Scrum Notes

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1 Conventional Development

1.1 Waterfall Model

Most common process for software development. All requirements must be identified and defined in the begining, and modifications to these parameters is costly.

1. Requirements
2. Analysis
3. Design
4. Coding
5. Software Product

1.2 Iterative Incremental Model

Repeat the Waterfall Model multiple times incorporating new features with each iteration. The user is not involved in the design process.

2 Agile Development

This method is based off the Iterative Incremental Model with a time-boxed iterative approach.

Goals

- faster time to deliver
- reduce uncertainty and risk
- increase return on investment by focusing on customer value

2.1 Agile Manifesto

"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."
Authors: Beck, Kent, et al. (2001)

Individuals and Interactions	self-organization and self-motivation of the team members continuous interaction for work, clarifications, information among the team members
Working Software	Delivery of working software at short duration intervals helps gain customer trust and assurance in the team
Customer collaboration	Constant involvement of customer with the development team ensures communication of necessary modifications
Responding to change	Focus on quick response to the proposed changes, which is made possible with short duration iterations

Table 1: Agile Manifesto Items

2.2 Agile Methodologies

- Dynamic System Development Methodology (DSDM)
- Scrum
  - Focuses on management of tasks within a team environment
  - uses iterative incremental method
  - quick and frequent deliveries
- Extreme Programming (XP)
  - frequent releases
  - short development cycles
  - allows new customer requirements to be adopted
- Test-driven Development (TDD)
  - test are written first
  - minimal amount of code to pass the test is written
  - once software is working code is cleaned up to acceptable standards
- Lean
  - the expenditure of resources not adding value to the end customer are targeted for elimination.
  - focus on preserving value with less work
- Kanban
  - system to improve and keep up a high level of production

3 Scrum

Scrum is a framework that defines certain rules, events and roles to bring in regularity. Every event in the framework has a maximum time duration.

3.1 Sprint

- 2 week or 1 month cycles
- work to be performed in the Sprint is planned collaboratively by the team
- daily 15 minute meeting to plan for that day
- Sprint review is held at the end of the Sprint

3.2 Roles

- ScrumMaster
  - makes the process run smoothly
  - removes obstacles that impact productivity
  - organizes the facilitates the critical meetings
- Product Owner
  - this is a single person not a committee

  - manages the product backlog
  - prioritizes the product backlog
  - optimize the team

- Team
  - keep team between 5 – 9 people
    - fewer than 5 members decreases interaction and results in smaller productivity gains
    - more than 9 members requires too much coordination
  - ensures smooth flow of information and the quick resolution of issues
  - maximize opportunities for feedback