

# Snapshot Week <9> of Group <Path5>

## Snapshot 4.1

**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.
User Story 4	User Story 5	
As a user, I want to get 5 shortest paths given a single source and multiple destinations, so that material distribution will be efficient.	As a user, I want the execution time of each operation to be optimised as possible and visualise the output (the 5 shortest paths) as a table or as a console output ordered by the path cost, so that user experience aspect will be improved.	

## Task Board

## Tasks For User Story 4

4.1) Implement Add Device/Edge Function and Test it ...

#73 opened by a1824982

Algorithm Test User\_Story4

4.2) Design User Interface / Interaction Process ...

#74 opened by a1824982

Document User\_Story4

4.3) Implement the User Interface ...

#75 opened by a1824982

Coding User\_Story4

4.4) Modify the Calculate Cost Algorithm ...

#77 opened by a1824982

Algorithm User\_Story4

4.5) Integrate the Interface and Functionality ...

#76 opened by a1824982

Coding User\_Story4

4.5) Testing the Entire Program ...

#78 opened by a1824982

Test User\_Story4

## Tasks For User Story 5

5.1) Add the 'Timer Functionality' ...

#79 opened by a1824982

Coding User\_Story5

5.2) Test if '1-to-1 scenarios' Reach Acceptance Criteria ...

#80 opened by a1824982

Test User\_Story5

5.3) Test if '1-to-N scenarios' Reach Acceptance Criteria ...

#81 opened by a1824982

Test User\_Story5

5.4) Optimise the Program if Needed ...

#82 opened by a1824982

Refactor User\_Story5

## Sprint Backlog and User Stories

Sprint Backlog		
ToDo	In Progress	Done
<div> <div>2 To do + ...</div> <div>2 results</div> <div> <div>4.5) Integrate the Interface and Functionality ...</div> <div>#76 opened by a1824982</div> <div>Coding User_Story4</div> </div> <div> <div>4.5) Testing the Entire Program ...</div> <div>#78 opened by a1824982</div> <div>Test User_Story4</div> </div> </div>	<div> <div>3 In progress + ...</div> <div>3 results</div> <div> <div>4.1) Implement Add Device/Edge Function and Test it ...</div> <div>#73 opened by a1824982</div> <div>Algorithm Test User_Story4</div> </div> <div> <div>4.3) Implement the User Interface ...</div> <div>#75 opened by a1824982</div> <div>Coding User_Story4</div> </div> <div> <div>4.4) Modify the Calculate Cost Algorithm ...</div> <div>#77 opened by a1824982</div> <div>Algorithm User_Story4</div> </div> </div>	<div> <div>28 Done + ...</div> <div>1 result</div> <div> <div>4.2) Design User Interface / Interaction Process ...</div> <div>#74 opened by a1824982</div> <div>Document User_Story4</div> </div> </div>

In the fourth sprint, we started working on a new user story: **“As a user, I want to get 5 shortest paths given a single source and multiple destinations, so that material distribution will be efficient”**. In this user story, users not only want to find out the distance from one starting point to a single destination but also the cost from one starting point to multiple destinations. This will increase the efficiency of material transportation. Additionally, users have provided the expected output. We need to modify our current algorithm to calculate any overlap in the paths in ‘1 to N’ scenarios and add a user-friendly interface for users to perform desired operations and display the requested results.

## **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 changes, updates and decisions have been made. These changes mainly focus on: 1) realizing the functionality of computing the path from one source to multiple destinations with the lowest cost 2) designing and implementing a user-friendly interface for users to perform required operation easily. Highlights include:

1. **Broke** two new user stories down into several small tasks.
2. **Carefully designed** a new user interface to streamline all the operations.
3. **Successfully connected** python scripts with Neo4j database.
4. **Updated** the algorithm to calculate the shortest path, testing will be done next week.
5. **Updated** everything on Github Taskboard.

Overall, these are the main updates made between the previous snapshot.