

## Lab 4: Agile Estimation Metrics

### Objective

The purpose of this lab was to explore Agile estimation methods like story points, velocity, and Planning Poker. The aim was to understand how these techniques improve project planning, predictability, and team collaboration in Agile environments.

### Tools & Resources Used

- Trello / Jira / Excel - Used for managing sprints and tracking progress
- Planning Poker App / Cards - For estimating story points in a collaborative way
- Notepad / Whiteboard - To record ideas and notes during backlog discussions
- Spreadsheets or Agile Board - To calculate and visualize team velocity

### Methodology

#### Step 1: Introduction to Story Points

- Story points were defined as a relative measurement of effort, risk, and complexity.
- Tasks were compared using relative estimation.

#### Step 2: Collaborative Estimation Using Planning Poker

- Team members (4-6 per group) estimated a set of user stories.
- Used Planning Poker to assign points, then discussed and finalized.

#### Step 3: Team Velocity Calculation

- Sprint 1: 20 points
- Sprint 2: 23 points
- Average Velocity =  $(20 + 23) / 2 = 21.5$

#### Step 4: Sprint Forecasting

- Given backlog: 64 points
- Estimated time to complete = approx. 3 sprints

### User Story Example

"As a user, I want to reset my password so I can securely regain access to my account."

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### Planning Poker Estimation Table

User Story ID | Member 1 | Member 2 | Member 3 | Final Estimate

US-01 | 5 | 8 | 5 | 5

US-02 | 3 | 3 | 5 | 3

US-03 | 8 | 13 | 8 | 8

### Velocity Tracking Table

Sprint | Completed Story Points

1 | 20

2 | 23

Avg. | 21.5

### Key Outcomes

- Gained hands-on experience with Agile estimation tools and methods
- Strengthened team communication via consensus-based estimation
- Successfully applied velocity to plan sprint workload
- Understood the practicality of story points for uncertain or complex tasks

### Conclusion

This lab demonstrated how Agile estimation provides a flexible and effective approach to sprint planning. Story points helped avoid the rigidity of time-based estimates, while velocity gave a realistic measure of team capacity. The use of Planning Poker promoted balanced discussions and better decision-making, making the Agile process more predictable and collaborative.