

# Summary of Lecture 8: Kanban & Scrumban

This lecture covers **Kanban**, a workflow management method for improving efficiency, and **Scrumban**, a hybrid approach combining Scrum and Kanban.

## What is Kanban?

- ◆ **Definition**
  - **Kanban** is a **process management framework** that helps teams **visualize work, limit tasks in progress, and optimize workflow**.
  - The word "**Kanban**" (看板) is Japanese, meaning "**signal card**."
  - **Developed by Toyota in the 1940s** to improve manufacturing efficiency.

## How Kanban Works

### 1 Kanban in Manufacturing (Toyota System)

- Factory teams use **Kanban cards** to **signal the next step** in production.
- The process follows a **Pull System**:
  - ✓ Work is **only done when needed** (prevents overproduction).
  - ✓ **Kanban cards** control the number of active tasks.

### 2 Kanban in Software Engineering

- **Kanban boards** track the progress of **user stories or features**.
- **Each column** represents a **stage of development** (e.g., Design → Code → Test → Deploy).

✓ **Example Kanban Board:**

Backlog	Design	Code	Review	Test	Deploy	Done
Feature A	Feature B	Feature C	Feature D	Feature E	Feature F	Feature G

- Tasks move **from left to right** as work progresses.
- Helps teams **see bottlenecks** and **track task flow** in real time.

## Key Kanban Concepts

## 1 WIP Limit (Work-In-Progress Limit)

- Restricts the **maximum number of tasks** in each stage.
- Prevents teams from **taking on too much at once**.
- Encourages **focus and task completion**.

### ✓ Example:

Stage	WIP Limit
Design	5
Coding	3
Testing	2
Deployment	3

If the **Testing** stage is full (2 tasks in progress), no new tasks can enter until one is completed.

## 2 Cycle Time

- Measures **how long it takes** to complete a work item.
- Teams should **optimize their process** to reduce cycle time.
- Helps **predict delivery times** for new tasks.

## Kanban vs. Scrum

Feature	Kanban	Scrum
Iterations	No fixed sprints	Fixed-length Sprints (1-4 weeks)
Workflow	Continuous flow	Sprint backlog (fixed work items per sprint)
Work Selection	Pull new tasks as needed	Select tasks at Sprint Planning
WIP Control	WIP Limits	Sprint backlog limits work
Meetings	No mandatory meetings	Daily Stand-ups, Sprint Planning, Retrospective
Delivery	Continuous release	At the end of each Sprint
Best for	Support teams, bug fixes, feature requests	New product development

✦ **Kanban is better for ongoing maintenance & support work, while Scrum is better for structured product development.**

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# Scrumban: The Best of Both Worlds

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- ◆ **What is Scrumban?**
  - A hybrid of **Scrum + Kanban**, combining structured planning from Scrum with the **flexibility of Kanban**.
  - **Best for long-term projects** with **unclear goals**.
- ◆ **Scrumban Features**
  - ✓ **Fixed timeboxed iterations (Scrum).**
  - ✓ **Pull-based workflow & WIP limits (Kanban).**
  - ✓ **Continuous task prioritization** – Tasks are **pulled** from backlog as capacity allows.
  - ✓ **Cycle time optimization instead of burndown charts.**
  - ✓ **Scrumban Board Example:**

Backlog	Sprint Backlog	Design	Code	Review	Test	Done
Feature A	Feature B	Feature C	Feature D	Feature E	Feature F	Feature G

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## Final Takeaways

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- ✓ **Kanban focuses on continuous workflow & efficiency.**
  - ✓ **WIP Limits prevent overload and improve delivery speed.**
  - ✓ **Scrumban balances structure (Scrum) with flexibility (Kanban).**
  - ✓ **Cycle time is key to process improvement** (reduce delays, increase efficiency).
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## Keywords

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- **Kanban**
- **Kanban Board**
- **WIP Limit (Work-In-Progress Limit)**
- **Cycle Time**
- **Pull System**
- **Scrum vs Kanban**
- **Scrumban**

- **Continuous Improvement (Kaizen)**