AGILE SOFTWARE DEVELOPMENT

Introduction in Agile Mindset

# Course content

- Agile Mindset - Overview
- Scrum
- Extreme Programming
- Kanban
- Lean Product Development
- Other Methodologies: Crystal, FDD, DAD
- The future of Agile

# Seminar content

- Agile Problem Solving
- Agile Mindset
- Agile Estimation
- Team Organization
- Limiting Work in Progress
- Delegation

www.cs.ubbcluj.ro/
~dsuciu

danmirceasuciu. com

# AGILE METHODOLOGIES FOR SOFTWARE APPLICATION DEVELOPMENT

**Code:** MLR5027
**Ciclu de studii:** Master
**Programmes:** Databases (mandatory)
Software Engineering (mandatory)
ICA, SDI, CS (optional)
**Semester:** 1
**Hours:** 2+1

**Group code** *Microsoft Teams:* **f2g6cta**
Link to register in *Code of Talent:* TBD

Home          Courses          Papers & Presentations          Hobbies          More

Schedule of Agile Courses & Seminars : 2024-2025

| Courses/Seminars | Software Engineering | | Baze de date | | Cyber Security | Applied Computational Intelligence | Sisteme distribuite în internet (254) |
|---|---|---|---|---|---|---|---|
| | 248/1 | 248/2 | 243/1 | 243/2 | 240 | | |
| Course 1. Introduction in Agile Methodologie | Monday, October 7th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 2. Agile vs Waterfall Approaches | Monday, October 14th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 3. Scrum 1 - Roles | Monday, October 21st, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 4. Scrum 2 - Artifacts | Monday, November 4th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 5. Scrum 3 - Ceremonies | Monday, November 11th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 6. User Stories. | Monday, November 18th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 7. Agile Estimation | Monday, November 25th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 8. Extreme Programming 1 - Principl | Monday, December 2nd, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 9. Extreme Programming 2 - Practice | Monday, December 9th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 10. Lean Software Development | Monday, December 16th, 2024 14:00 - 16:00, 6/II | | | | | | |
| Course 11. Kanban | Monday, January 6th, 2025 14:00 - 16:00, 6/II | | | | | | |
| Course 12. Performance Management | **reschedule** | | | | | | |
| Course 13. Other Agile Practices. Future of / | Monday, January 13th, 2025 14:00 - 16:00, 6/II | | | | | | |
| | | | | | | | |
| Seminar 1. Agile Problem Solving | Mon, Oct 14th 16:00 - 18:00 MOS15 | Mon, Oct 7th 16:00 - 18:00 MOS15 | Tue, Oct 1st 14:00 - 16:00 5/I | Tue, Oct 8th 14:00 - 16:00 5/I | Tue, Oct 1st 16:00-18:00 A305 | Mon, Oct 14th 18:00 - 20:00 A304 | Mon, Oct 14th 16:00 - 18:00 MOS15 |
| Seminar 2. Being Agile vs Doing Agile | Mon, Nov 4th 16:00 - 18:00 MOS15 | Mon, Oct 21st 16:00 - 18:00 MOS15 | Tue, Oct 15th 14:00 - 16:00 5/I | Tue, Oct 22nd 14:00 - 16:00 5/I | Tue, Oct 15th 16:00-18:00 A305 | Mon, Oct 4th 18:00 - 20:00 A304 | Mon, Nov 4th 16:00 - 18:00 MOS15 |
| Seminar 3. Teamwork | Mon, Nov 11th 16:00 - 18:00 MOS15 | Mon, Nov 18th 16:00 - 18:00 MOS15 | Tue, Nov 12th 14:00 - 16:00 5/I | Tue, Nov 19th 14:00 - 16:00 5/I | Tue, Nov 12th 16:00-18:00 A305 | Mon, Nov 11th 18:00 - 20:00 A304 | Mon, Nov 11th 16:00 - 18:00 MOS15 |
| Seminar 4. Agile Estimations in Practice | Mon, Nov 25th 16:00 - 18:00 MOS15 | Mon, Dec 2nd 16:00 - 18:00 MOS15 | Tue, Nov 26th 14:00 - 16:00 5/I | Tue, Dec 3rd 14:00 - 16:00 5/I | Tue, Nov 26th 16:00-18:00 A305 | Mon, Nov 25th 18:00 - 20:00 A304 | Mon, Nov 25th 16:00 - 18:00 MOS15 |
| Seminar 5. Limiting Work in Progress | Mon, Dec 9th 16:00 - 18:00 MOS15 | Mon, Dec 16th 16:00 - 18:00 MOS15 | Tue, Dec 10th 14:00 - 16:00 5/I | Tue, Dec 17th 14:00 - 16:00 5/I | Tue, Dec 10th 16:00-18:00 A305 | Mon, Dec 9th 18:00 - 20:00 A304 | Mon, Dec 9th 16:00 - 18:00 MOS15 |
| Seminar 6. Delegation | Mon, Jan 6th 16:00 - 18:00 MOS15 | Mon, Dec 13th 16:00 - 18:00 MOS15 | Tue, Jan 7th 14:00 - 16:00 5/I | Tue, Jan 14th 14:00 - 16:00 5/I | Tue, Jan 7th 16:00-18:00 A305 | Mon, Jan 6th 18:00 - 20:00 A304 | Mon, Jan 6th 16:00 - 18:00 MOS15 |

**Gestionarea Proiectelor Software**

Episodul 23
Procese de planificare
*Matricea responsabilităților*

**PLAY ALL**

# Gestionarea Proiectelor Software

24 videos • 451 views • Updated 6 days ago
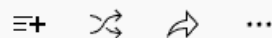
Un podcast despre practici, instrumente și framework-uri utilizate în managementul proiectelor în general și al proiectelor software în special.

Majoritatea subiectelor vor fi din zona managementului adaptiv (Agile) de proiecte, însă nu au fost neglijate nici cele legate de managementul predictiv (Waterfall).

Podcastul s-a născut din dorința de a furniza o sursă de informație suplimentară studenților înscriși la cursurile de Gestionarea Proiectelor S oftware și Dezvoltarea Agila a Softwulul, cursuri predate la Facultatea de Matematică și Informatică a Universității Babeș-Bolyai Cluj-Napoca dar și celor care urmează cursul de Metodologii Alternative de Management al Proiectelor se la Școala Națională de Științe Politice și Administrative, București.

În același timp acest podcast poate fi util

SHOW MORE

15 | Gestionarea Proiectelor Software | S1E09 | Metodologia Scrum - Roluri
Dan Mircea Suciu
29:37

16 | Gestionarea Proiectelor Software | S1E08 | Gestionarea așteptărilor clienților
Dan Mircea Suciu
24:32

17 | Gestionarea Proiectelor Software | S1E07 | "Artiști și Specificatori"
Dan Mircea Suciu
22:46

18 | Gestionarea Proiectelor Software | S1E06 | Waterfall vs. Agile
Dan Mircea Suciu
38:18

19 | Gestionarea Proiectelor Software | S1E05 | Manifestul Agile
Dan Mircea Suciu
34:10

20 | Gestionarea Proiectelor Software | S1E04 | Structuri organizaționale
Dan Mircea Suciu
24:53

21 | Gestionarea Proiectelor Software | S1E03 | Analiza stakeholder-ilor
Dan Mircea Suciu
23:42

22 | Gestionarea Proiectelor Software | S1E02 | Agil si Antifragil
Dan Mircea Suciu
17:34

# First mission!

| Mission requirements | Attached files | Attached videos |
| --- | --- | --- |

For your succes here, your first mission is to fulfill your profile! How to do that, simple:
In the right-top corner click on your name and ... you will see your profile. There, click on edit profile button and tell us about you:

- upload your profile picture (take care, there is a limit of 2 MB for your file)
- present yourself in the community in the "About you" section

When you are ready, click the Save button.

After all is set, return to this mission and post a picture that best describes what does **Agile** mean to you. Your mission is complete and you have your first two points!
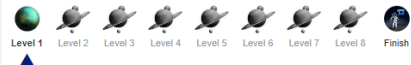
## Agile Software Development

10/03/2022 - 02/01/2023                                    Category: AGILE

**Your Journey Progress**

Level 1 · Level 2 · Level 3 · Level 4 · Level 5 · Level 6 · Level 7 · Level 8 · Finish

| Your current position | Missions to complete | Overall Progress |
| --- | --- | --- |
| **Level 1** | **2** | Missions 0/17 |
| DS Dan Suciu2 | in Level 1 | Levels 0/8 |

**Your score**

0 Points
0          90

**Energy level**

Your energy is High

**100%**
100%

▪ Your energy
▪ Peers' energy

| Low < 30% | Medium 30% - 70% | High > 70% |
| --- | --- | --- |

Low
Nobody here                    Offer help

Medium
Nobody here                    Boost
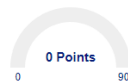
High

## Your missions in this level

| Proof | 2 Points |
| --- | --- |

First mission!                                    Solve now

⏱ Time left: 14 days    ⏱ Time to resolve: 5 minutes
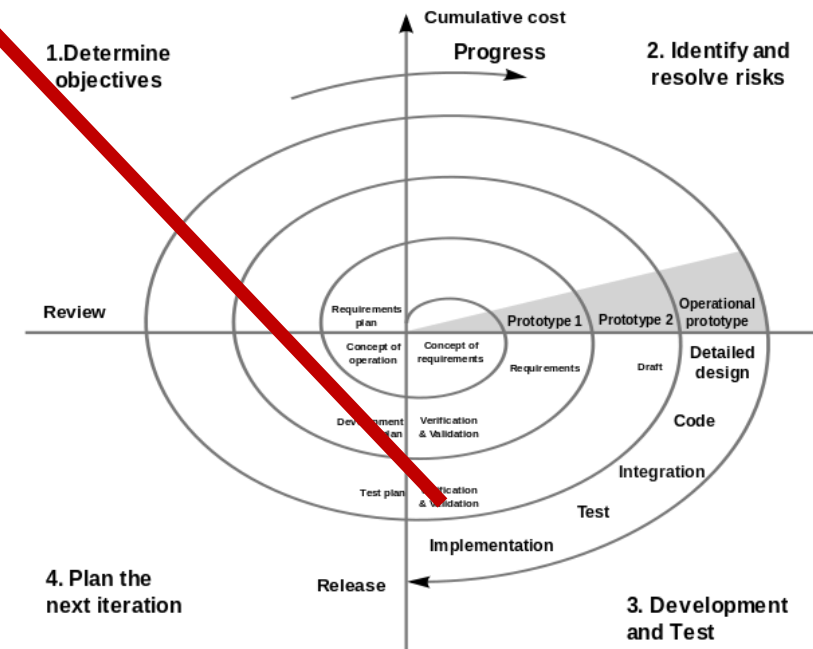
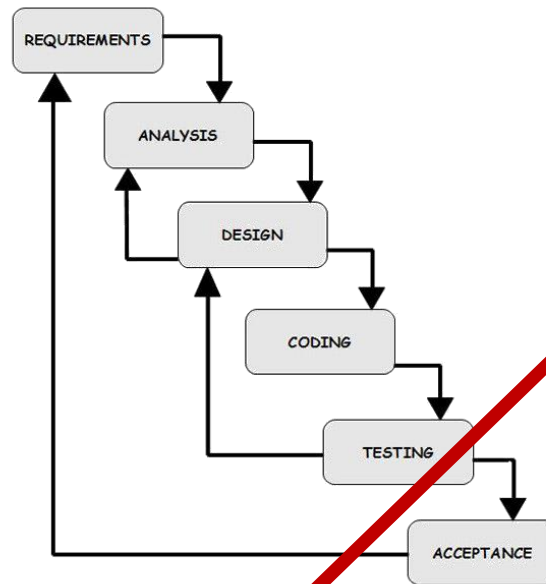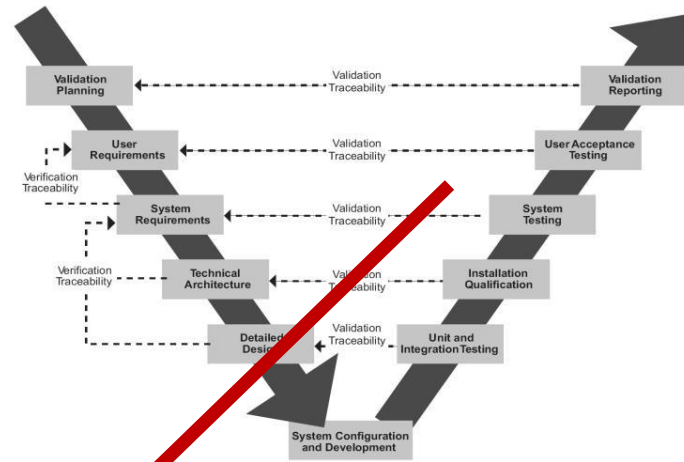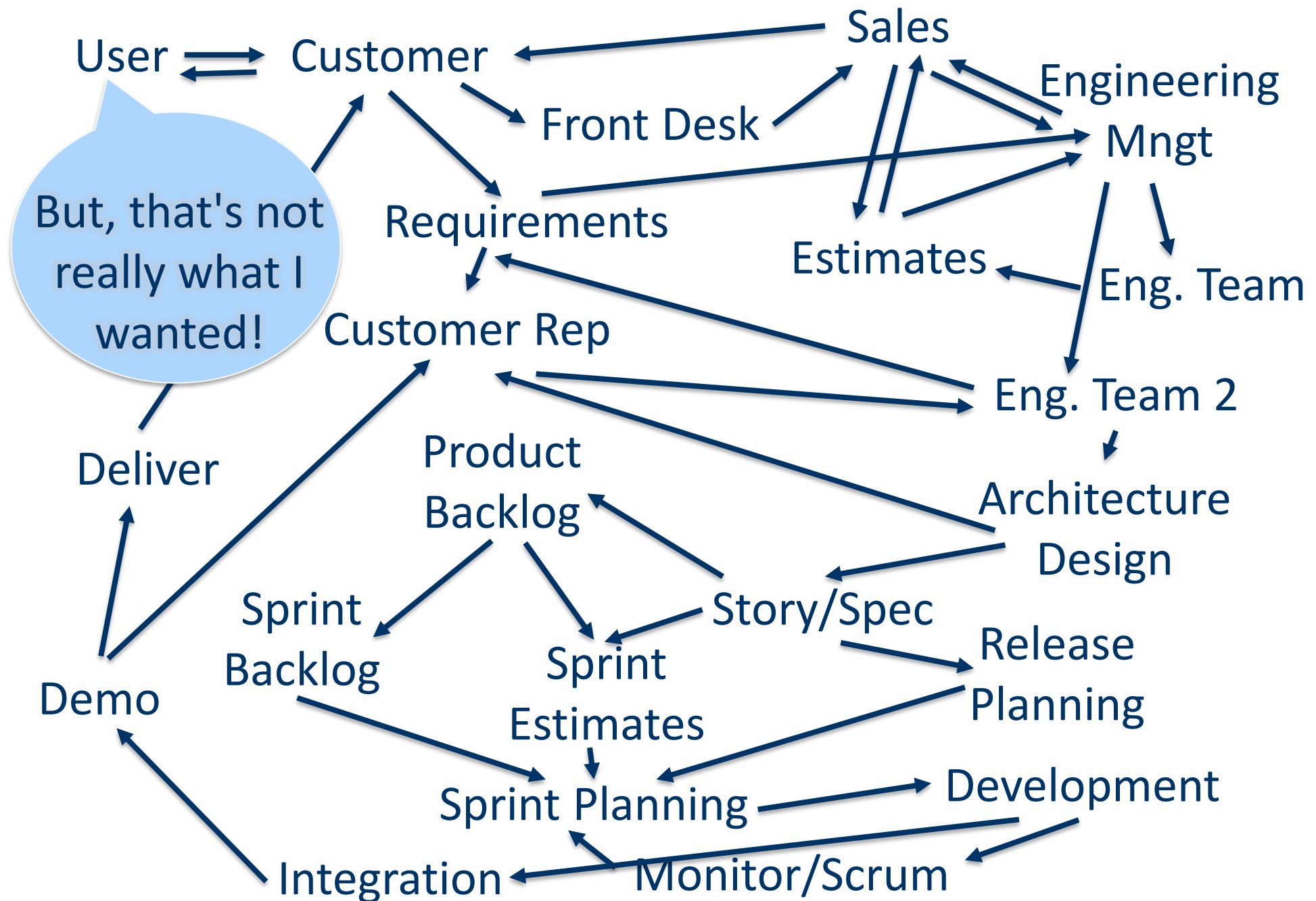https://app.codeoftalent.com/registration/app0-XJnh

18 missions already added in CoT:
- 16 regular missions (max. **78 points**)
- 1 special mission (seminar attendance, max **12 points**)
- 1 optional mission (survey, **5 points**)

**V-Model diagram (top right):**

| | |
|---|---|
| Validation Planning | Validation Reporting |
| User Requirements | User Acceptance Testing |
| System Requirements | System Testing |
| Technical Architecture | Installation Qualification |
| Detailed Design | Unit and Integration Testing |
| System Configuration and Development | |

Validation Traceability — Verification Traceability

**Waterfall model (bottom left):**

REQUIREMENTS → ANALYSIS → DESIGN → CODING → TESTING → ACCEPTANCE

**Spiral model (bottom right):**

Cumulative cost — Progress

1. Determine objectives
2. Identify and resolve risks
3. Development and Test
4. Plan the next iteration

Review — Release

Requirements plan, Concept of operation, Concept of requirements, Prototype 1, Prototype 2, Operational prototype, Requirements, Draft, Detailed design, Development plan, Verification & Validation, Code, Integration, Test plan, Verification & Validation, Test, Implementation

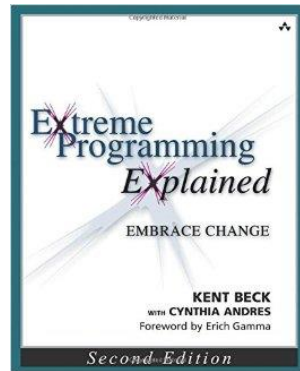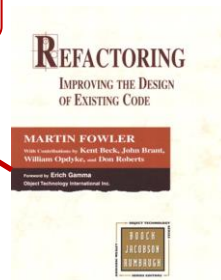# Agile Manifesto (2001)

XP

Kent Beck
Mike Beedle
Arie van Bennekum
Alistair Cockburn
Ward Cunningham
Martin Fowler

James Grenning
Jim Highsmith
Andrew Hunt
Ron Jeffries
Jon Kern
Brian Marick

Robert C. Martin
Steve Mellor
Ken Schwaber
Jeff Sutherland
Dave Thomas

Crystal

Scrum

Model Driven
Architecture

# Agile Manifesto

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

- **Individuals and interactions**
  over *processes and tools*

- **Working software**
  over *comprehensive documentation*

- **Customer collaboration**
  over *contract negotiation*

- **Responding to change**
  over *following a plan*

# Principle 1

Our highest priority is to satisfy the customer through **early and continuous** delivery of **valuable outcome.**

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*CUT THE SCOPE IN MILESTONES AND DELIVER AS SOON AS POSSIBLE*

*BE AWARE THAT OUTPUT IS NOT NECESSARILY OUTCOME.*

# Principle 2

**Welcome changing requirements,** even late in development. Agile processes harness change for the customer's competitive advantage

*CUSTOMERS DON'T KNOW WHAT THEY WANT. THAT'S OK.*

*PRODUCT BACKLOG IS ALWAYS CHANGING. THAT'S ALSO OK.*

# Principle 4

Business people and
developers
must **work together** daily
throughout the project.

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*KEEP STAKEHOLDERS AS CLOSE AS POSSIBLE.*

*WORKING TOGETHER MEANS BEING TRANSPARENT, INSPECTING AND ADAPTING CONTINUOUSLY.*

# Principle 5

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

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*AGILE IS NOT MOTIVATING PEOPLE. LEADERS AND PROJECTS DO.*

*ENVIRONMENT MEANS CONTEXT, CONSTRAINTS AND OBJECTIVES.*

*TRUST IS ESSENTIAL TO AGILE PRACTICE.*

# Principle 6

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

*EFFICIENT MEANS BEING CONCERNED ABOUT CONSUMED RESOURCES.*

*EFFECTIVE MEANS BEING CONCERNED ABOUT GOAL ACHIVEMENT.*

*INDIRECT COMMUNICATION SHOULD BE USED WITH PARSIMONY.*

# Principle 7

**Working deliverables** are the primary measure of **progress.**

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*PAY ATTENTION TO ACCEPTANCE CRITERIA.*

*MAKE SURE TO DEFINE EXACTLY WHAT ARE THE DELIVERABLES.*

*MEASURING PROGRESS IS CRUCIAL TO AGILE PROJECTS.*
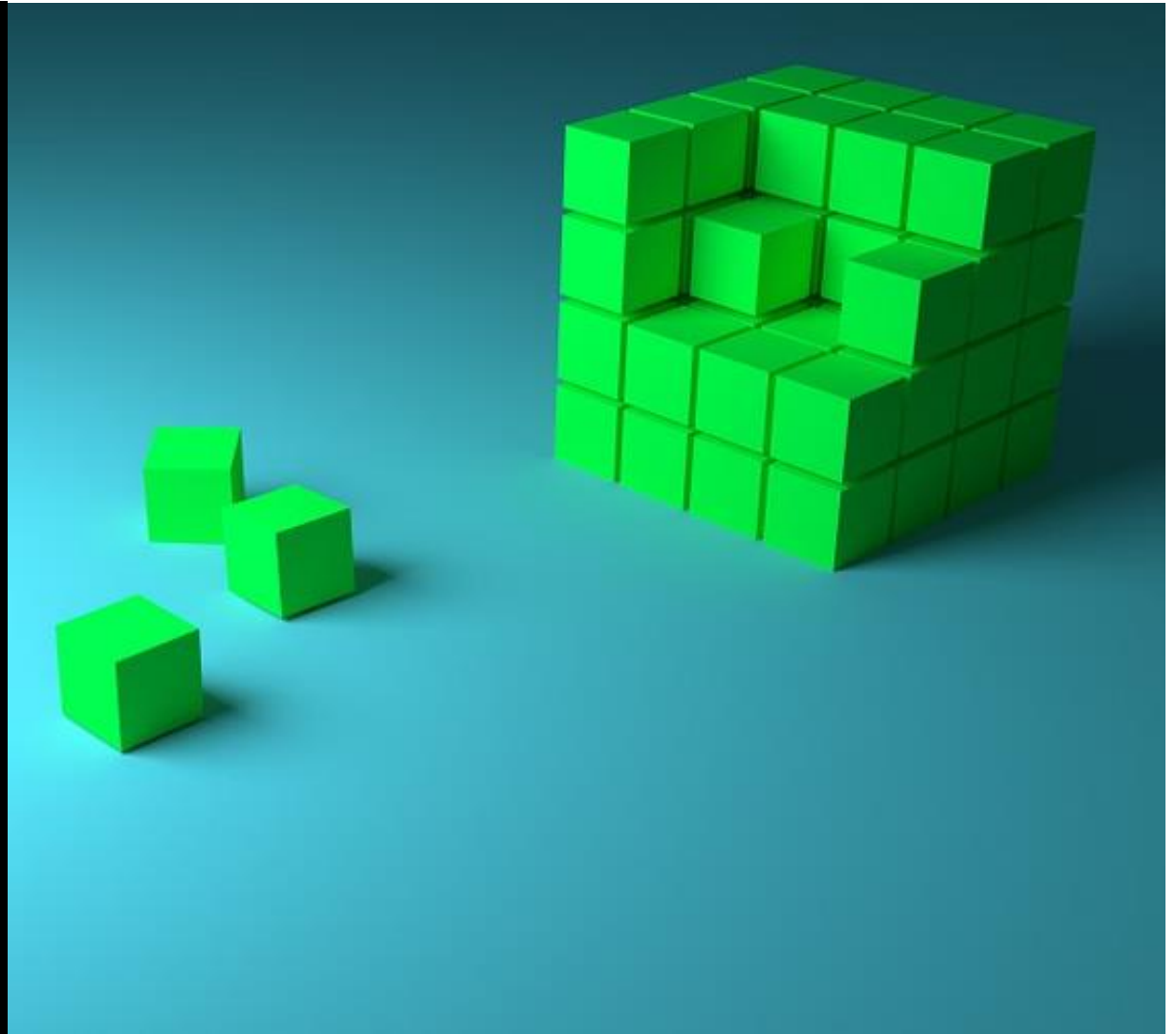
# Principle 8

Agile processes promote **sustainable development.** The sponsors, developers and users should be able to maintain a **constant pace** indefinitely.

*SUSTAINABILITY REFERS TO BUDGET, SCOPE AND EFFORT.*

*AGILE PROJECTS ARE MARATHONS, NOT 100m HURDLES.*

# Principle 9

**Continuous attention** to **technical excellence** and **good design** enhances agility.

*CONTINUOUS ATTENTION IMPLIES FROM THE VERY BEGINNING.*

*TECHNICAL EXCELLENCE IS CHOOSING THE RIGHTEST SOLUTION DEPENDING ON PROJECT'S OBJECTIVES.*

# Principle 10

**Simplicity**
– the art of maximizing the amount of work not done – is essential.

*NO UNNECESSARY COMPLEXITY.*

# Principle 11

The best architectures, requirements, and designs emerge from **self-organizing teams.**

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*SELF-ORGANIZING MEANS COLLECTIVELY ASSUMING AND PRACTICING MANAGEMENT PRINCIPLES.*

# Principle 12

At **regular intervals**,
the team **reflects** on how
to become more effective,
then **tunes and adjusts** its
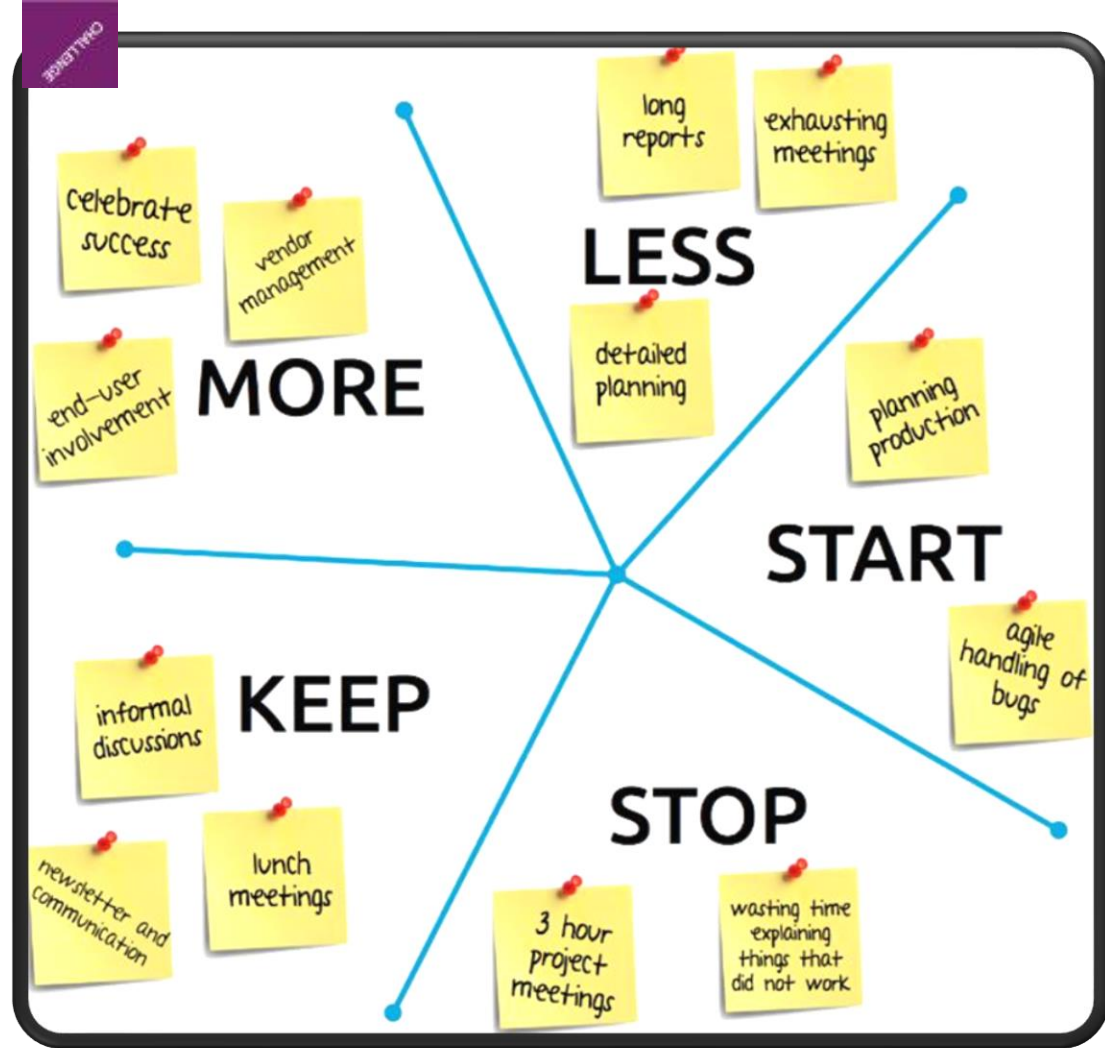behavior accordingly.

*NEVER GIVE UP ON RETROSPECTIVES.*

*REFLECTING INVOLVES A GENUINE AND
HONEST CONCERN.*

*ADJUSTING MEANS A MEASURABLE
IMPROVEMENT.*

# Agile manifesto

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

The best architectures, requirements, and designs emerge from self-organizing teams.

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

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

Working deliverables are the primary measure of progress.

Business people and team members must work together daily throughout the project.

Continuous attention to technical excellence and good design enhances agility.

Our highest priority is to satisfy the customer through early and continuous delivery of valuable deliverables.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

**Motivated individuals**

**Self-organizing teams**

**Frequent deliveries**

**Progress by deliverables**

**Face-to-face conversations**

**Working together**

**Satisfied customer**

**Individuals and interactions**

**Working deliverables**

**Customer collaboration**

**Responding to change**

**Technical excellence**

**Continuous improvement**

**Sustainable pace**

**Changing requirements**

**Simplicity**

Agile processes promote sustainable work. The sponsors, team members, and users should be able to maintain a constant pace indefinitely.

Welcome changing requirements, even late in the project. Agile processes harness change for the customer's competitive advantage.

Simplicity – the art of maximizing the amount of work not done – is essential.