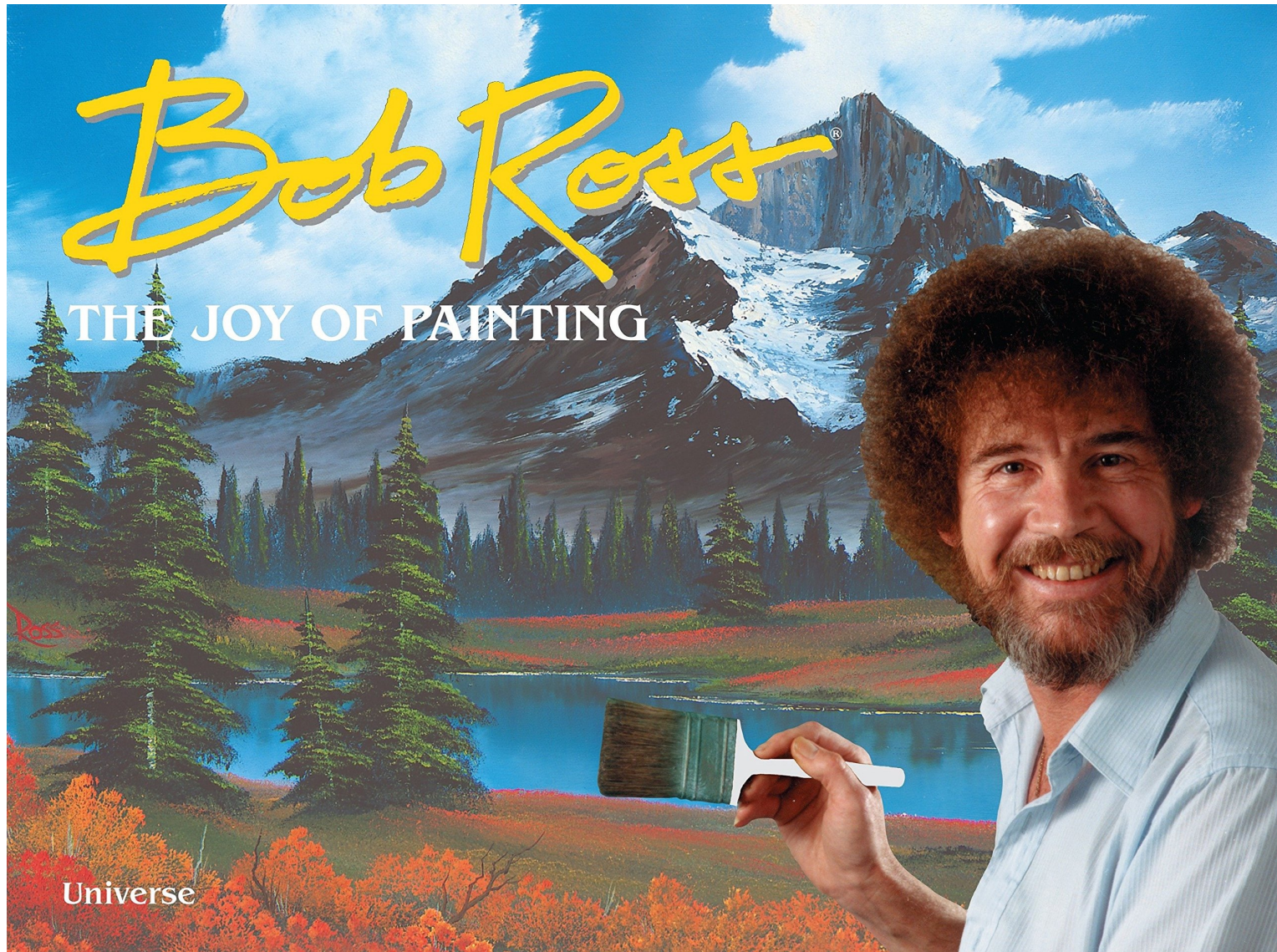


Agile Software Development for Developers

Yousef Mehrdad Bibalan,
www.bibalan.com

About The Talk: The Joy Of Software Development



Agenda

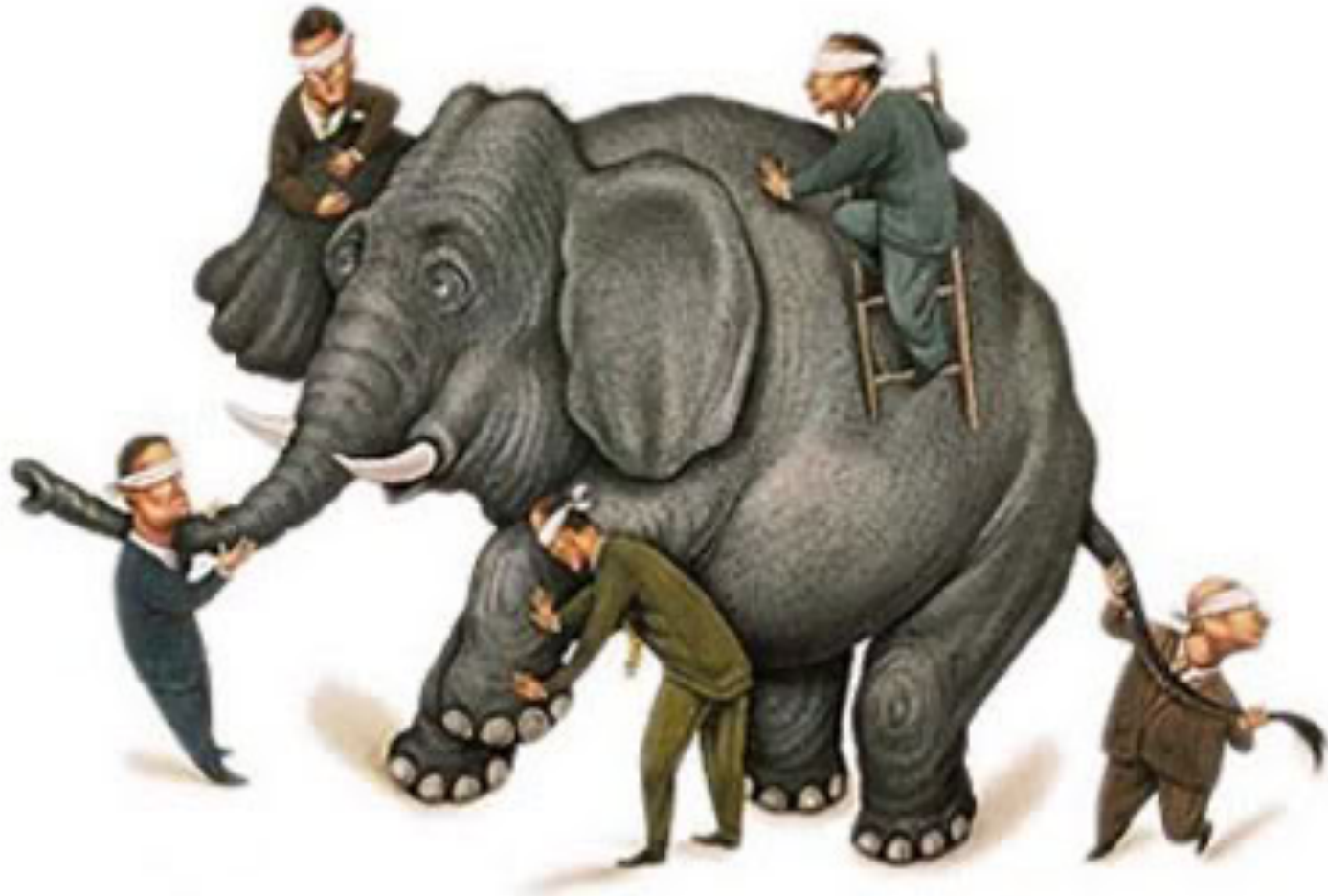
- Introduction
 - ▶ Welcome to Age of Agile
 - ▶ Paradigm and Paradigm Shift
- Agile Software Development
 - ▶ Definition
- Agile Software Development in a Nutshell
- The Cynefin Framework
- Back to Agile Values and Principles
- Next Session

Introduction

Welcome to Age of Agile

QUIZ TIME

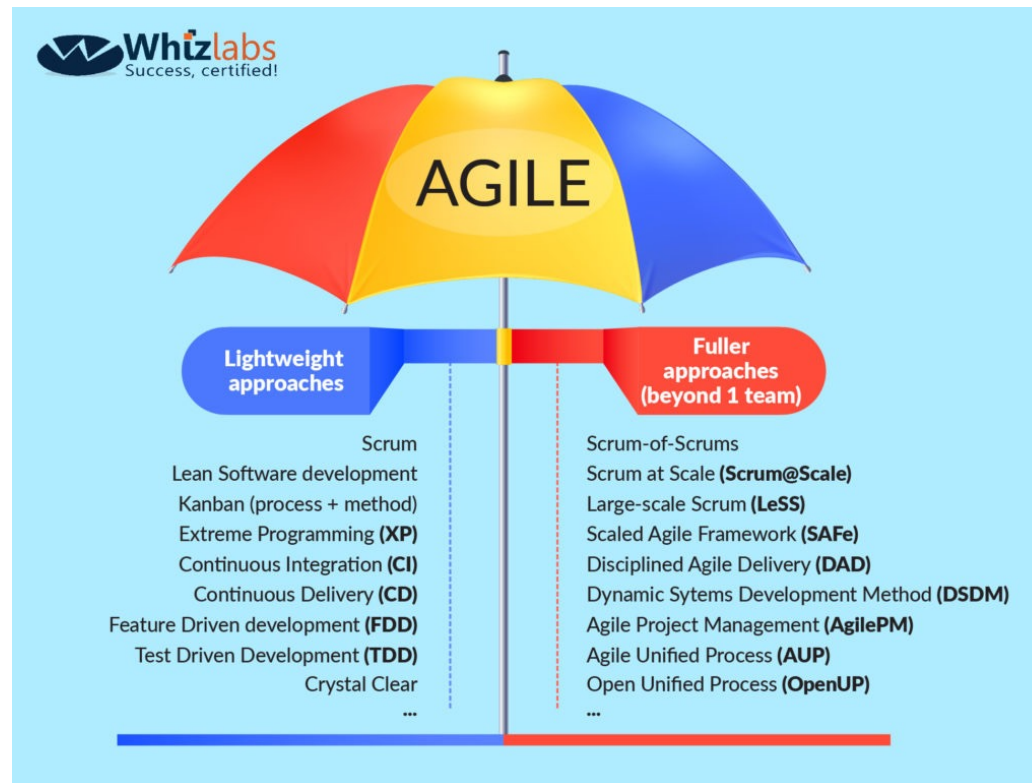
Agile Development: An Elephant in the Dark



Credit

Agile Development Jungle

Special thanks to Extreme Programming (XP)



Introduction

Paradigm and Paradigm Shift

Paradigm



paradigm :

a philosophical and theoretical framework of a scientific school or discipline within which theories, laws, and generalizations and the experiments performed in support of them are formulated

(Merriam-Webster)

Paradigm Shift



Agility and Paradigm Shift

Agility is a paradigm, so you have to shift your paradigm.

If you want your life to be more rewarding, you have to change the way you think.

Oprah Winfrey

QUIZ TIME

Agile Software Development

Definition

What is Agility: An Elephant in the Dark



Some executives [and people] seem to associate agile with anarchy (**everybody does what he or she wants to**), whereas others take it to mean **“doing what I say, only faster.”** But **agile is neither.**

[hbr.org]

Credit

Agility: Definition

Creating change disrupts competitors (and the entire market ecosystem); responding to change (anticipated or unanticipated) guards against competitive thrusts.

I've characterized agility in two statements:

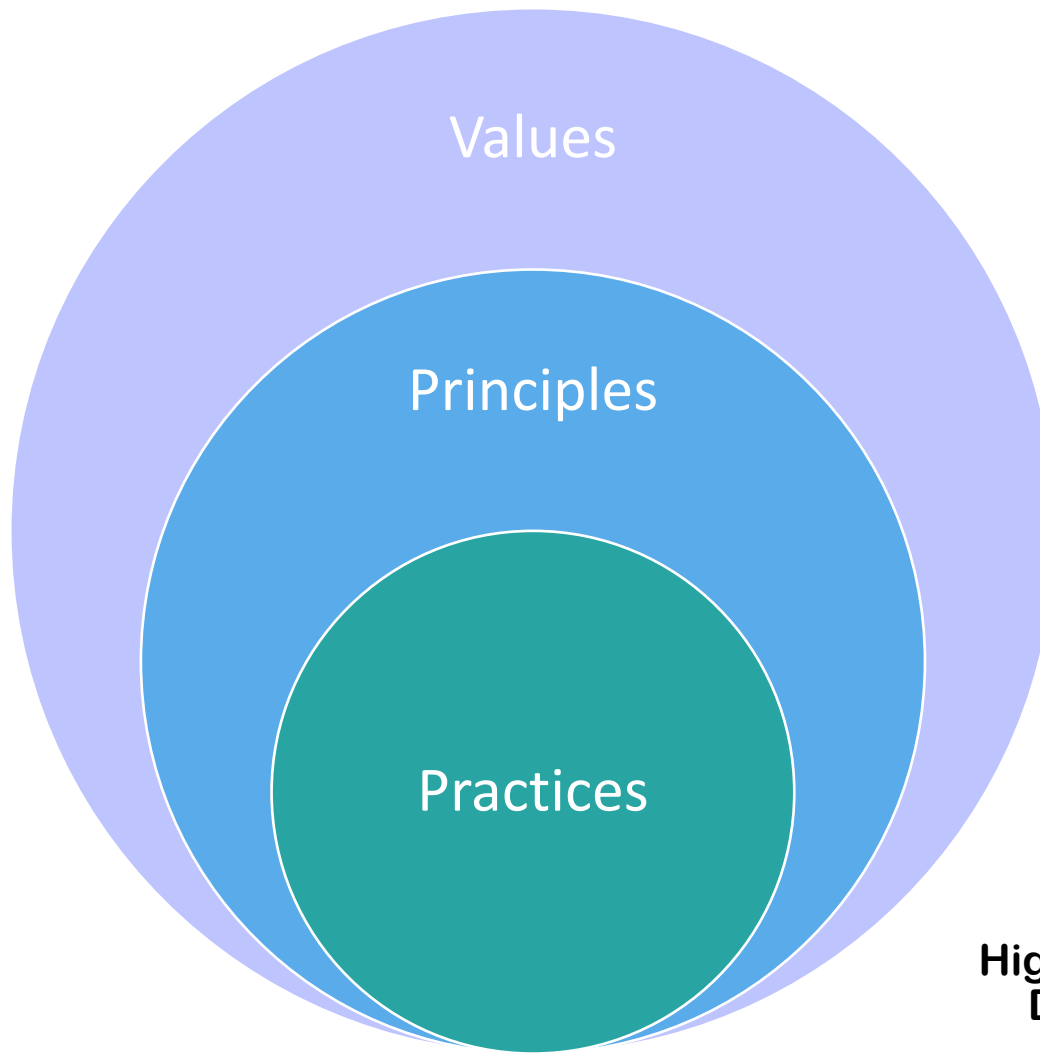
- **Agility is the ability to both create and respond to change in order to profit in a turbulent business environment.**
- **Agility is the ability to balance flexibility and stability**

Jim Highsmith, 2007

Agile Software Development

Agile Software Development in a Nutshell

Values, Principles, and Practices



Intangible - Very Powerful
Change Less Often

Highly Visible - Less Powerful
Dynamic - Change Often

The Agile Manifesto

Values of AgileManifesto.org

We are uncovering better ways of developing products by doing it and helping others do it. Through this work we have come to value:

Individuals & interactions	over	Processes & tools
Working product	over	Comprehensive documentation
Customer collaboration	over	Contract negotiation
Responding to change	over	Following a plan

That is, while there is value in the items on the **right**, we value the items on the **left** more.

12 Agile Principles

"In high-performance teams, the leaders managed the principles, and the principles managed the team." Carl Larson and Frank LaFasto (1989).

1 Satisfy the **customer**



Welcome **change**



Deliver **frequently**

Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5
story	story	story	story	story
story	story	story	story	story
story	story	story	story	story

4 Work **together**



5 Trust and **support**



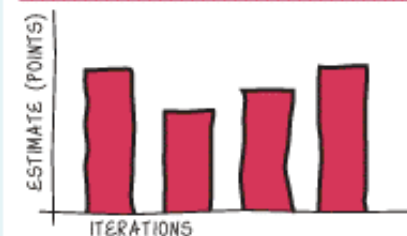
Face-to-face **conversation**



Working **software**



8 Sustainable **development**



9 Continuous **attention**



10 Maintain **simplicity**



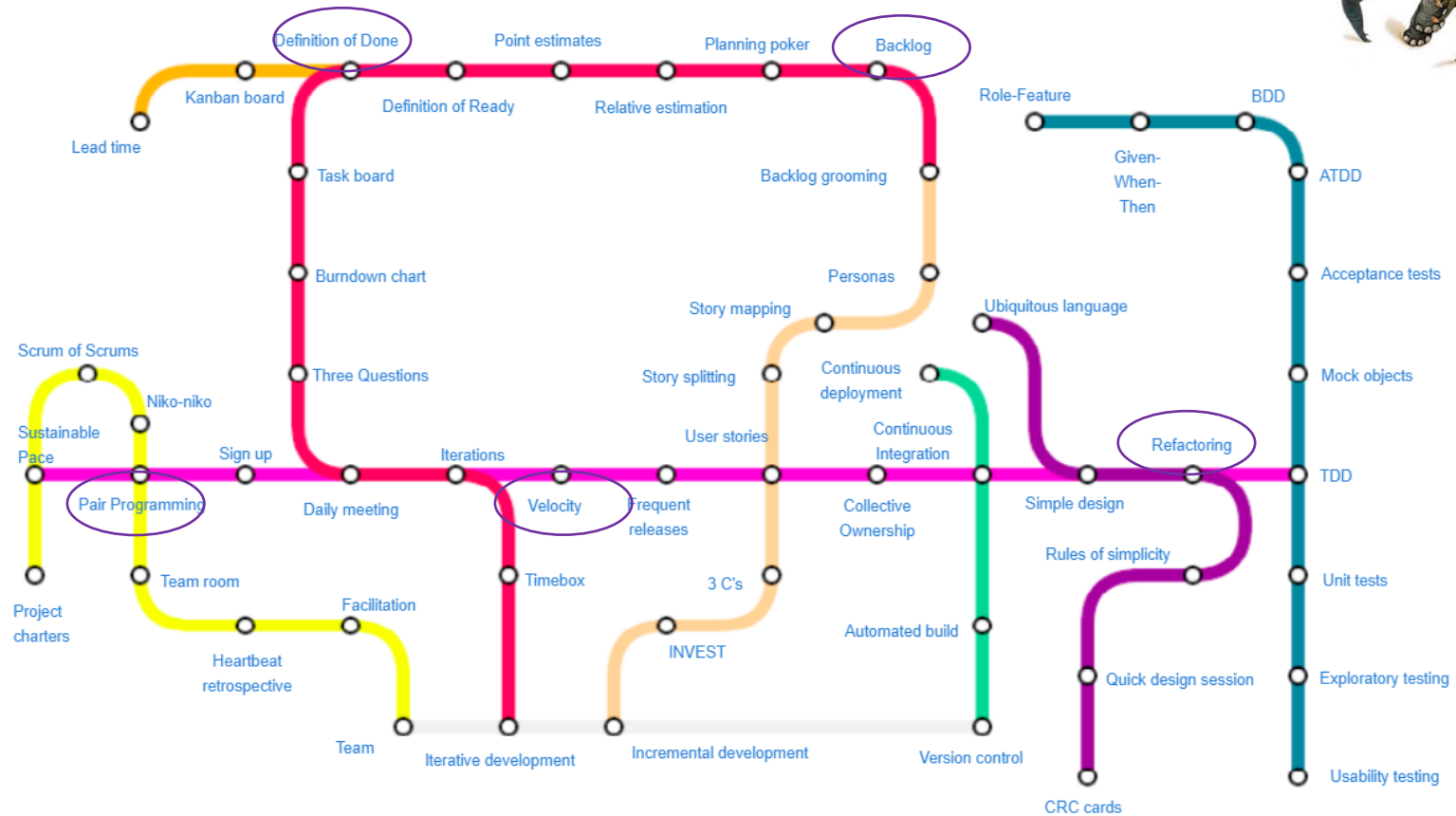
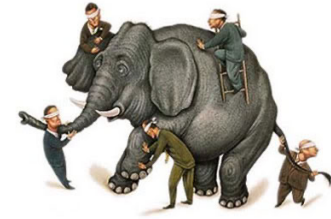
11 Self-organizing **teams**



12 Reflect and **adjust**



Subway Map to Agile Practices



Lines represent practices from the various Agile "tribes" or areas of concern:

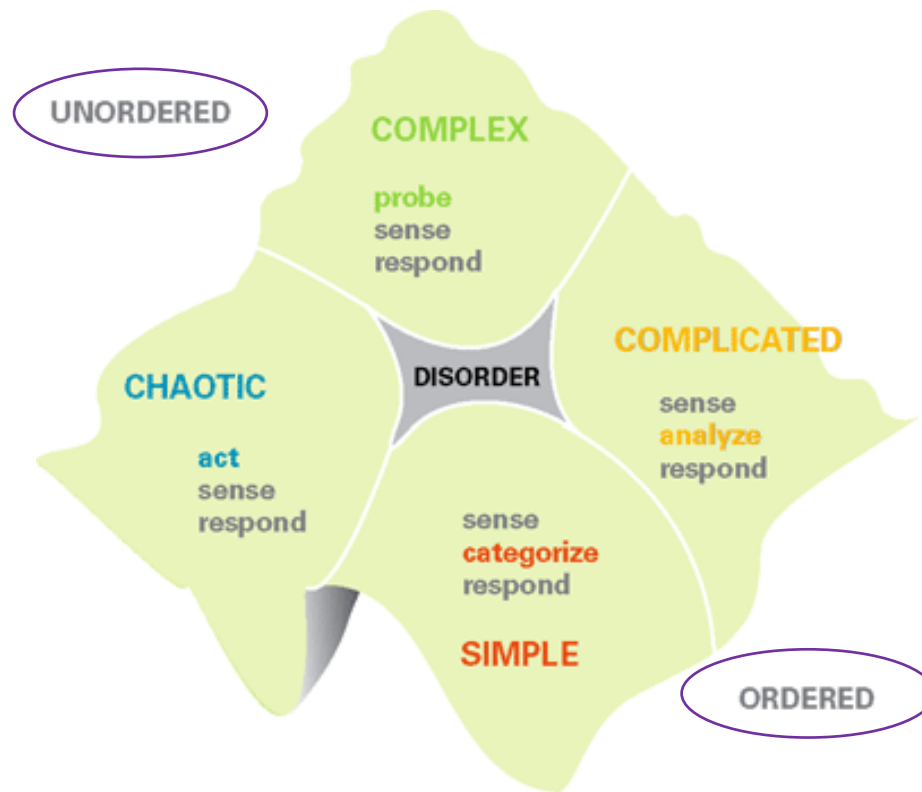


Agile Software Development

How It Works: Complexity and Cynefin

The Cynefin :Sense Making Framework in a Complex World

Cynefin, pronounced kuh-nev-in, is a Welsh word that signifies the multiple factors in our environment and our experience that influence us in ways we can never understand.



Simple / Obvious / Clear (Ordered)

آن کس که بداند و بداند که بداند...

- Summary
 - ▶ **Known-Known** context
 - ▶ The domain of **best practice**
 - ▶ **Right answer exists**
- The relationship between cause and effect is clear:
 - ▶ if you do X, expect Y.
- The advice is to "sense–categorize–respond":
 - ▶ establish the facts ("sense"),
 - ▶ categorize,
 - ▶ then respond by following the rule or applying best practice.
- The example: loan-payment processing.

Complicated (Ordered)

- Summary
 - ▶ **Known-Unknown** context
 - ▶ The domain of **experts**
 - ▶ There are a range of right answers.
- The relationship between cause and effect requires analysis or expertise;
- The framework recommends "sense—analyze—respond":
 - ▶ assess the facts,
 - ▶ analyze,
 - ▶ and apply the appropriate good operating practice.
- The example: Car

آن کس که نداند و بداند که نداند...



Complex (Unordered)

آن کس که نداند و نداند که نداند...

- Summary
 - ▶ **Unknown-Unknown** context
 - ▶ The Domain of Emergence
 - ▶ There are no right answers
 - ▶ Flux and unpredictability
- Cause and effect can only be deduced in retrospect
- The example: battlefields, markets, ecosystems and corporate cultures

Complex (cont.)

- "Instructive patterns ... can emerge," ... "if the leader conducts experiments that are safe to fail." Cynefin calls this process "probe–sense–respond".

- The leader's job
 - ▶ create environments and experiments that allow patterns to emerge
 - ▶ increase levels of interaction and communication
 - ▶ use methods that can help generate ideas: Open up discussion (as through large group methods);
 - ▶ set barriers;
 - ▶ stimulate attractors;
 - ▶ encourage dissent and diversity;
 - ▶ manage starting conditions and monitor for emergence

Complex: Madagascar! (Unknown Unknown)

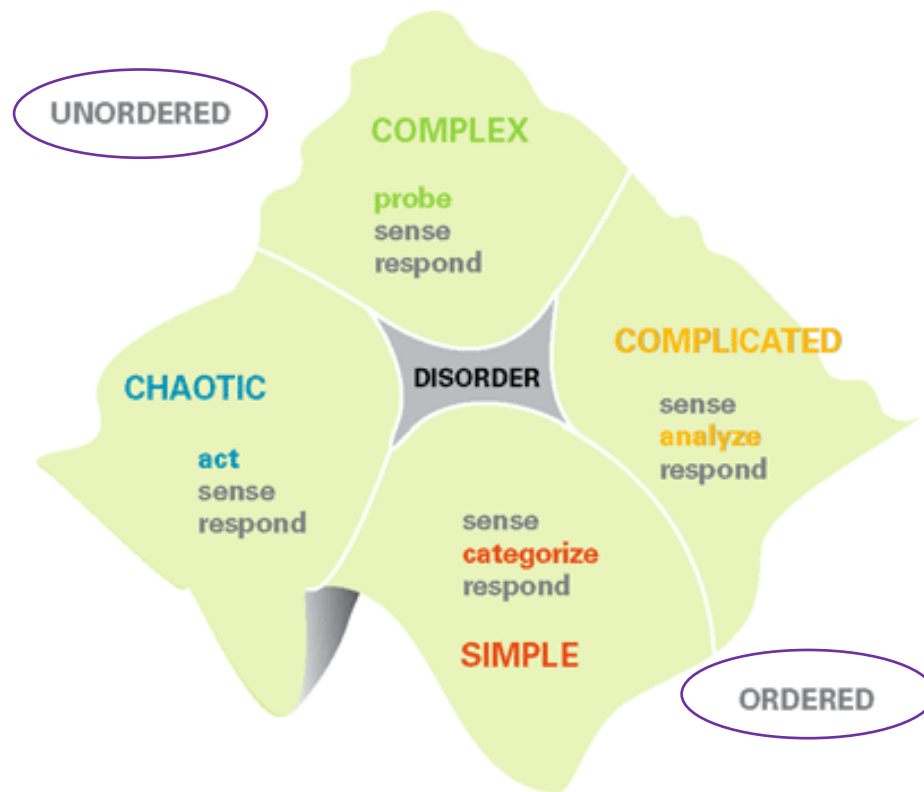


Chaotic (Unordered)

- Summary
 - ▶ **Unknowables**
 - ▶ The domain of **rapid response**
 - ▶ High turbulence, many decisions and no time, high tension
- In the chaotic domain, cause and effect are unclear.
- "Action—any action—is the first and only way to respond appropriately."
- In this context, managers "act–sense–respond":
 - ▶ act to establish order;
 - ▶ sense where stability lies;
 - ▶ respond to turn the chaotic into the complex.
- The example: The September 11 category.
- COVID-19?

Agility and Cynefin

Which domain of the Cynefin works for the agility?



QUIZ TIME

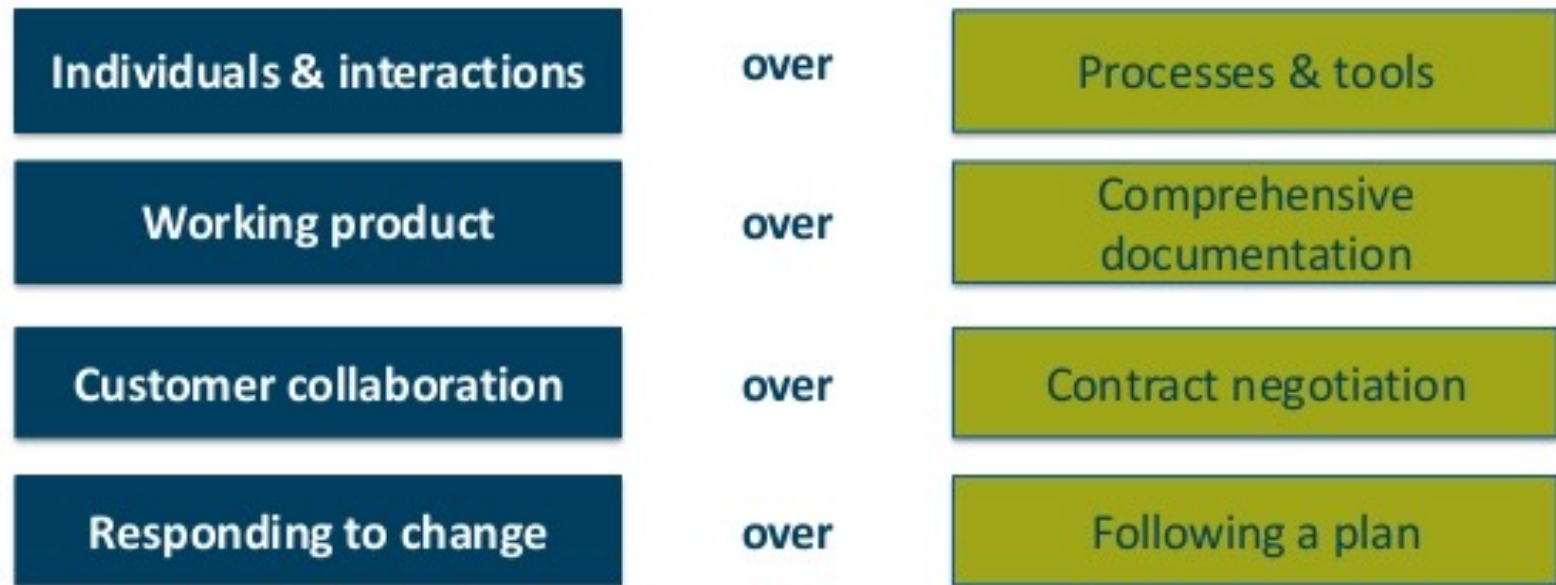
Agile Software Development

Back to Agile Values and Principles

The Agile Values

Now think about the agile values again according to the Cynefin framework:

WHY?



The Agile Principles

Now think about the agile principles again according to the Cynefin framework:

WHY?

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

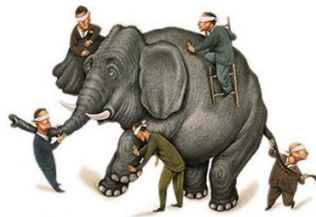
Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Agile Software Development

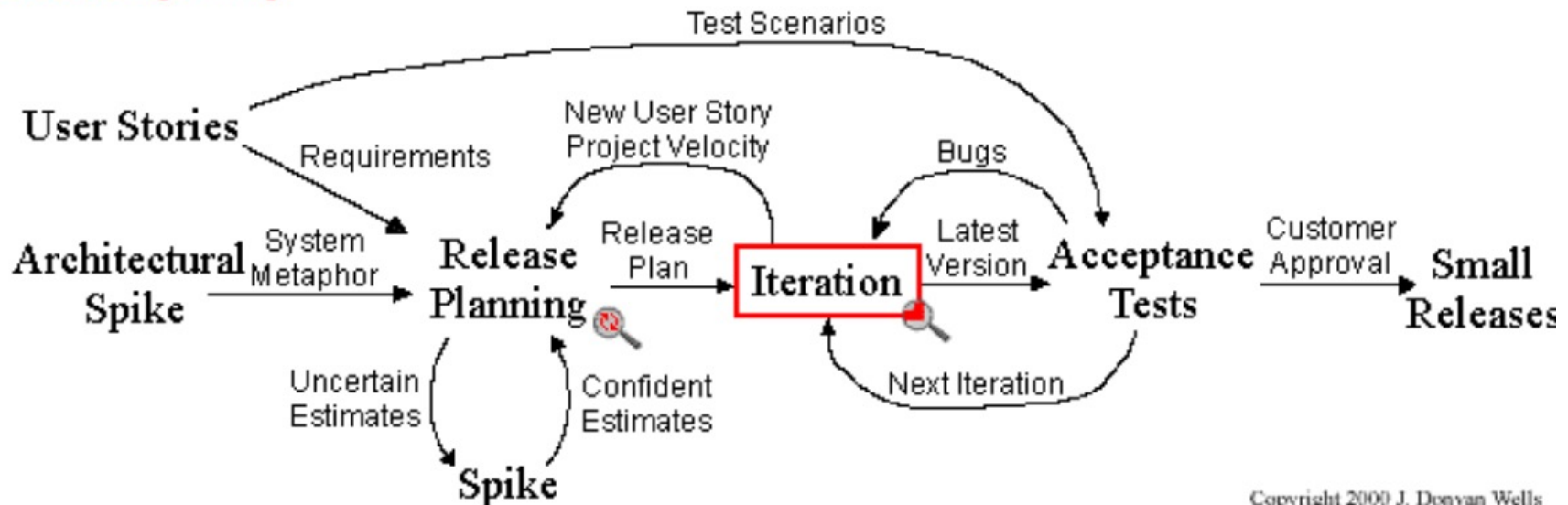
An Elephant in the Dark

Why is XP like this?

Agile Manifesto
Scrum Master
Sprint Backlog
User Stories
Product Owner
Estimation
Priorities
Iterative Process
Production Ready Functionality
Goal
Release
WAG
Burndown Chart
Planning Meeting
Business value
Tasks List
Development Team
Product Backlog
Review Meeting
Self Organizing
Scrum Team
Increment
Chickens
Incremental Delivery
Pigs
Team Board
Events
Retrospective
Agile Methodology
Requirements



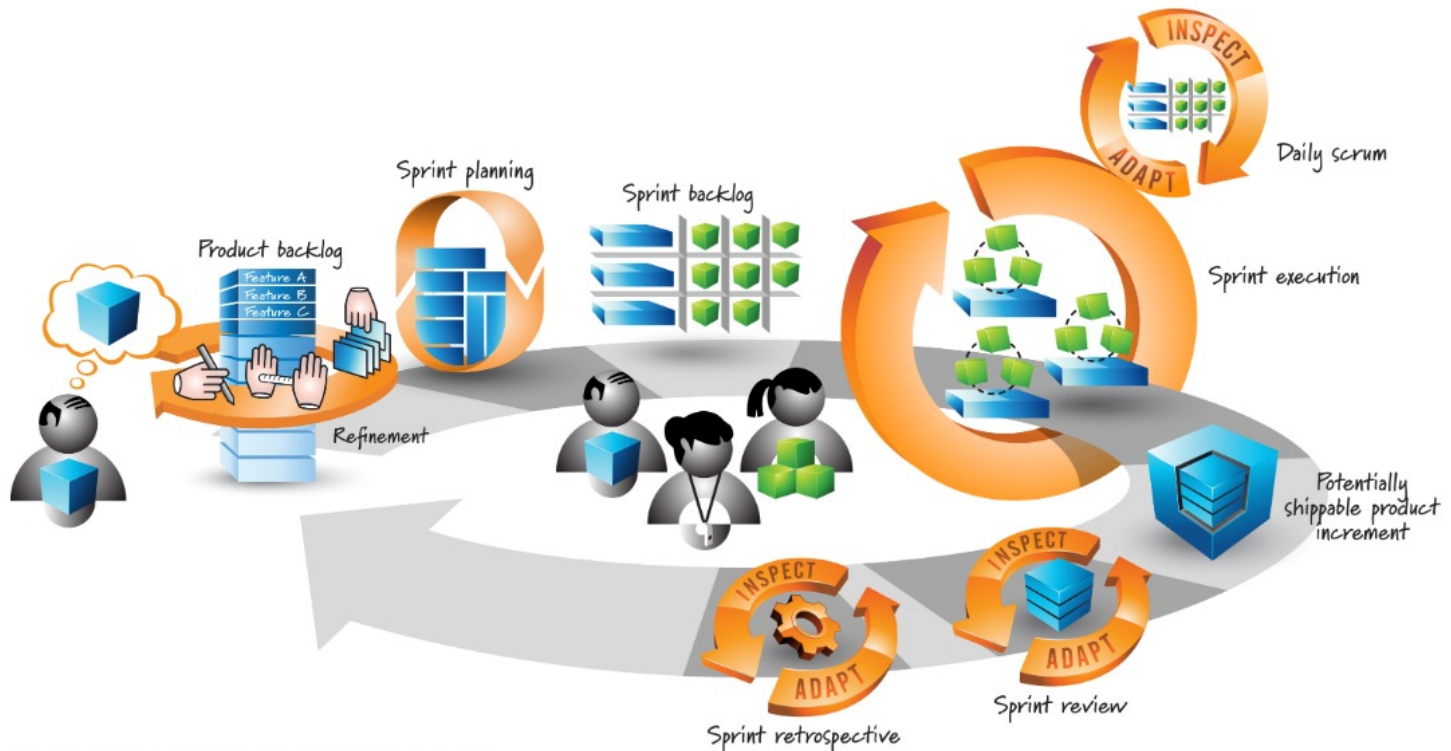
Extreme Programming Project



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Why is Scrum like this?

Priorities Estimation Product Owner
User Stories Sprint
Iterative Process Sprint Backlog
Scrum Master Release Goal
WAG Agile Manifesto Scrum Chickens
Burndown Chart Planning Meeting Agile Pigs
Business value Knowledge Transfer Team Board
Tasks List Development Team Events
Product Backlog Retrospective
Review Meeting Agile Methodology
Self Organizing Scrum Team
Increment



Next Session



Thanks

- Faezeh Eshragh
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- Hossein Nassiri
- Reza Rahmati
- Mohammad Nadi

