Homework 10. Process, Management, and Evolution

Exercise 2. Retrospective

a)

The ideal burndown chart shows a steady decline in effort, while the remaining effort line shows deviations. With that in mind, since the issue board still has open tickets and the burndown chart shows, that the remaining effort line has consistently stayed above the ideal remaining effort line, it would indicate that the team has underestimated the workload of the sprint and hasn't completed the work originally thought to be possible.

b)

Spring update causing refactoring: Refactoring API Endpoints so that future tickets can be worked on properly sounds like a smaller, high priority ticket, so it the plateau on days 0-2 seems to be the most fitting.

Rework of the group distribution algorithm: Since the corresponding ticket is still "In progress" and not completed, it should indicate that this caused the plateau on day 9-10.

Timothy leaving the team: A team member leaving is likely to be a significant slowdown in progress, which would fit with the sizeable plateau on days 5-8.

Remote coordination for 2 days: The 2 day delay fits with the 2 day plateau on days 3-4.

c)

Since the current sprint has ended, the logical option to proceed would be to prioritize that ticket in the next sprint. Perhaps the team members could get together to talk about the encountered difficulties and rethink the ticket weight, and, if appropriate, either delegate the task to a team member with more domain knowledge and/or break the task down into multiple, more manageable tickets.

Exercise 3. Sprint Planning

a)

1. **Must-haves** (Critical for the goal of testing the student part):
    - User Story 2: View Available Sessions.
    - User Story 3: Register for Courses.
    - User Story 4: Mark Unavailability.

- User Story 5: Automatic Group Assignment.
- New Issue: Students should have the possibility to apply as a group.

2. **Should-haves** (Important but not critical for this sprint):
   - User Story 6: Group Notification.
   - New Issue: Maximum group size decidable by the lecturer.
   - New Issue: All data stored in the database must be encrypted.
3. **Could-haves** (Optional, lower priority for this sprint):
   - User Story 1: Create Exercise Groups.
   - New Issue: The system should crawl all course data from KLIPS.
4. **Won't-haves** (Postponed for future sprints):
   - New Issue: Rechenzentrum demands Java Version 21 or higher.

b)

1. User Story 2: View Available Sessions.
2. User Story 3: Register for Courses.
3. User Story 4: Mark Unavailability.
4. User Story 5: Automatic Group Assignment.

c)

1. User Story 2: View Available Session

- Task 1: Design the UI for viewing sessions.
- Task 2: Implement session data retrieval API.
- Task 3: Integrate API with the front-end.
- Task 4: Test the feature for usability.
- Task 5: Deploy and monitor performance.

2. User Story 3: Register for Courses

- Task 1: Create a database schema for course registrations.
- Task 2: Develop the course registration API.
- Task 3: Implement the registration form on the front-end.
- Task 4: Validate inputs and handle errors.
- Task 5: Test and debug.

3. User Story 4: Mark Unavailability

- Task 1: Add a field for unavailability in the database.
- Task 2: Design a UI for unavailability input.
- Task 3: Implement the backend logic to store unavailability.
- Task 4: Test interactions with automatic group assignment.
- Task 5: Deploy and monitor.

4. User Story 5: Automatic Group Assignment

- Task 1: Refactor the group assignment algorithm.
- Task 2: Integrate unavailability data into the algorithm.
- Task 3: Test the algorithm for edge cases.
- Task 4: Optimize performance for scalability.
- Task 5: Document the algorithm logic.

d)

1. User Story 2: View Available Sessions – **Medium.**
2. User Story 3: Register for Courses – **Medium.**
3. User Story 4: Mark Unavailability – **Medium.**
4. User Story 5: Automatic Group Assignment – **Large.**

e)

Selected Issues:

1. User Story 2: View Available Sessions – 6 points.
2. User Story 3: Register for Courses – 6 points.
3. User Story 4: Mark Unavailability – 6 points.
4. User Story 5: Automatic Group Assignment – 10 points.

Total Points: 28

f)

User Story 2: View Available Sessions

- Rajesh: Tasks 1, 3 (due 3 days).
- Tom: Task 2 (due 3 days).
- Me: Tasks 4, 5 (due 2 days).

- Juan: Task 5 (monitoring, ongoing).

User Story 3: Register for Courses

- Sara: Task 1 (due 2 days).
- Tom: Task 2 (due 3 days).
- Rajesh: Task 3 (due 3 days).
- Me: Tasks 4, 5 (due 2 days).

User Story 4: Mark Unavailability

- Sara: Task 1 (due 2 days).
- Rajesh: Task 2 (due 2 days).
- Tom: Task 3 (due 3 days).
- Me: Tasks 4, 5 (due 3 days).
- Juan: Task 5 (monitoring, ongoing).

User Story 5: Automatic Group Assignment

- Tom: Tasks 1, 2, 4 (due 7 days).
- Me: Tasks 3, 5 (due 3 days).