

# **GANDAKI COLLEGE OF ENGINEERING AND SCIENCE**

**Lamachaur, Pokhara**



## **LAB REPORT OF Agile Software Development**

### **LAB – 5**

#### **SUBMITTED BY:**

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Roll No: 9

6<sup>th</sup> Semester

BE Software

#### **SUBMITTED TO:**

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# Lab 5: Use of Kanban Board

## Objective

To understand the use of the **Kanban Board** in Agile project management for visualizing work, limiting work-in-progress (WIP), and maximizing flow efficiency. The objective is to learn how Kanban supports transparency, adaptability, and continuous delivery.

## Tools Used

- **Trello / Jira** – for Kanban board implementation
- **Sticky Notes or Cards** – to represent tasks (for physical boards)
- **Markers and Labels** – for categorizing tasks and swim lanes
- **Web browser and internet** – to access online Kanban tools

## Methodology

The lab was carried out in the following stages:

### Step 1: Introduction to Kanban

- Learned about Kanban principles:
  - Visualize the workflow
  - Limit WIP
  - Manage flow
  - Make process policies explicit
  - Improve collaboratively

### Step 2: Kanban Board Setup

- Created columns for workflow stages:
  - **To Do, In Progress, Testing, Done**
- Added sample user stories as task cards
- Assigned team members and deadlines

### Step 3: WIP Limit Application

- Applied WIP limit of 2 on the **In Progress** column
- Ensured that no more than 2 tasks were being worked on simultaneously

- Monitored flow to avoid bottlenecks

#### Step 4: Task Movement Simulation

- Simulated a development sprint:
  - Tasks moved from "To Do" → "In Progress" → "Testing" → "Done"
- Logged issues such as bottlenecks or idle stages
- Discussed improvements for balancing workload

## Implementation

- Kanban Board:

To Do	Work in Progress	Testing	Done
<b>Task 1:</b> Design landing page UI	<b>Task 3:</b> Implement login API.	<b>Task 6:</b> Unit Test login logic	<b>Task 8:</b> Configure GitHub repo
<b>Task 2:</b> Write user story for cart	<b>Task 4:</b> Connect to PostgreSQL	<b>Task 7:</b> Setup database schema	
<b>Task 5:</b> Validate input fields			

- Sample Task Card:

**Title:** Implement Login API

**Assignee:** John

**Due Date:** June 24

**Priority:** High

**Description:**

- Create a secure API endpoint to authenticate users
- Validate email and password inputs
- Generate and return a session token on successful login
- Handle error responses for invalid credentials or missing data

## Results

- Successfully visualized the flow of tasks using the Kanban board.
- Observed how limiting WIP improves task focus and flow efficiency.
- Understood the importance of continuously improving the process based on actual performance.

## Conclusion

The Kanban Board is a powerful Agile tool that enhances transparency, limits overload and streamlines task execution. This lab provided hands-on experience with managing flow and revealed how even small changes in WIP limits or task distribution can significantly affect project efficiency.