Snapshot Week <5> of Group <Path5>

Project: ATSYS_Shortest Path Algorithm for Material Transportation

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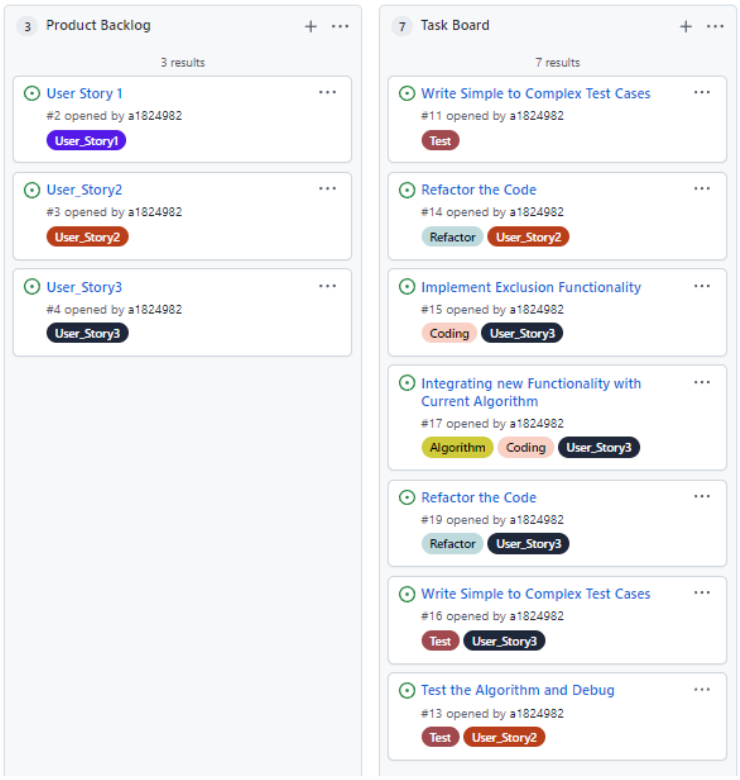
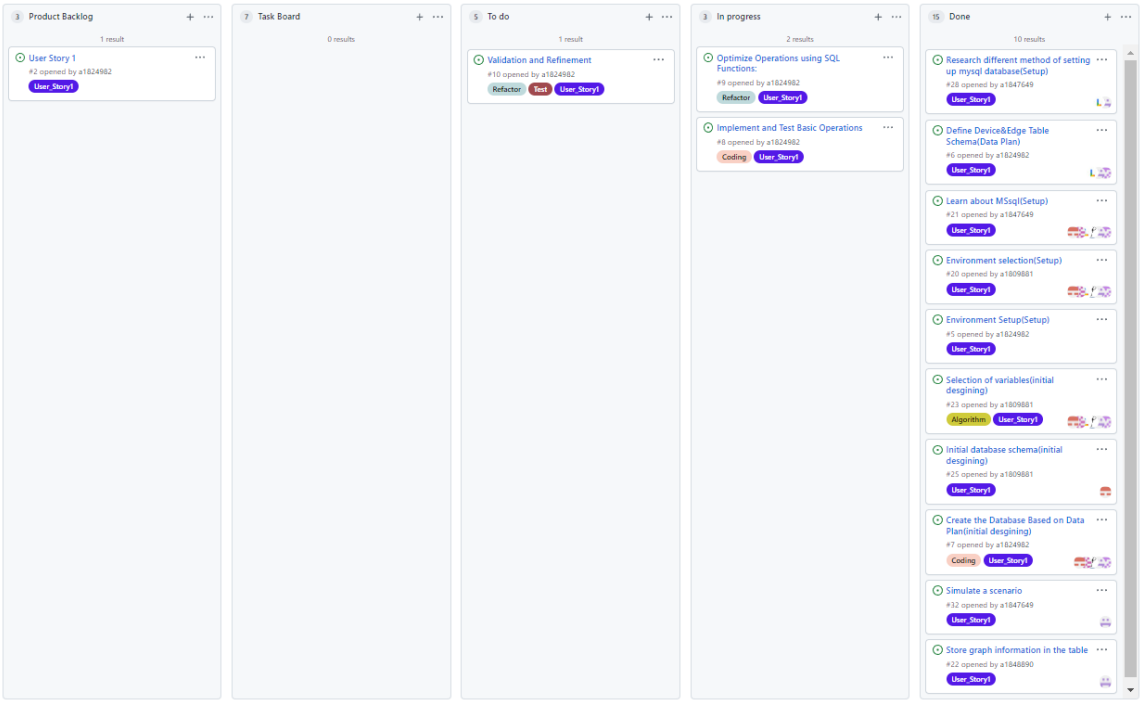
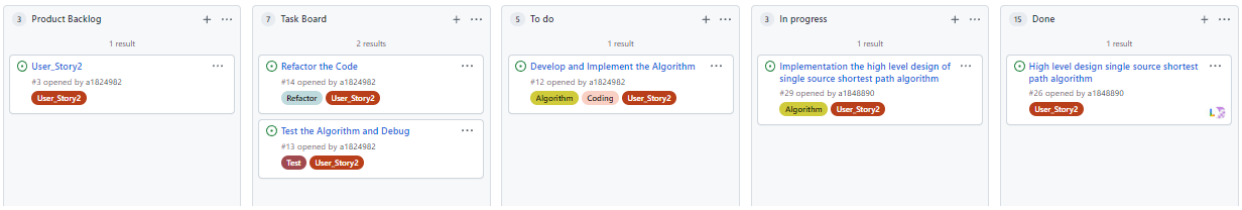
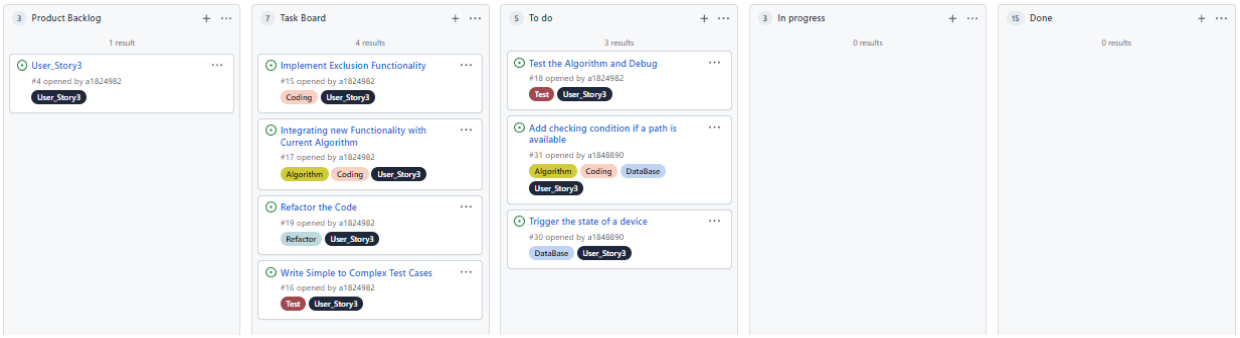
Product Backlog and Task Board

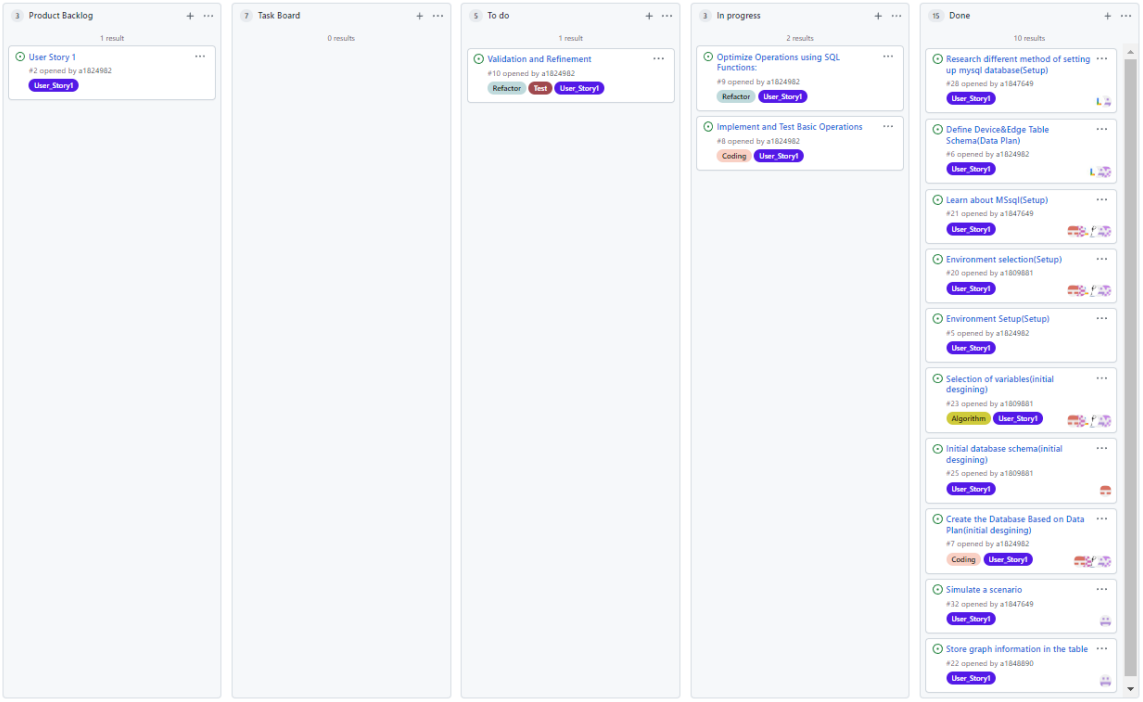




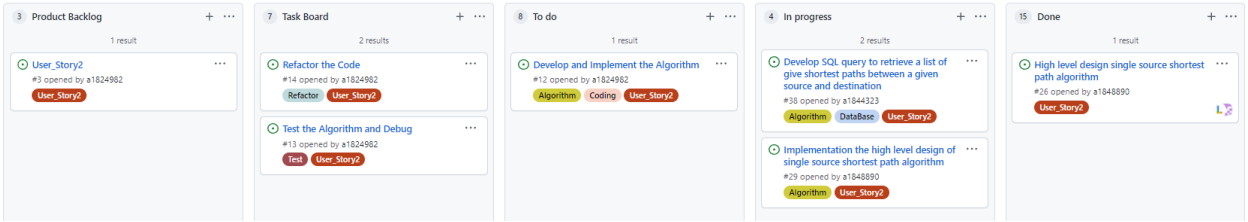

3 Product Backlog
1 result
User_Story2
#3 opened by a1824982
User_Story2
7 Task Board
2 results
Refactor the Code
#14 opened by a1824982
Refactor
User_Story2
Test the Algorithm and Debug
#13 opened by a1824982
Test
User_Story2
5 To do
1 result
Develop and Implement the Algorithm
#12 opened by a1824982
Algorithm
Coding
User_Story2
3 In progress
1 result
Implementation the high level design of single source shortest path algorithm
#29 opened by a1848890
Algorithm
User_Story2
15 Done
1 result
High level design single source shortest path algorithm
#26 opened by a1848890
User_Story2


3 Product Backlog
1 result
User_Story3
#4 opened by a1824982
User_Story3
7 Task Board
4 results
Implement Exclusion Functionality
#15 opened by a1824982
Coding
User_Story3
Integrating new Functionality with Current Algorithm
#17 opened by a1824982
Algorithm
Coding
User_Story3
Refactor the Code
#19 opened by a1824982
Refactor
User_Story3
Write Simple to Complex Test Cases
#16 opened by a1824982
Test
User_Story3
5 To do
3 results
Test the Algorithm and Debug
#18 opened by a1824982
Test
User_Story3
Add checking condition if a path is available
#31 opened by a1848890
Algorithm
Coding
DataBase
User_Story3
Trigger the state of a device
#30 opened by a1848890
DataBase
User_Story3
3 In progress
0 results
15 Done
0 results

Sprint Backlog and User Stories



User Story(2): ***"As a user, I want to get the shortest path between 2 given devices so that material transportation will be efficient."***



https://github.cs.adelaide.edu.au/SEP23S2PATH/PATH_5/projects/1?card_filter_query=label%3A+label%3Auser_story2

In this user story, users are requesting a method to determine the top 5 efficient routes between two specified devices. This feature will assist them in effectively and promptly managing their plants resulting in increased productivity and cost efficiency.

To fulfill this requirement we have implemented an algorithm that utilizes a MySQL database. The algorithm calculates the cost of the path between the selected devices. It uses recursion to ensure that every device is visited and

explores all routes before sorting them in ascending order. The algorithm looks at where the devices are, if devices are in use(not available) or not, and other stuff to find the most cost efficient way.

The user specifies the starting and ending node and our implemented algorithm in MySQL returns the 5 paths that're cost efficient. Eventually this application could provide users with the ability to manage devices and plants in a cost manner.

Definition of Done

- A coding task is considered complete when the code has been written in accordance with the coding standards outlined in the report reviewed, 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 assignment is considered complete when it has been reviewed, discussed, documented and agreed upon by the team in a meeting to ensure everyone is on the page. Additionally any specific problems should be reported in detail using our project page, on Github.

Summary of Changes

Github task board wise:

We reviewed the existing user stories. Included additional detailed tasks, in the “To do” section. We also went through and added more specific tasks. Additionally we completed some tasks in the “In progress” and moved them to the "Done" section.

Code wise:

- We plan to implement the shortest path algorithm in SQL, the algorithm is expected to return the shortest path between the start Node and the destination Node. In the coming sprints we plan to combine the SQL recursive CTE method and this algorithm to implement the shortest path algorithm that returns the top-5 shortest path.

- We plan to implement the test for user stories 2. This involves creating graphs, designing tables and conducting algorithm testing.