

# Snapshot Week <7> of Group <Path5>

## Snapshot 3.1

**Project:** ATSYS\_Shortest Path Algorithm for Material Transportation

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## 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
<div> <div>2 To do</div> <div>2 results</div> <div> <div>3.4) Integrate Exclusion Functionality</div> <div>#15 opened by a1824982</div> <div>Coding User_Story3</div> </div> <div> <div>3.5) Test/Debug the Algorithm</div> <div>#18 opened by a1824982</div> <div>Test User_Story3</div> </div> </div>	<div> <div>2 In progress</div> <div>2 results</div> <div> <div>3.2) Implement the Functionality to Mark Devices as Excluded</div> <div>#63 opened by a1824982</div> <div>Coding User_Story3</div> </div> <div> <div>3.3) Update the Algorithm/Script in Neo4j to Take 'Status' into Consideration</div> <div>#31 opened by a1848890</div> <div>Algorithm DataBase User_Story3</div> </div> </div>

Done
<div> <div>22 Done</div> <div>1 result</div> <div> <div>3.1) Update 'Status' Attribute of Nodes in Device Table</div> <div>#30 opened by a1848890</div> <div>DataBase User_Story3</div> </div> </div>

## Sprint Backlog and User Stories

### Sprint Backlog

The screenshot displays a Jira Sprint Backlog with four columns, each containing user stories related to 'User\_Story3'.

- Product Backlog (3 items):** Contains 1 result:
  - User\_Story3** (#4 opened by a1824982) with label **User\_Story3**.
- To do (2 items):** Contains 2 results:
  - 3.4) Integrate Exclusion Functionality** (#15 opened by a1824982) with labels **Coding** and **User\_Story3**.
  - 3.5) Test/Debug the Algorithm** (#18 opened by a1824982) with labels **Test** and **User\_Story3**.
- In progress (2 items):** Contains 2 results:
  - 3.2) Implement the Functionality to Mark Devices as Excluded** (#63 opened by a1824982) with labels **Coding** and **User\_Story3**.
  - 3.3) Update the Algorithm/Script in Neo4j to Take 'Status' into Consideration** (#31 opened by a1848890) with labels **Algorithm**, **DataBase**, and **User\_Story3**.
- Done (22 items):** Contains 1 result:
  - 3.1) Update 'Status' Attribute of Nodes in Device Table** (#30 opened by a1848890) with labels **DataBase** and **User\_Story3**.

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 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.