

WESTMINSTER

INTERNATIONAL UNIVERSITY IN TASHKENT

An Accredited Institution of the University of Westminster (UK)

# **System Analysis and Design**

## Lecture 7

# Agenda


1. Previous lecture recap
2. Scrum Methodology
3. Kanban
4. Coursework overview and questions
5. Recommended reading

1. Main ideas from **Sprint** methodology.
2. Main ideas from **Rapid Application Development (RAD)**.

# Scrum

Iterative & Incremental Models

There are many Software Development Models with their strengths and weaknesses. But, they can be categorized into 3 major categories:

- 1. Waterfall** – Structured, top/down approach.  
Examples: Waterfall, Structured System Analysis and Development Methodology (SSADM).
  - 2. Iterative & Incremental** – Iteratively go through important software development “steps” (analysis, design, build, etc.) and incrementally build the system.  
Examples: Spiral, RAD, Agile, etc.
  - 3. Prototyping** – Build prototypes, get feedback, refine. Once get the final version – build the software and deploy.  
Examples: RAD, Prototyping.
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**Let's start with a history...**

In their book, “New Product Development Game”, Hirotaka Takeuchi and Ikujiro Nonaka explained the ideas of what we now call Scrum as:

*"a flexible, holistic product development strategy where a development team works as a unit to reach a common goal".*

In 1995 Jeff Sutherland and Ken Schwaber presented the main ideas at Object-Oriented Programming, Systems, Languages & Applications.

There are 3 roles in Scrum:

- Product owner
- Scrum master
- The team

# Role: Product owner

The team member who knows the business and customer needs, as well as can make decisions on behalf of the client.

S/he is responsible for communication between the developer team and the business.

The main goal of Product Owner is successfully build the final product that meets business needs. The Product Owner must be “friends” with both: the business and the developer team.

# Role: Scrum Master

Scrum Master has experience in managing Scrum projects and is responsible to make sure the team follows Scrum principles, also (tries to) removes any obstacles so that the developer team delivers the shippable product on time.

S/he is responsible for organizing daily scrum meetings, teaching stakeholders about the Scrum processes.

Scrum Master is not a Project Manager. Scrum Master does not deal with HR, Finances, etc.

# Role: Developer team

The developer team is a group of self-organized people that do the work. A team may consist of a programmer, designer, tester, etc.

Usually the team members have interchangeable roles.

In order for this setup to work, your team members must be responsible, professional and understand the main goal – to deliver quality product to the client.

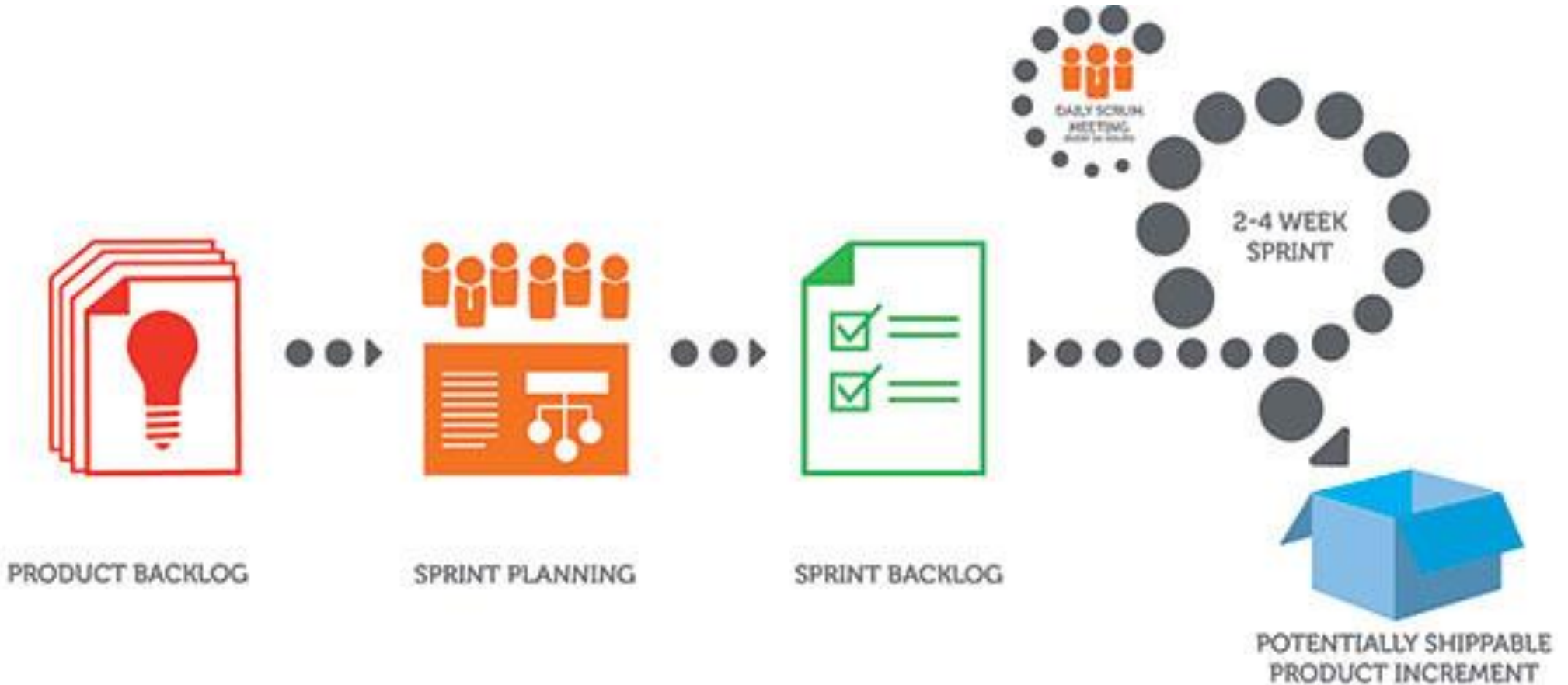
The project is split into smaller manageable parts called **Sprints**.

The Scrum has the following stages:

- Product backlog
- Sprint planning
- Sprint backlog
- Sprint (daily scrum meeting)
- Potentially shippable product

Sprint is timeboxed (from 1 week to 1 month) and aims to produce a potentially shippable product.

# The Scrum process



# The Scrum process (video)

This is the most popular Scrum video of all time.



Great for an introduction to the Scrum process or for a quick refresher.

**PRODUCT BACKLOGS**



**RELEASE BACKLOGS**



**SPRINTS**



**TEAM ROLES**



**BURNDOWN CHARTS**



**DAILY STANDUPS**



**RETROSPECTIVES**



**ESTIMATIONS**



Please discuss:

- The main ideas in Scrum (roles, events, etc.)
- When would you consider using Scrum?
- Can you spot any of the “side effects” of the methodology?

# The Scrum “side-effects” (video)



# Kanban

# The Scrum process (video)



# **Coursework Overview & Questions**

# Recommended Reading

- Kent Beck, et.al., (2001). *Manifesto for Agile Software Development*. [online] Available at: <http://www.agilemanifesto.org> [Accessed 3 Nov. 2015].
- Wikipedia, (2015). *Scrum (software development)*. [online] Available at: [https://en.wikipedia.org/wiki/Scrum\\_\(software\\_development\)](https://en.wikipedia.org/wiki/Scrum_(software_development)) [Accessed 3 Nov. 2015].
- Wikipedia, (2015). *Kanban (development)*. [online] Available at: [https://en.wikipedia.org/wiki/Kanban\\_\(development\)](https://en.wikipedia.org/wiki/Kanban_(development)) [Accessed 3 Nov. 2015].
- *Google...*