Lecture2: Agile Methods – Intro

Where Agile methods are applicable?

- Projects where the risk is important.
- When your « client » does not know where are you going.
- Projects where you need to learn and adapt.
- Projects in which technology evolves rapidly.

Which does not "work"

1. Complete specifications from the beginning: Specification will be wrong and so big because you are writing specs when knowledge is at minimum so requirements will always change.
2. Start coding without any design.

Which Work:

- Simplicity
- Imply the "client" in the work
- Sort tasks by priority
- Short sprints
- Use design patterns
- Unit tests
- Be proud of your work
- A real communication in the team

Idea behind Agile methods

- A product cannot be entirely specified since the beginning
- The economy is very dynamic: Adaptation of the process should apply.
- Accept modifications to the specifications means being competitive regarding other societies.

Agile Development?

- The development methods of type Agile use an iterative and incremental development mode.
- Evolutionary project planning and encouraging of frequent experienced feedbacks from the client.
- They also include a variety of other values and practices that promote agility and response to changes.

Manifesto for Agile methods

If you sign the manifesto of the Agile Methods → you favor:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Manifesto contains 12 principles:

1. Our 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.
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.
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.
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 behavior accordingly.

Agile methods

- XP = eXtreme Programming (1999, Kent Beck): Oriented towards the construction of an application
- SCRUM: (Scrum in rugby): Highlights the practice of daily meetings
- RUP : (Rational Unified Process) Global view, a process adapted from big projects.
- DSDM (95) (Dynamic Systems Development Method) : evolution of the RAD : specialization of actors.