SD5953

Successful Project Management

AGILE SOFTWARE DEVELOPMENT

School of Design

The Polytechnic University of Hong Kong

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IMPORTANT

Please sit with the members of your final group project

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AGILE

A BRAVE NEW WORLD

Where did AGILE Come From?

- Agile oriented development ideas have been around for a really long time. Some say as early as the 1950's.
- But Agile ideas really accelerated when Object Oriented Programming became popular in the 80's. OOP required a total re-think of how we "do" computer programming.
- Once Rapid Application Development (RAD) and the Rational Unified Process (RUP) emerged, the field became formalized.

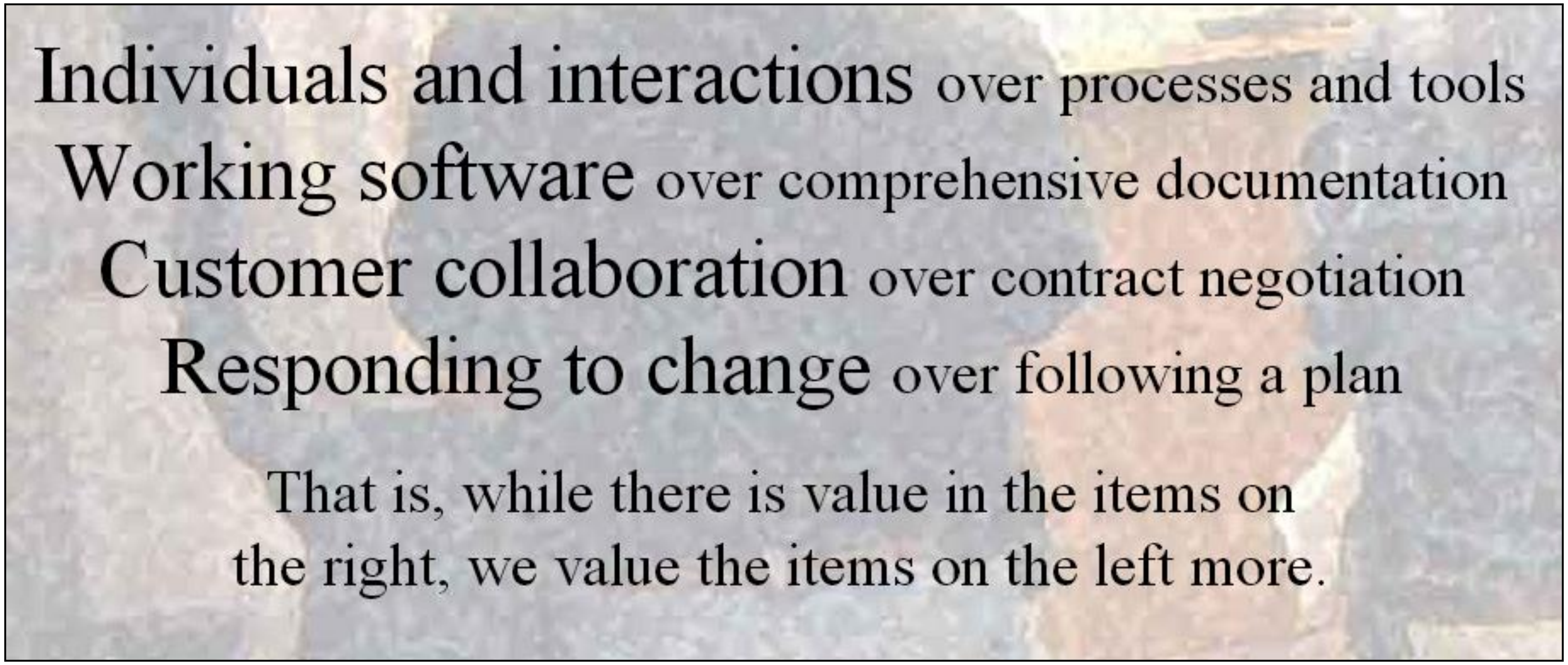
http://en.wikipedia.org/wiki/Agile_software_development

Recent Developments For AGILE

- In 2001 things really started to happen in the Agile community. A group of IT developers got together and wrote the ***Agile Manifesto***, which we will look at. Agile influenced Software Development methodologies began to emerge. We will look at a prominent example, Extreme Programming.

- In 2005, a group of IT Project Managers heavily influenced by the Agile IT development experience wrote a Project Management oriented version, the ***Agile Declaration of Independence***. We will examine it. We will also look at an Agile influenced Project Management style called Scrum.

2001: The AGILE Manifesto



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.

http://agilemanifesto.org

But…What Does it Mean? Part 1

- ***Individuals and interactions***
  - Self-organization and motivation are important in agile, but so are activities like co-location and pair programming.
- ***Working software***
  - Working software is much more useful and welcome to a client then documents or ongoing discussions.

http://en.wikipedia.org/wiki/Agile_software_development

But…What Does it Mean? Part 2

- ***Customer collaboration***
  - Requirements cannot be fully collected at the beginning of the software development cycle, so continuous customer or stakeholder involvement is critical.
- ***Responding to change***
  - Agile development is focused on quickly responding to changes of circumstance. Continuous, evolutionary development constructively addresses such changes.

http://en.wikipedia.org/wiki/Agile_software_development

AGILE Principles: 01 - 04

- Customer satisfaction via rapid delivery of useful software
- Welcomes changes requirements, even late in development
- Frequent delivery of working software (in weeks, not months)
- Working software is the principal measure of progress

http://en.wikipedia.org/wiki/Agile_software_development

AGILE Principles: 05 – 08

- Constant, sustainable pace of development
- Close collaboration between business and developers
- Face-to-face conversation is the best form of communication
- Projects are done best by trusted, motivated individuals

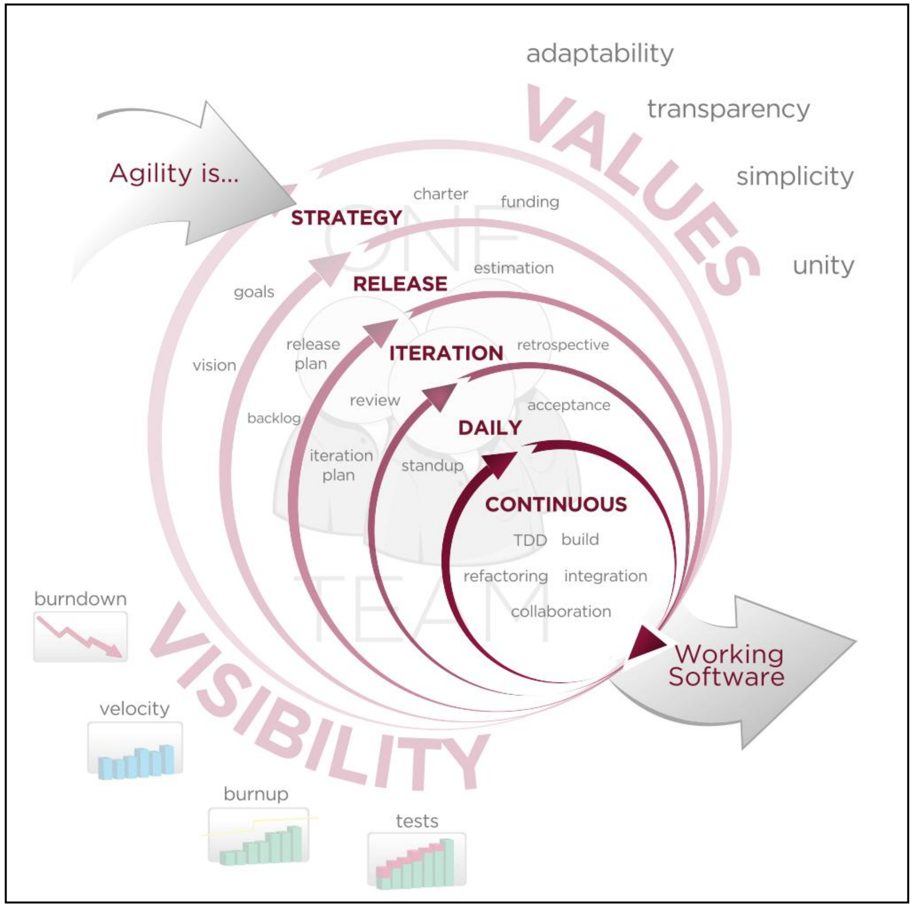
http://en.wikipedia.org/wiki/Agile_software_development

AGILE Principles: 09 - 12

- Continuous attention to technical excellence and good design
- Simplicity - minimizing unnecessary work - is essential
- Self-organizing teams are the most effective working model
- Regular adaptation to changing circumstances is inevitable

http://en.wikipedia.org/wiki/Agile_software_development

AGILE Illustrated



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AGILE SOFTWARE DEVELOPMENT

Extreme Programming

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AGILE & Extreme Programming

- Extreme Programming (XP) is one of the first Agile-influenced Software Development approaches to go mainstream. It was very popular with companies during the dot-com boom.
- XP is also very popular with customers because it puts their fulfillment, priorities and satisfaction first.
- XP aims to quickly deliver product to customers with their highest priority features developed first, at the highest possible quality. Speed, utility and quality are the themes.

http://en.wikipedia.org/wiki/Extreme_programming_practices

AGILE & Extreme Programming

- XP is popular with IT professionals because it is inclusive. Managers, customers, and developers are all on a "flat" team that has dedicated itself to delivering high quality software.
- XP stresses four important themes:
  - Communication
  - Simplicity
  - Feedback
  - Courage

http://en.wikipedia.org/wiki/Extreme_programming_practices

Extreme Programming (XP) Practices

- The main planning process within XP is the Planning Game, whose purpose is to guide production. Instead of trying to predict exact delivery dates, the Planning Game “steers the project" to delivery using a flexible, collaborative approach.
- The Planning Game occurs once per iteration, usually every week. It is normally divided into two parts:
  - Release Planning
  - Iteration Planning

http://en.wikipedia.org/wiki/Extreme_programming_practices

Release Planning (Stage 1)

Release Planning involves both customers and developers, who meet and agree on ***what*** functionality will be in the next set of releases and ***when*** those releases will be delivered.

There are three phases:

1. Exploration: In this phase the customer will provide a shortlist of high-value requirements for the system. These will be written down on user story cards.

Release Planning (Stages 2 & 3)

2. Commitment: In this phase customers and developers commit themselves to the functionality that will be included and the date when it will be released.

3. Steering: In this phase the plan is adjusted. New requirements can be added and/or existing requirements can be changed or removed.

http://en.wikipedia.org/wiki/Extreme_programming_practices

XP: Iteration Planning - A

Iteration Planning focuses on coordinating internal tasks of the development team, i.e. ***who*** will be doing ***what***. The customer is not involved. It also consists of three phases:

1. Exploration: In this phase the requirement will be translated to different tasks. The tasks are recorded on task cards.

XP: Iteration Planning - B

2. Commitment: The tasks will be assigned to the programmers and the time it takes to complete will be estimated by those who are responsible for doing the work.

3. Steering: In this phase the tasks are performed and the end result is matched with the original user story to ensure that the developers are still working on the highest priority aspects of the product.

XP Related YouTube Videos

- Comprehensive Lecture on Extreme Programming
  - http://www.youtube.com/watch?v=XP4o0ArkP4s
- The Strengths and Weaknesses of Extreme Programming
  - http://www.youtube.com/watch?v=LkhLZ7_KZ5w
- XP, Scrum, Lean, Kanban & Back Again
  - https://www.youtube.com/watch?v=7H67V6noueE

QUESTIONS?

THANK YOU

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