Retrospective Sprint <3> of Group <Path5>

ATSYS_Shortest Path Algorithm for Material Transportation

Shize Liu a1844323

Yuze Li a1848890

Ruoyu Xiong a1847649

Yuejun Zhao a1829813

Shijie Zhang a1809881

Yuchen Peng a1824982

1. What went well in the sprint?

During this sprint, I took the initiative to update our GitHub Task board. In the previous sprint, out task board was unorganised, vague and messy. Now, every task or issue has a meaningful title and a reasonable description.

One of my team members has pointed out that the updated task board is incredibly organised and much easier to follow. I believe that this new Task board can enhance the understanding from team members towards the tasks and know what to work on next, increase accountability among the group. Moreover, it provides everyone with a clear understanding of our progress and prevents any falling behind schedule.

Furthermore, when creating snapshots, the content is now more structured and well organised, making it easier for team members, product owners to view.

Since the task board has been updated, the communication within the group has become more frequent because everyone know what should be done clearly.

A well organised task board is vital to build a better software. It can enhance:

1. transparency of tasks (group members know what to work on)
2. efficient collaboration within group members towards a specific task (more communications)
3. tasks are well-documented (easier for everyone to read)

The above benefits would lead us to develop more efficiently and build a higher quality software.

2. What could be improved?

One thing that I noticed for improvement during this sprint is the efficiency of our communication. An issue that stands out is Yuze Li’s preference for private messaging ShizeLiu or Product owner instead of sharing his ideas, thoughts, and progress with all of us during meetings. This approach has negatively impacted our progress. In particular, he still hasn't finished ‘adding devices’ functionality from user story1 since we have no idea about his progress.

Yuze Li's tendency to have private conversations stops efficient communication and information sharing. Even when he asked questions with the product owner, he did not share the responses after.

Such private communication is creating barriers for us to collaborate effectively, making it challenging to keep track of the overall progress. As a result, project progress is slowed down, and our potential ability to develop better software solution is obstructed. It is important to communicate promptly and share information actively among the group to design the most correct technology solution.

3. What will the group commit to improve in the next sprint?

In the upcoming sprint, our group commits to improve our communication processes to avoid the lack of transparency in progress. As mentioned in the previous question, we have recognise the importance of transparent and effective communication to have better group collaboration.

To address the problem of private messaging and lack of information sharing, we will make the following approaches:

Communication Guidelines: In sprint 4, any ideas, thoughts or new informations should be shared during scrum meetings rather than sending private messages. By having everything shared, it ensures everyone is on the same page and will smooth the following communication.

Regular Progress Updates: In the next sprint, team members should provide regular progress updates during scrum meetings. Including the status of tasks, any challenges faced. If needed they should ask for help from other group members. This helps better project planning resources allocation, leading to efficient software development.

By implementing the above two measures, we want to improve transparency of knowledge, collaboration among the group during the software development process. I believe our commitment will make us a cohesive team and ultimately develop a more successful solution.

4. Comment on your progress this sprint.

- Updated the entire Github Task Board

In the previous sprint retrospective, I mentioned that tasks/issues on our GitHub task board have meaningless title and vague description. At the beginning of the sprint, I updated all the tasks' title and description, deleted unnecessary issues. It brings clear snapshots and prevents further confusion among the group.

- Set up Cloud Neo4j Database

Since we moved to Neo4j in the last sprint, I have tried many ways to set up a cloud Neo4j database because there are little differences in interface between using web version and software version. It allows develop team to use the same database, so they can communicate with each other seamlessly on the data.

- Optimised User Experiences

In this sprint, I noticed our interactions with the database require long query input which is difficult for users to use. So I designed a terminal based user interface to streamline this process.

- Written Snapshot 3.1 and 3.2

Since I updated our Github Task board entirely, it was my responsibility to update the corresponding sections in two snapshots. Beyond that I rewrote the summary of changes to make it better reflect what we did and deleted incorrect informations.

I have attended all sprint review/planning meetings with the tutor(PO).

Snapshot Week <7> of Group <Path5>

Snapshot 3.1

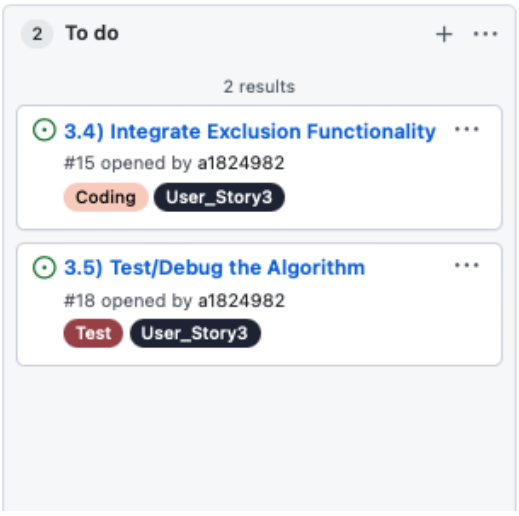
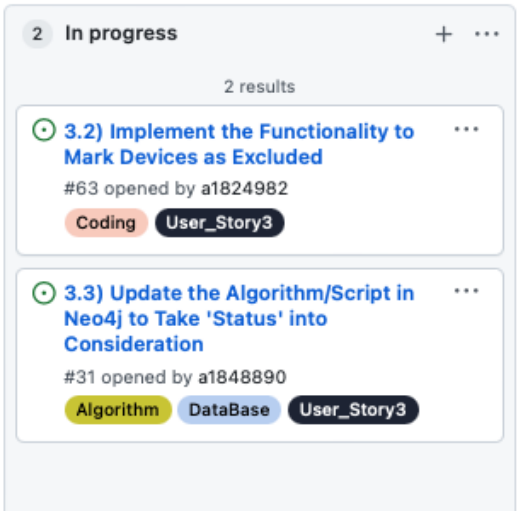
Project: ATSYS_Shortest Path Algorithm for Material Transportation

Members:

Shize Liu_a1844323
Yuze Li_a1848890
Ruoyu Xiong_a1847649
Yuchen Peng_a1824982
Yuejun Zhao_a1829813
Shijie Zhang_a1809881

Product Backlog and Task Board

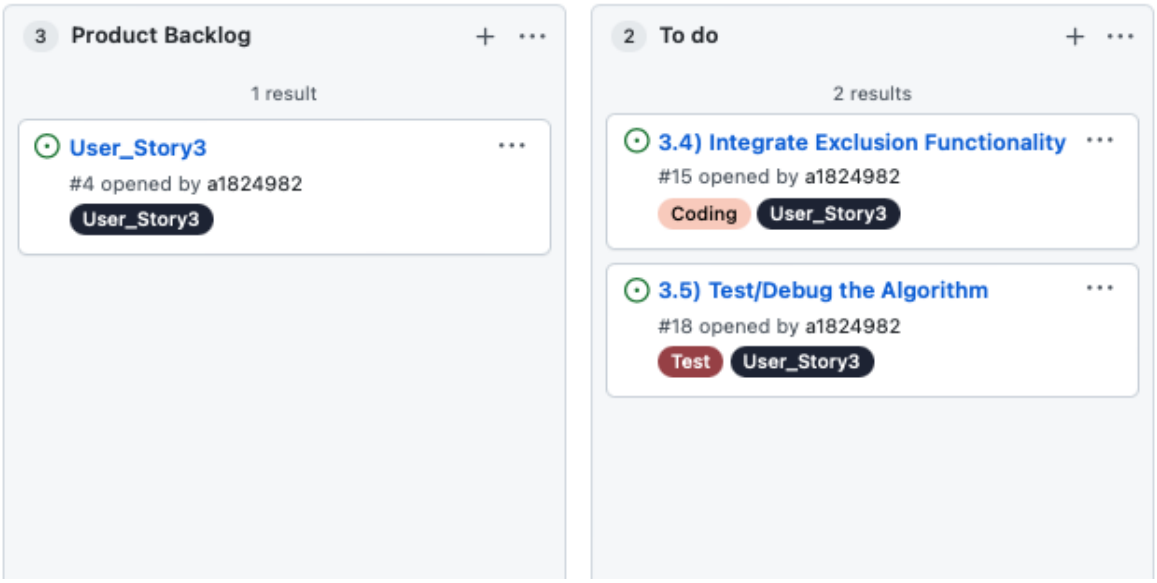
Product Backlog		
User Story 1	**User Story 2**	**User Story 3**
As a user, I want to store devices in the system so that I can add/remove/update them.	As a user, I want to get the shortest path between 2 given devices so that material transportation will be efficient.	As a user I want to mark devices to exclude, so that shortest paths can be identified avoiding them.

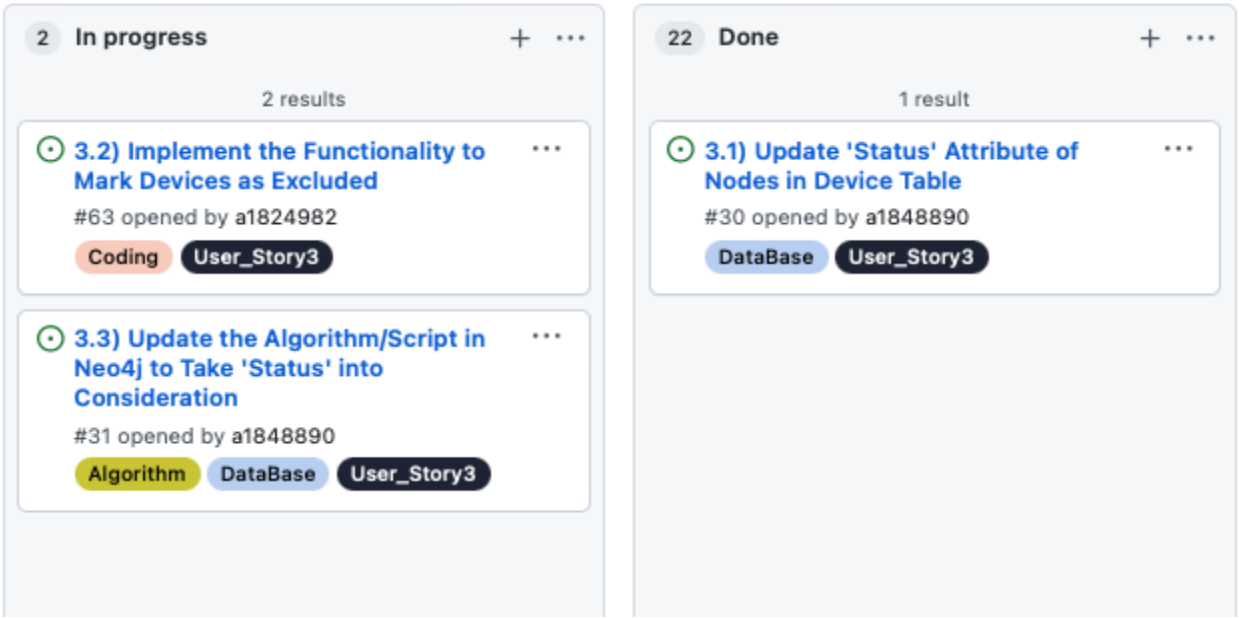
Task Board for Sprint 3 Snapshot 3.1 (User Story3)	
To Do	In Progress
	

Done


Sprint Backlog and User Stories

Sprint Backlog





In the third sprint, we have moved on to the third user story: ***"As a user I want to mark devices to exclude, so that shortest paths can be identified avoiding them."***

In this user story, users want to be able to exclude specific devices when calculating the shortest path between two given devices. Realistically, this functionality is important to implement because devices in the factory can be broken and including them in the calculation is not practical.

In order to achieve this, the database schema needs to be updated. To be specific, an additional attribute ‘Status’ will be added to our Device table to keep track of the condition of each device/node. Next, a logic condition will be added to our algorithm to avoid including unwanted devices into calculation.

Definition of Done

- A coding task is considered to be completed when the code has been written in accordance with the coding standards outlined in the initial report, tested (both unit and integration) refactored as needed, successfully passed peer review and obtained approval from all members of the team.
- A non-coding task task is considered to be completed when it has been brainstormed, discussed, documented, reviewed and agreed upon by the team in a meeting to ensure everyone is aligned and informed about the task. Additionally, any specific problems that arose during the Sprint should be reported to the team in detail and converted to an issue on the GitHub task board.

Summary of Changes

During this week’s snapshot, several important changes and updates have been made. These changes mainly focus on adding a new functionality of marking devices as excluded when executing the shortest path algorithm described in user story 3. Highlights include:

1. **New ‘Status’ Attribute for Nodes**: We introduced a new attribute called ‘status" for nodes, which has three values: ‘Active’, ‘In Use’ and ‘Fault’.
2. **New Logic Condition In Shortest Path Algorithm**: Now, when calculating for the shortest paths between two given devices, if the path contains ‘Fault’

or ‘In Use’ devices, it will be considered as invalid and will not be shown as a result candidate.

3. **New Devices Exclusion Functionality**: We have developed a script containing commands that can enable users to mark specific devices as excluded when calculating for the shortest path.
4. **Updated** everything on Github Taskboard.
5. **Improved** Visibility on Screenshots taken.

Overall, these are the main changes our group made between the previous snapshot.

Snapshot Week <8> of Group <Path5>

Snapshot 3.2

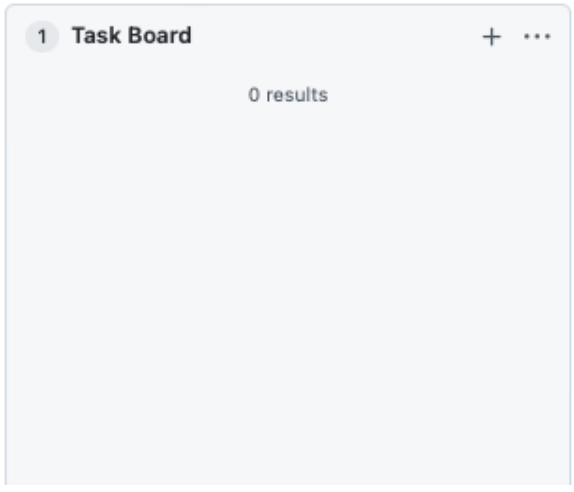
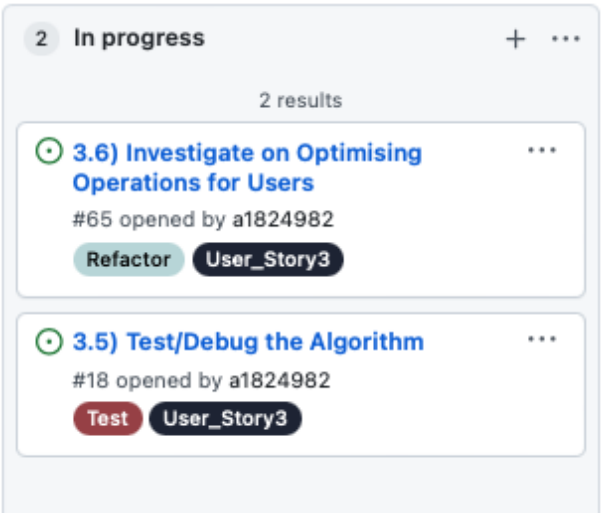
Project: ATSYS_Shortest Path Algorithm for Material Transportation

Members:

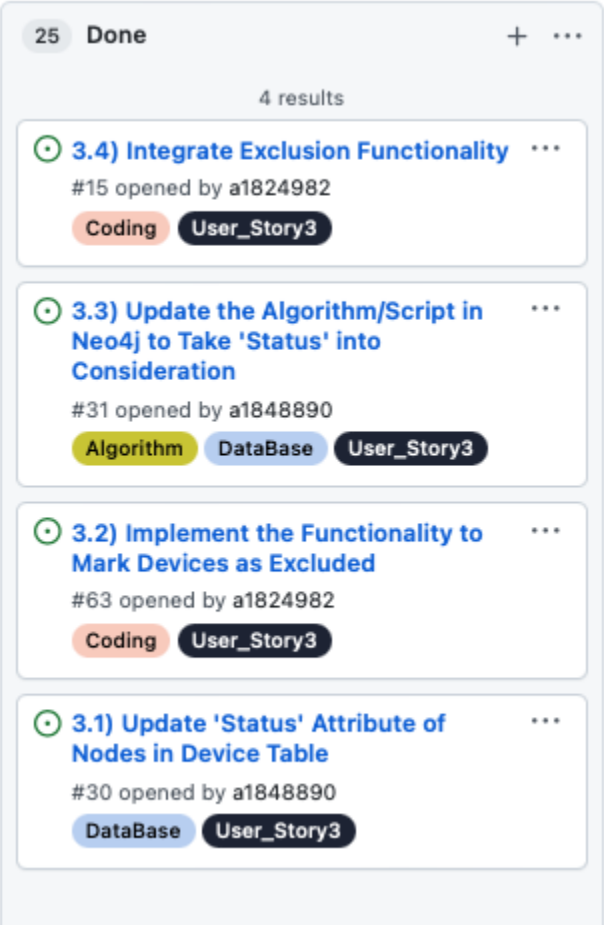
Shize Liu_a1844323
Yuze Li_a1848890
Ruoyu Xiong_a1847649
Yuchen Peng_a1824982
Yuejun Zhao_a1829813
Shijie Zhang_a1809881

Product Backlog and Task Board

Product Backlog		
User Story 1	**User Story 2**	**User Story 3**
As a user, I want to store devices in the system so that I can add/remove/update them.	As a user, I want to get the shortest path between 2 given devices so that material transportation will be efficient.	As a user I want to mark devices to exclude, so that shortest paths can be identified avoiding them.

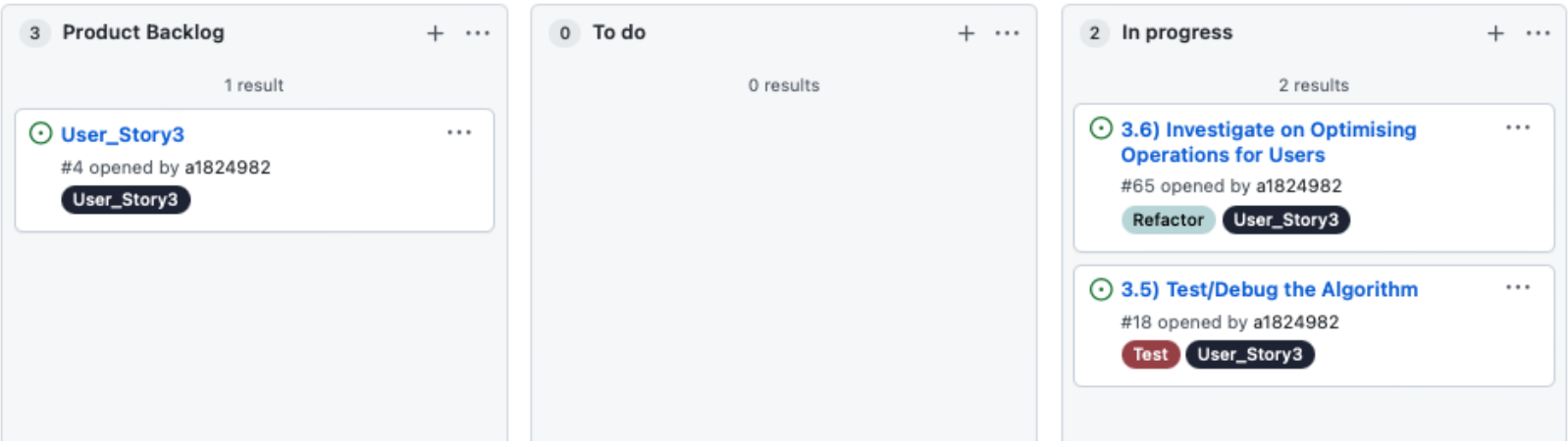
Task Board for Sprint 3 Snapshot 3.2 (User Story3)	
To Do	In Progress
	

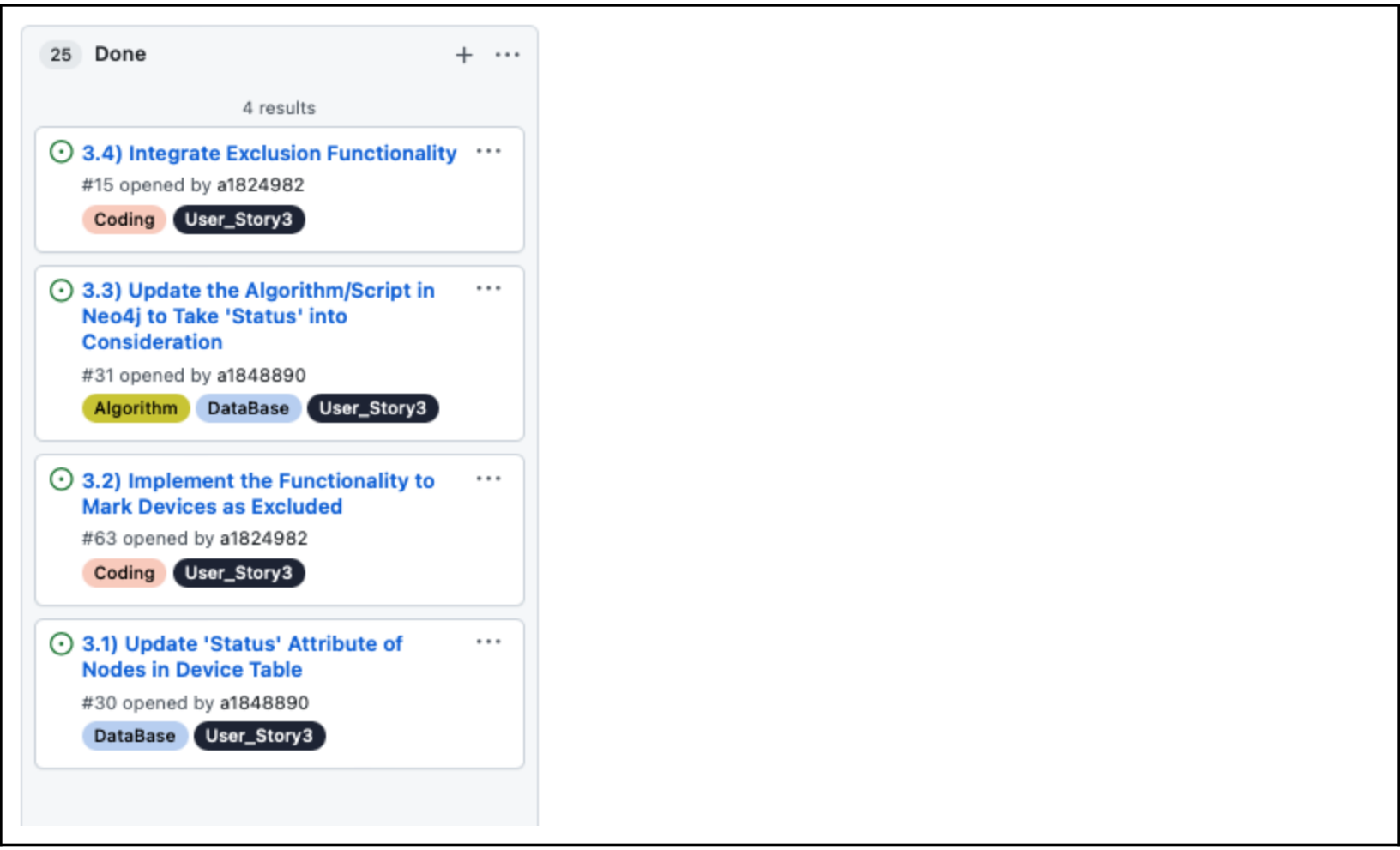
Done



Sprint Backlog and User Stories

Sprint Backlog





In the third sprint, we have moved on to the third user story: ***"As a user I want to mark devices to exclude, so that shortest paths can be identified avoiding them."***

In this user story, users want to be able to exclude specific devices when calculating the shortest path between two given devices. Realistically, this functionality is important to implement because devices in the factory can be broken and including them in the calculation is not practical.

In order to achieve this, the database schema needs to be updated. To be specific, an additional attribute 'Status' will be added to our Device table to keep track of the condition of each device/node. Next, a logic condition will be added to our algorithm to avoid including unwanted devices into calculation.

Definition of Done

- A coding task is considered to be completed when the code has been written in accordance with the coding standards outlined in the initial report, tested (both unit and integration) refactored as needed, successfully passed peer review and obtained approval from all members of the team.
- A non-coding task task is considered to be completed when it has been brainstormed, discussed, documented, reviewed and agreed upon by the team in a meeting to ensure everyone is aligned and informed about the task. Additionally, any specific problems that arose during the Sprint should be reported to the team in detail and converted to an issue on the GitHub task board.

Summary of Changes

During this week's snapshot, few changes and updates have been made. These changes mainly focus on integrating all components from 3 user stories, testing the functionality and investigating on optimizing the process of how users interact with our software. Highlights include:

1. **New Functionality 'Exclusion'**: The Exclusion functionality is now integrated to our current algorithm.
2. **Updated Scripts**: Now, SQL commands/queries will be generated from a python script.
    a. This can avoid complex and redundant inputs when users want to perform an operation
3. **Updated** everything on Github Taskboard.
4. **Improved** Visibility on Screenshots taken.

Overall, these are the main changes our group made between the previous snapshot.