

CSIT214/CSCI814/HCSC814

IT Project Management



Principles and practices of agile project management

History

- In the 1990s, the IT industry faces substantial frustration:
 - Most project followed the waterfall model
 - Big time gap between business requirements and the delivery of software that answered those needs => cancelling many projects.
 - Business environments and requirements quickly changed and the final product did not meet the then current needs.
 - The waterfall model did not take advantage of how quickly software could be altered.

Agile project management

- In Feb 2001, 17 software development practitioners gathered in Utah, USA.
- At that meeting, the **Manifesto for Agile Software Development** (The Agile Manifesto, 2001) was also created.



Agile project management

- Agile refers to a set of methods and practices under which:
 - Requirements and solutions evolve through the **collaborative effort** of self-organizing cross-functional teams and their customers and users.
 - adaptive planning, evolutionary development, early delivery, and continuous improvement are advocated.
 - Rapid and flexible response to change is encouraged
- Agile methodologies are mostly based on the *values* and *principles* expressed in the Agile Manifesto.

Check out this video <https://www.youtube.com/watch?v=oHBs4wxSpQ>

The Agile Manifesto—a statement of values

Individuals and interactions

over

Process and tools

Working software

over

Comprehensive documentation

Customer collaboration

over

Contract negotiation

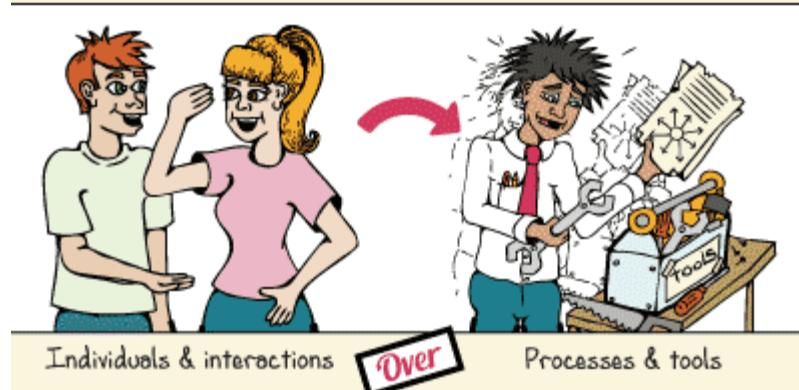
Responding to change

over

Following a plan

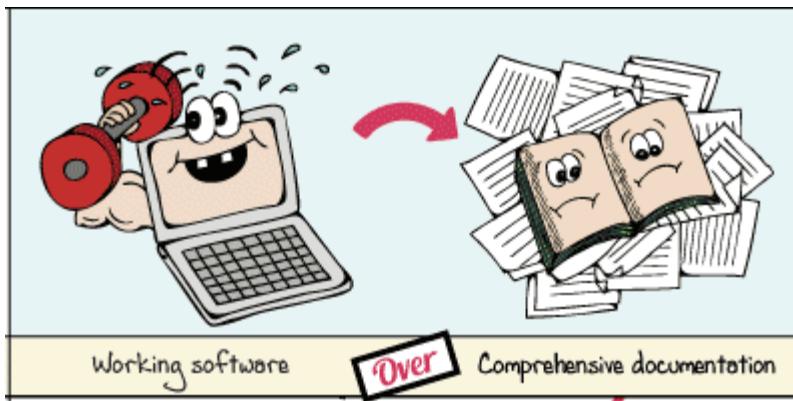
Source: www.agilemanifesto.org

Agile values



- ▣ Individuals and interactions are critical to **high-performing teams**.
 - Question: *What are factors contributing to a high-performance team?*
- ▣ Frequent communication and productive interactions between team members is essential.
 - **inspect-and-adapt cycles:** pair programming (every minute), continuous integration (every few hours), stand-up meeting (every day), a review and retrospective meeting (every iteration)
- ▣ Tools and processes are still important but they should fit the team's need (not the other way around)

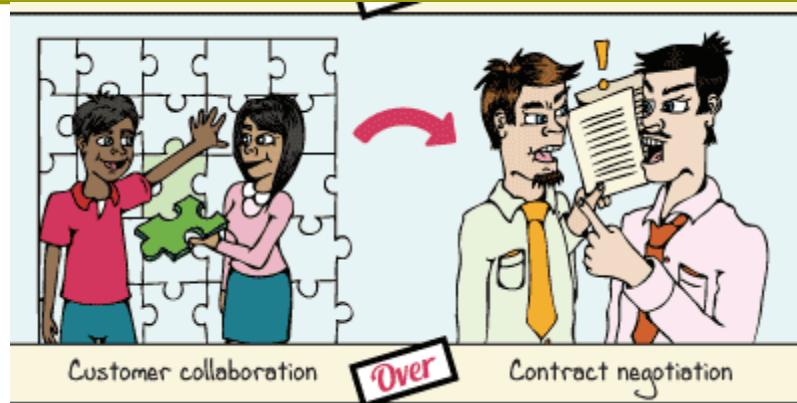
Agile values (cont.)



- ❑ Documentation is important but *working software* is even more important!
 - Question: What is a “working software”?

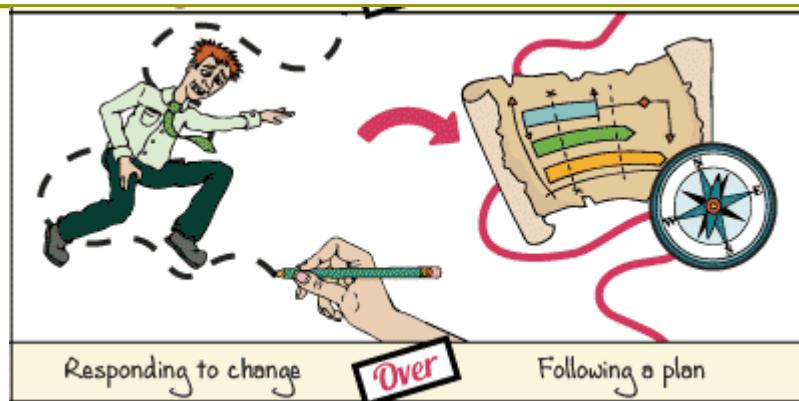
- ❑ Delivering small pieces of *working software* to the customer at regular intervals is essential.

Agile values



- Customers should be engaged and collaborates with the development throughout the development process.
 - A customer representative should be part of the team.
- This to ensure that the product meets the business needs of the customer.

Agile values



- Over 60 percent of product or project requirements change during the development of software.
- Plans and processes need to be able to accommodate changes and feedback from customers.
 - In order to succeed, we must plan to change

Agile principles

1. The **highest** priority is to satisfy the customer through **early** and **continuous delivery** of valuable software.
2. Welcome **changing requirements**, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software **frequently**, from a couple of weeks to a couple of months, with a preference to the **shorter** timescale.

Source: www.agilemanifesto.org

Agile principles (cont.)

4. **Business** people and developers must **work together daily** throughout the project.
5. Build projects around **motivated individuals**. Give them the environment and **support** they need, and **trust** them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is **face-to-face** conversation.

Source: www.agilemanifesto.org

Agile principles (cont.)

7. **Working software** is the primary measure of progress.
8. Agile processes promote **sustainable development**. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to **technical excellence and good design** enhances agility.

Source: www.agilemanifesto.org

Agile principles (cont.)

10. **Simplicity**--the art of maximizing the amount of work not done--is essential.
11. The best architectures, requirements, and designs emerge from **self-organizing** teams.
12. At regular intervals, the team **reflects** on how to become more effective, then **tunes** and **adjusts** its behaviour accordingly.

Source: www.agilemanifesto.org

Agile management methods

- ❑ Scrum
- ❑ Extreme Programming
- ❑ Dynamic Systems Development Methods
- ❑ Kanban
- ❑ Lean software development
- ❑ Etc.

Recap quiz

Try out this quiz:

<https://agileprojectmanagementacademy.com/courses/understanding-agile-at-a-deeper-level/lectures/843261#/questions/1>