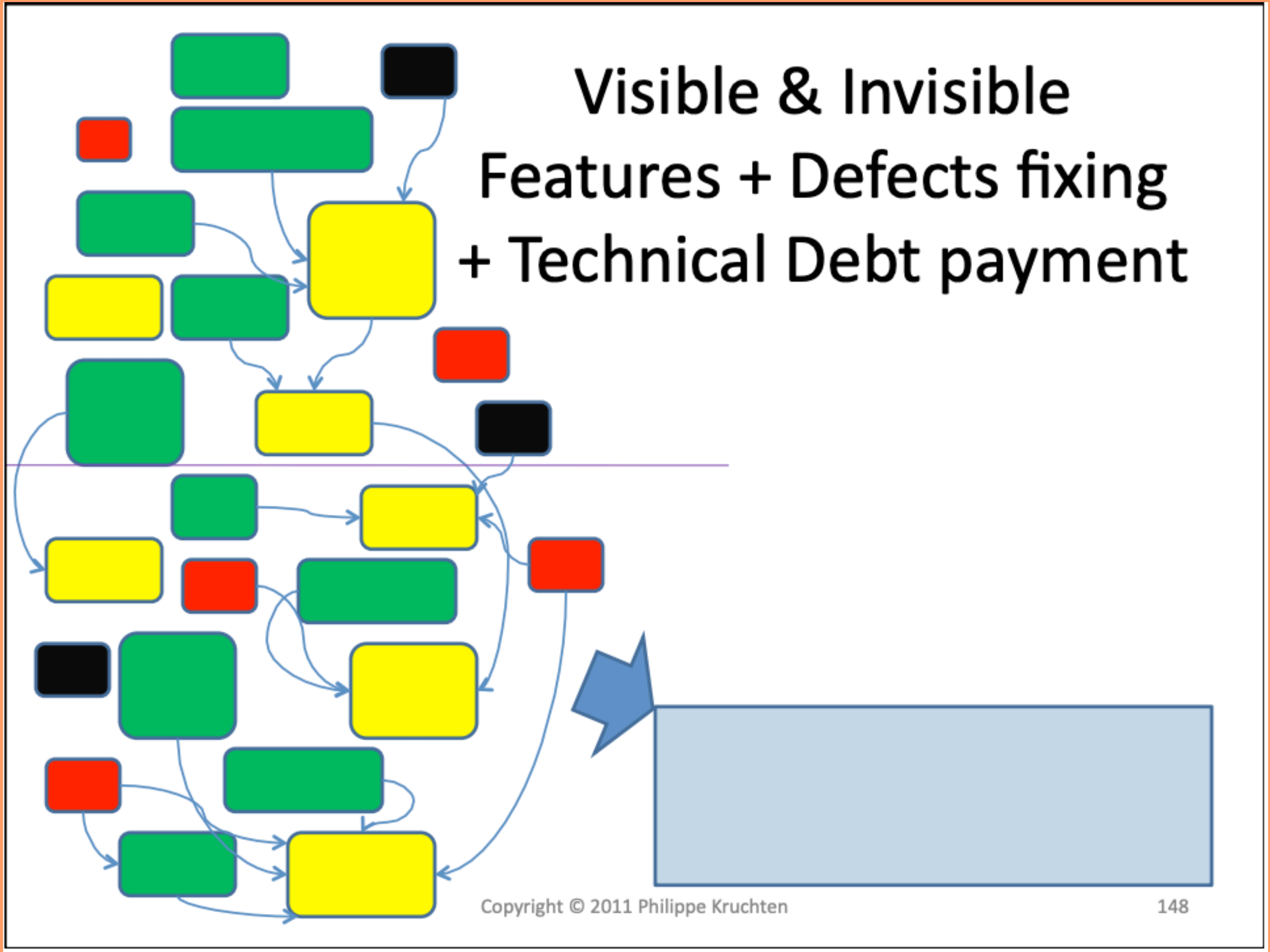
Self Experience Reports

Anekdotes

Mitigation Tip #2

Enabling team for the bus fleet

Magic Ops and Sec



Visible & Invisible Features + Defects fixing + Technical Debt payment

Fail tip #2

Pack your sprint 100% with features & bugs

Mitigation Tip #3

Schedule time for operations and support

Mitigation Tip #4

Understand your Architecture Qualities and act appropriately

Value Autonomy over Speed

Goal: Software, faster

More autonomy != more speed

e.g. develop and operate your own platform

Right amount of autonomy

Fail tip #4

Do not outsource (self-)services

Believe you are amazon.com

They can hire whoever they want

They have 15 years experience with You build it, you run it

They have internal platforms

They have internal consulting teams, principal engineers

Hiring pre-condition: operate your software, collaborate with oversea teams

What do my people want?

Do they want to be on-call over the weekend?

Are they interested in security topics?

Are they interested in operational topics?

Are they interested in … topics?

We need to find good solutions to the problems at hand.

Fail tip #5

Act based on what Netflix, Amazon, … does

Mitigation tip #6

Take Netflix, amazon,... as a source of inspiration and act appropriately to your context

Thanks! Questions?

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