

Hauling Activity based on Rating

Pak Sinaga has faced a bit of problem related to hauling activity. He found that some of hauling units are underperformed once the others have shown outstanding achievement. Then, He also got some complains related to unfairness of the of haul assignment which blames that the source of underperformed activity due to that factor.

Pak Sinaga then decides to perform real-time rating control to the hauling unit which the system will determine the prioritization on the auto-assignment for the hauling activity. Higher rating will have higher priority on the hauling assignment. The idea is as follow:

- On every beginning of the shift, the scoring will be returned to default score = 10.
- System will then select the assignment based on the nearest location, if within nearest location, there are more than 1 hauling unit (the radius gap to the ROM is ≤ 300 Mtrs) among those nearest units, the score will take precedence (higher is prioritized)
- On each accepted assignment by the driver through its mobile app, it will give additional +1 point. While when rejected it will give -0.5 point.
- On every successfully trip delivery to the port and on time, it will give additional +2 point. If it's not on time, it will give additional +1 point.
- The parameter time to reach port is 1 hour (default value) but configurable for future operation.
- For every MT of unloading MT, it will give additional point with following formula:
 $\text{Math.Ceil}(\text{Unloading MT}/28)$
- However, System has the right to exclude the assignment, if the *rit* count has already surpassed 3 (default value) on each shift but configurable for future operations.
- System shall be able to generate report for several Predefined insights of **Average Score** with:
 - Dimension:
 - Hauling Company
 - Trailer Type (Dump Truck, Side Dumpt Truck, Double Dump Truck)
 - No Lambung
 - Date
 - Day
 - Month
 - Quarter
 - Semester
 - Year
- User would be very happy if User could perform **Self-Service Reporting** by having the selections of master & transactional table to be combined as per required.

To assure the effectivity of this implementation, Pak Sinaga would like to have simulation tool to test the effectivity of the hauling assignment based on merit. The simulation tool shall have the editable parameter to simulate the real scenario later on and also to implement all the requirement as per stated above. The editable parameter to simulate the real scenario is as follow:

Web Based

- Feature CRUD of Truck:
 - o Hauling Company - Free Text
 - o Call Sign/No Lambung - Free Text
 - o Driver Account
 - Username
 - Password
 - o Type/Brand - Free Text
- GIS Component with:
 - o ROM Location
 - o Hauling Road
 - o Port Location
 - o Pick point to mock the truck location per Unit/Call Sign, Duration of Road, and Nett Weight of Coal
 - o Pop Up Icon of Current Status per Unit/Call Sign:
 - Job Assignment Number
 - Nett Weight of Coal
- Button to Trigger the Notification of Assignment to Driver/Mobile Based Apps User & Seeing Response per Call Sign
- Change Shift ([Date] – 07:00 – 19:00 & [Date] – 19:00 – 07:00)
- Configuration of Max Rit per Unit/Call Sign
- Configuration of Hour distance to Port
- Configuration of Weighing Location
- Random Nett Weight Assignment (20 – 30 MT) to the truck when passing weighing location

Mobile Based (Emulator)

- Login as Call Sign/Unit
 - o When login succeed, it will display:
 - Current Shift
 - Current Point Achievement
 - Current Job Assignment (If not exist then N/A)
- Time Left to Reach Port (Count Down Timer) – If there is Active Job Assignment taken by the account and in-progress.
- Notification of New Job Assignment (Option for Taken/Rejected with Reason). It shall also ensure that the job assignment taking will be done by single account only (no job assignment could be taken by two accounts at the same time). Order notification is limited to 10 Seconds only (countdown timer), if it is exceeded, then it will consider as **Rejected with No Reason**.

Time to Complete : 1 Week

Type : Take Home

Passing Grade : 460

Scoring Criteria could be seen on the Excel. Vendor is acquired to fill the self-assessment scoring first before the demo session.

Should you require put the assumption, please to put it on Business Requirement and Functional Specification Document.

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