

# Kanban

## 1 Kanban Overview

### 1 Introduction to Kanban

- is another popular methodology for implementing the agile system in the business
- ★ "kanban" is in Japanese and can be translated as "the card you can see" or "signboard"
- shows what to produce, when to produce it, and how much to produce
- focuses on visualizing the workflow process
- to identify potential flaws in the process and to correct them to ensure that works progress at the desired pace

### 2 A Brief History of Kanban

- ★ story dates back to the 1940s
- Toyota updated its production
  - ★ Supermarkets stock enough products to meet consumer demand
    - Supermarkets stock enough products to meet consumer demand
    - Since inventory levels match the consumption rate, the supermarket stores the optimum quantity of products at any given time
- Toyota adopted the system used by the supermarket
  - ★ the company started using a card called "kanban" between different production teams
  - The kanban method controls the entire chain from production to the end consumer

## 2 Kanban in Software Development

### 1 Introduction

- in the world of computer technologies is a relatively new topic
- In 2004, David J. Anderson introduced the idea of using the kanban concept for software development
- 2010 he wrote a book named "Kanban: ★ Successfully Evolutionary Change for your Technology Business "

### 2 Comparison of Kanban and Scrum

- There are some fundamental differences between the two methods.
  - ★ There are no certain time limits in kanban while sprints in scrum have a start and end dates,
  - While there are rigid deadlines for the tasks on the scrum board, kanban is more flexible in this regard,
  - In contrast to designated roles in a scrum project like product owner, scrum master, and development team, there are no certain roles in kanban,
  - The team rearranges the scrum board after each sprint while the same kanban board is used throughout the project.

### 3 The Kanban Board

- is a tool designed to visualize the work and increase efficiency using cards and columns
- There are three main components of a kanban board: visual signals, columns and work-in-progress limits (WIP).
  - ★ Visual Signals
    - each card can correspond to a different user story or a task
    - Those cards help the team quickly understand what they working on and what is the current situation of the project.
  - Columns
    - Each stage of a project is demonstrated with a column
    - ★ Those stages together compose a workflow
  - ★ WIP Limits
    - The maximum number of cards that can be in a column at any given time is called WIP limits.
    - WIP limits are written on the top of each column on the board.

### 4 Types of Kanban Boards

- can be a physical whiteboard or a digital board
- A physical kanban board is flexible
- your team is not working in the same office they can use kanban digital boards remotely (Jira)

## 3 Principles and Practices of Kanban

### 1 Principles of Kanban

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| Start with what you are doing now | Agree to pursue incremental        |
| Initially respect current roles   | Encourage leadership at all levels |

Kanban has adopted Four Foundational Principles and Six Core Practices to manage the workflow and increase productivity

#### 1 Start with what you are doing now

- Do not make instant changes to the existing setup or process
- Kanban must be directly applied to the existing workflow
- Necessary changes should be made slowly and gradually

#### 2 Agree to pursue incremental, evolutionary change

- Make minor incremental changes rather than major changes that might lead to resistance within the team

#### 3 Initially, respect current roles, responsibilities, and job-titles

- You do not need to modify your existing roles and functions that perform well

These three principles help managers overcome the expected emotional resistance and fear of change.

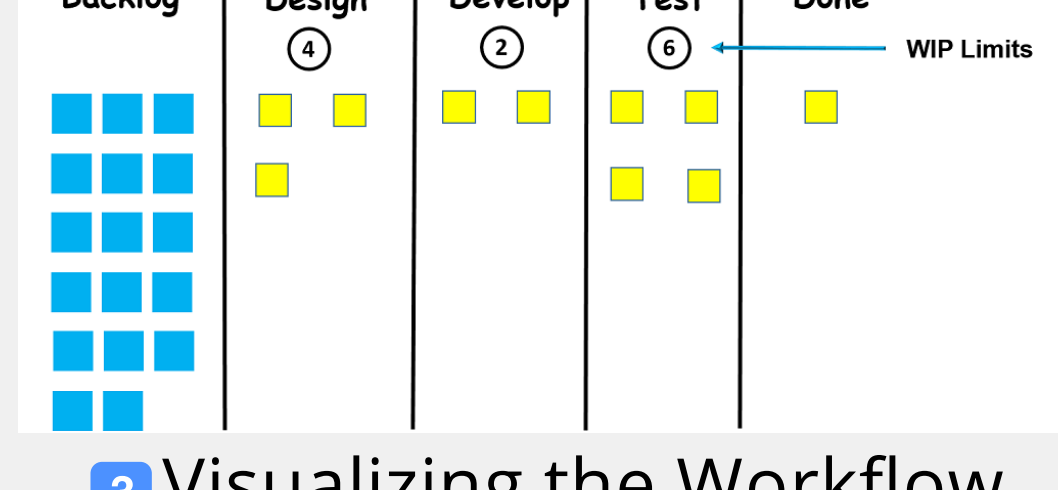
#### 4 Encourage acts of leadership at all levels

Constant improvement at all levels of the organization is encouraged

### 2 Practices of Kanban

- |                                  |                              |                         |
|----------------------------------|------------------------------|-------------------------|
| Visualizing the Workflow         | Limit Work in Progress (WIP) | Managing Flow           |
| Making Process Policies Explicit | Implementing Feedback Loops  | Evolving Experimentally |

- there are six core practices in kanban
- you will learn about the kanban process
- six practices explain the kanban process



#### 3 Visualizing the Workflow

- is the first step to start with kanban
- You need to visualize the current workflow on either a physical whiteboard or a digital Kanban board
- it can be seen what you and your team are currently doing.

#### 4 Limit Work in Progress (WIP)

- Limiting Work in Progress (WIP) is the second practice in the kanban
- The maximum number of cards that can be in a column at any given time is called WIP limits
- you expect your team to complete the current work first before taking up a new one
- you can start with a WIP limit of 1 to 1.5 times the number of people taking part in each stage or each column

#### 5 Managing Flow

- the third practice relates to improving the flow of the process
- is the key point of your kanban system after applying the first two practices
- Related to the delivery time of the product a new concept called lead time comes into the picture
- As you manage the flow and improve it, your team's pace becomes more predictable.
- it is very important to make reliable commitments in the kanban philosophy.

#### 6 Making Process Policies Explicit

- basic principles and working methods explicit is the fourth practice of kanban
- the team members who are not clear about the existing process can not improve the system

#### 7 Implementing Feedback Loops

- You should also know what your customers and the end-users think, and how much the product contributes to the value of your company
- That's where different kinds of tests come out. Automated continuously running tests are preferred as they shorten feedback loops.

#### 8 Improving Collaboratively, Evolving Experimentally (Using the Scientific Methods)

- should evaluate your system continuously and improve it constantly
- kanban encourages you to use scientific methods like you form a hypothesis and test it.
- your main task is to continuously evaluate your process and improve it when needed