

## Summary of Lecture 7: Scrum

This lecture covers **Scrum**, an **Agile project management framework** that emphasizes **flexibility, teamwork, and iterative development**. It also introduces **LeSS (Large-Scale Scrum)** for managing large projects with multiple teams.

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## What is Scrum?

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### ♦ Definition

Scrum is an **Agile software development framework** that focuses on **short iterations (Sprints), team collaboration**, and **continuous feedback**.

### ♦ Why Scrum?

- Traditional software development follows a **relay race model** (sequential phases).
- Scrum follows a **rugby-like approach**, where the team moves **together, adapting to changes dynamically**.

### ♦ Key Characteristics

- ✓ **Iterative & Incremental** – Develops software in small cycles.
  - ✓ **Self-organizing teams** – No strict hierarchy; the team decides how to do the work.
  - ✓ **Customer involvement** – Constant feedback and prioritization.
  - ✓ **Minimal documentation** – Focuses on **working software** instead of heavy paperwork.
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## Scrum Components

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### 1 Scrum Roles

Role	Responsibilities
<b>Product Owner</b>	Defines & prioritizes the backlog, represents the customer.
<b>Scrum Master</b>	Facilitates the Scrum process, removes obstacles, ensures Agile principles.
<b>Scrum Team</b>	Developers, testers, designers (5–9 people), self-organizing, cross-functional.

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## 2 Scrum Artifacts

- ✦ **Product Backlog** – A **prioritized list** of features and tasks, managed by the **Product Owner**.
  - ✦ **Sprint Backlog** – A subset of the **Product Backlog**, selected for a **Sprint** (iteration).
  - ✦ **Product Increment** – A **working version** of the product at the end of each Sprint.
  - ✦ **Burndown Chart** – A graph showing **remaining work** over time.
  - ✓ **Product Backlog Refinement (PBR)** – The process of revising and reprioritizing the Product Backlog **during the project**.
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## 3 Scrum Activities (Meetings)

- ♦ **Sprint Planning Meeting**
    - The team selects **which backlog items** to complete in the Sprint.
  - ♦ **Daily Scrum (Daily Stand-up)**
    - A **15-minute** meeting where the team **discusses progress, obstacles, and plans for the day**.
  - ♦ **Sprint Review**
    - A **demo** of the completed work to **stakeholders**.
  - ♦ **Sprint Retrospective**
    - The team **reflects on the Sprint** and **identifies improvements**.
  - ✦ **(Optional) Product Backlog Refinement**
    - Adjusts backlog **based on feedback & evolving requirements**.
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## Scrum Workflow

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- 1 **Product Owner creates Product Backlog.**
  - 2 **Sprint Planning** – Team selects backlog items for the Sprint.
  - 3 **Sprint Execution** – Team works on tasks, with **Daily Scrums** for coordination.
  - 4 **Sprint Review** – Demonstrate completed work.
  - 5 **Sprint Retrospective** – Analyze what went well & what can improve.
  - 6 **Repeat the cycle for the next Sprint.**
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# LeSS (Large-Scale Scrum)

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## ♦ What is LeSS?

- A **scaled-up version of Scrum** for **large projects** with multiple teams.
- Introduced by **Craig Larman & Bas Vodde (2005)**.

## ♦ How LeSS Works?

- ✓ **One Product Backlog** for all teams.
- ✓ **One Product Owner** manages the backlog.
- ✓ **Multiple teams working in the same Sprint.**
- ✓ **One Definition of Done (DoD) for all teams.**
- ✓ Teams coordinate but **remain cross-functional** (not specialized teams).

## ♦ LeSS Process

- **Sprint Planning 1** – Teams collectively choose backlog items.
- **Sprint Planning 2** – Each team creates their own development plan.
- **Daily Scrum** – Each team meets daily; members can join other teams' meetings.
- **Sprint Review** – All teams **present their work together** in a joint session.
- **Overall Retrospective** – Scrum Masters, PO, and team reps discuss improvements.

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## Final Takeaways

- ✓ **Scrum is best for projects with changing requirements.**
- ✓ **Encourages teamwork, transparency, and frequent feedback.**
- ✓ **Minimal documentation, fast-paced delivery.**
- ✓ **LeSS helps scale Scrum for large teams.**

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## Keywords

- **Scrum**
- **Scrum Master**
- **Product Owner**
- **Sprint Planning**
- **Daily Scrum**
- **Sprint Review**
- **Sprint Retrospective**
- **Product Backlog**
- **Sprint Backlog**
- **Burndown Chart**

- **Product Increment**
- **Product Backlog Refinement (PBR)**
- **LeSS (Large-Scale Scrum)**