02291: System Integration
Agile Modeling

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DTU Compute
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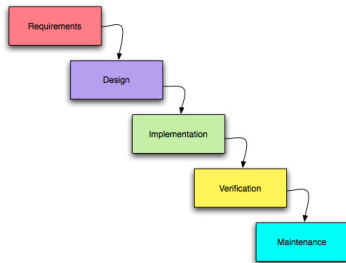
Spring 2022

DTU
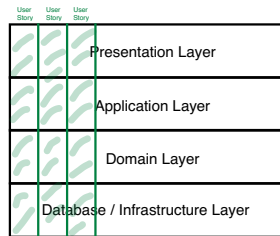
Agile Modelling

Traditional Modelling

- Requirements model, Design model
- $\rightarrow$ Waterfall

Agile software development

- Agile and documentation?
- Agile and modelling?

$\rightarrow$ Agile modelling

What is Agile? The Agile Manifesto

Manifesto for Agile Software Development

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
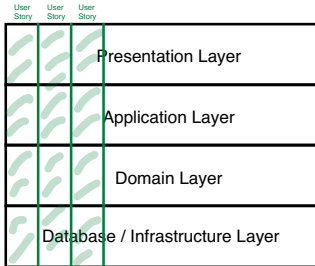**Responding to change** over following a plan

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

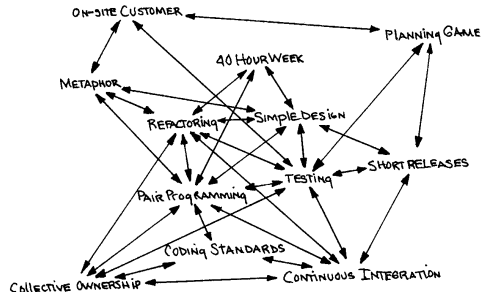|		
Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockburn	Ron Jeffries	Jeff Sutherland
Ward Cunningham	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	

http://agilemanifesto.org

What is Agile? Small Increments in Functionality and Practices

Small Increments in Functionality

Set of practices

What is Agile? Values, Principles and Practices

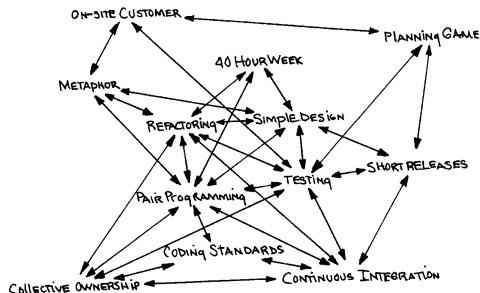Values → Principles → Practices

- ▶ Values
    - ▶ Communication
    - ▶ Simplicity
    - ▶ Feedback
    - ▶ Courage
- ▶ Principles
    - ▶ Rapid Feedback
    - ▶ Assume Simplicity
    - ▶ Incremental Change
    - ▶ Embraching Change
    - ▶ Quality Work

Kent Beck: Extreme Programming, 1st ed

Practices

Agile Modelling

- Agile Modelling: values, principles, and practices
- References
  - http://www.agilemodeling.com (Scott Ambler)
  - "Agile Modelling" Scott Ambler, Wiley 2002

Agile Modelling: Values and Principles

Values

- Communication
- Simplicity
- Feedback
- Courage
- Humility

http://www.agilemodeling.com/values.htm

Core Principles

- Software is your primary goal
- Enabling the next effort is your secondary goal
- Travel light
- Incremental change
- Model with a purpose
- Multiple models

  . . .

Practices

Core Practices

- Core Practices
- Supplementary Practices
- Real Good Ideas

Core Practices

- ► Active Stakeholder Participation
- ► Collective Ownership
- ► Model in Small Increments
- ► Create Several Models in Parallel
- ► Iterate to Another Artifact
- ► Display Models Publicly
- ► Model With Others
- ► Prove it With Code
- ► Use the Simplest Tools
- ► ...

List of practices:
http://www.agilemodeling.com/practices.htm