Allocate technician to a task base on:

* **Individual**:

1. **Competency** – did the technician have the skill set/knowledge for the task? Did the technician go through the training?
2. **Experience** – did the technician perform the task before? how many times? How long is the service?
3. **Availability** – is the technician free to perform the task on the specific date?
4. **Efficiency** -
5. **Workload** – is the technician have concurrent task? Is it overload for the technician?
6. **Reliability** – did the technician have any incident/unsafe act? How good is the technician?(from peer to peer)
7. **Condition** – is the technician fit to perform the task? Any past injuries that potentially increase the risk when performing the task?
8. **Problem solving ability** – is the technician able to solve the problem when a challenge arise during the task?
9. **Communication skill** – is the technician able to communicate with the team when the task required more than one person?

* **Workshop**:

1. **Safety** – did the technician familiar and adhere the safety regulation?(might be capture in techRAC)
2. **Tools and equipment** – is the technician familiar with the tools and equipment required for the task?

\_\_\_\_\_ = within our control (we have the data?)

Which depot have problem

Create a risk assessment scoring system:

Likelihood features: (things organisation can’t control)

1. Sleep – did the technician have sufficient rest?
2. Experiences – how many times the technician had perform the same task?
3. Temperature – weather
4. Humidity – depends on the weather?
5. Year of technician – how long the technician in this field
6. Age – how old is the technician?
7. Reliability – peer evaluation result

Severity features:

1. Training – did the technician went through training?
2. Safety brief – is the technician aware of the safety protocol?
3. PPE – did the technician wear standard PPE?
4. Equipment condition – is the equipment quality good to go?
5. Task difficulty level – how difficult is the task?

Scoring formula:

Risk level = likelihood \* severity

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Sleep(<7) | Reliability (>=2) | Year of Tech | Experience | Temperature | Age | Difficulty Level |
| 1 | 100 | 100 |  |  |  |  | 100 |
| 2 |  | 75 |  |  |  |  | 75 |
| 3 |  | 50 |  |  |  |  | 50 |
| 4 |  | 25 |  |  |  |  | 25 |

If (sleep >=7 || experience != 0 || temperature !> 31 )

If (difficulty level == 1)

If (

Else

=> 100%

what is the principle of choosing this algorithm (k-mean clustering)

* Try to compare with other algorithm.

what at the pro and cons of using this algorithm

what is the results

why is the result acting like this?

How can we improve from here?

What is unsupervised machine learning algorithm?

* This algorithms discover hidden patterns or data groupings without the needs for human intervention.

What are the types of unsupervised machine learning algorithm are there?

1. Clustering
   1. Data mining technique which groups unlabelled data based on their similarities or differences
   2. Types of clustering:
      1. K-Means
      2. Hierarchical Clustering
      3. Probabilistic
2. Association
3. Dimensionality Reduction