# 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 Agile Manifesto 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=oHBs4wxiSpQ

# 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 |
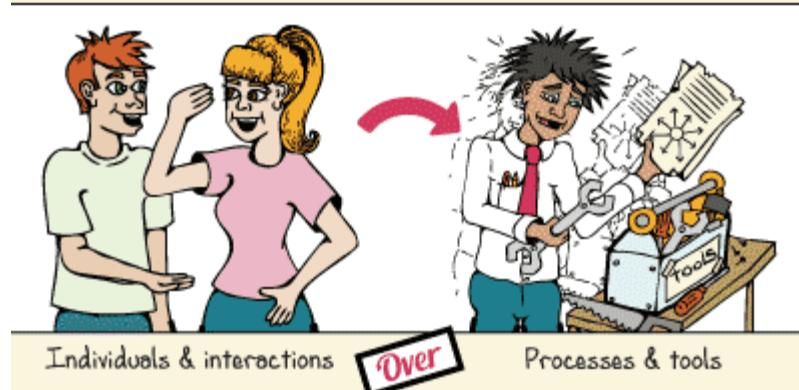
Source: www.agilemanifesto.org

# Agile values



Individuals & interactions — *Over* — Processes & tools
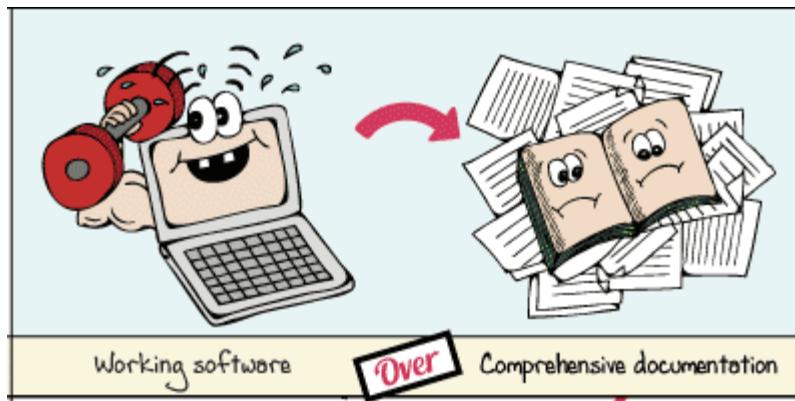
- Individuals and interactions are critical to **high-performing teams**.
  - Question: *What are factors contributing to a high-performance team?*
- Frequent communication and productive interactions between team members is essential.
  - **inspect-and-adapt cycles**: pair programming (every minute), 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.)


Working software — *Over* — Comprehensive documentation
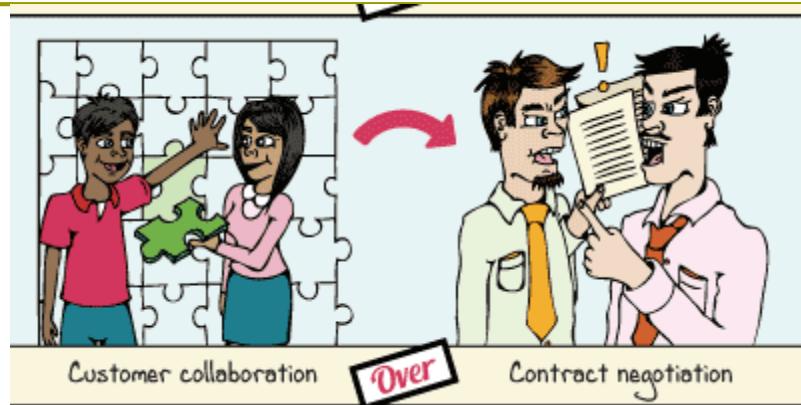
- Documentation is important but *working software* is even more important!
  - *Question*:  What is a "working software"?

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

# Agile values



Customer collaboration **Over** Contract negotiation
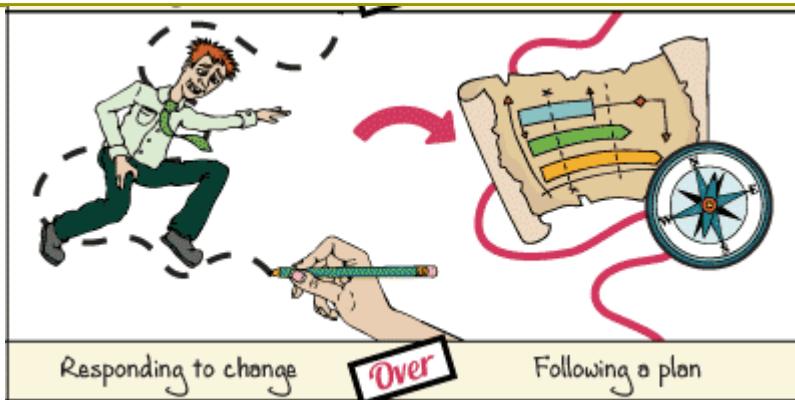
- ❑ Customers should be engaged and collaborates with the development throughout the development process.
  - ■ A customer representative should be part of the team.
- ❑ This to ensure that the product meets the business needs of the customer.

# Agile values



Responding to change **Over** Following a plan

- 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