Lab 4
Agile Estimation Metrics

Objective:
To explore and apply Agile estimation techniques including story points, velocity, and Planning Poker. The lab focused on how these practices enhance planning accuracy and project predictability in Agile environments.

Tools Used:

- **Trello / Jira / Excel** – for task tracking and sprint planning
- **Planning Poker app / cards** – for collaborative effort estimation
- **Whiteboard or Notepad** – for capturing notes and refining the backlog
- **Agile Board or Spreadsheet** – to compute team velocity and monitor key metrics

Methodology:
The lab consisted of the following phases:

Step 1: Introduction to Story Points

- Explained story points as a scale for estimating effort and complexity, independent of time
- Demonstrated relative sizing (e.g., if one task is twice as complex, it receives double the points)

Step 2: Estimation via Planning Poker

- Formed groups of 4–6 participants
- Provided each group with a product backlog containing multiple user stories
- Used Planning Poker to estimate stories collectively
- Discussed variations in estimates to reach group consensus

Step 3: Team Velocity Calculation

- Used two sample sprints for estimation:
    - Sprint 1: 20 story points completed
    - Sprint 2: 23 story points completed

- Computed average team velocity:
    - Velocity = (20 + 23) / 2 = **21.5 story points per sprint**

Step 4: Sprint Forecasting

- Given a backlog totaling 64 story points and a team velocity of 21.5:
    - Estimated completion time: approximately **3 sprints**

Results:

- Produced realistic relative estimates for user stories
- Strengthened collaborative estimation through team discussions
- Successfully calculated team velocity and used it for forecasting
- Recognized the advantages of using abstract metrics over time-based estimates for Agile adaptability

Conclusion:

Agile estimation techniques such as story points and velocity offer a simple yet effective framework for sprint planning and workload management. This lab emphasized the importance of team collaboration in reaching accurate estimates and showed how consistent tracking enables better forecasting and adaptability in Agile projects.

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