Central Railways Track Machines Inventory Control Dashboard

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Abstract— Objective: Mechanized preservation of track on Indian Railways was announced during premature sixties. Modern track can't be preserved and positioned manually and thus routine of machines has developed a basic necessity. Track Machines on Indian Railways have been pigeonholed as Small Track Machines & Large Track Machines. Hence, the usage of Railway Track Machines inventory came into presence. Methods/Analysis: Modules Description - (1) Add Data and Manipulator Registration (2) Search Resources in All Goods yard (3) Add Indent and Indent List (4) Add Procurement Order and Supplies List (5) Issue and Received Material List. Findings: The purpose is to develop the Central Railways Track Machines Inventory Control Dashboard, Government of India. The main goods yards are Bhusawal, Nagpur, Mumbai, Pune and Solapur. This is a complete back-end assignment retained by the super-administration of the chief division and the other sub-administration of the main goods yard. This scheme can be used to stock the information of different categories of small parts such as seal, tool, walky-talky, engine, welding rod etc. required in large track machines. The large machines used for repairing tracks, known as consignee is added to the system. Indent list is generated which increases the inventory. Indents are called and added to the purchase. Novelty/Improvement: This system drafts for the total issued and received of the raw materials. The sub managements are certified to search for materials in all goods yard. The required quantity of materials can be further purchased and added to the division's inventory by the organization. The system is restructured from time to time retaining the record of the latest available consignee, indent, quantity, sale and procurement of raw resources.

*Keywords--*Category, Indent, Purchase Order, Consignee, Divisions

I. INTRODUCTION

Track Machines is an obligatory contribution to the Indian Railways. These are the huge, substantial mechanized machines used in track laying and repairs. These machines are made up of a number of rare materials. 2Some of them which comprises are fuse, hose, wheel, gauge etc. Hence, Track Machines Inventory system plays a major title role in the source of the materials essential for a Track Machine. 3This E-enabled Track Machines Inventory Control Dashboard has the following main features:

- It preserves the record of the total routine of the classes of auxiliary parts used in Track Machines.
- It enhances the consignee (Track Machines) for which the raw resources is to be transported.
- Tender is being filled and submitted in the Add Indent section. Based on which, Indent list is generated. It increases the Inventory.
- The consumers can register and apply for the acquisition order of raw resources.
- The total routine is rationalized from time to time screening the current amount of raw materials accessible in each category.

- It conserves the record of the delivered and received material list.
- It affords a fast and smooth transaction progression for penetrating the materials in all depots to cater the need of raw resources from the existing stock in the Inventory.

II. PURPOSE

4This application covers all the track machines inventory holding units for the Central Railways division. 5This is a complete back-end project developed for the administration of Inventory for Track Machines. This system is being maintained by the super admin at the main division and the other sub-admin people. It provides the user, ability to issue and receive raw materials by registering to this application. 6The users register themselves with correct data such as name, e mail id and registration date. Here, the users are the ones who make an attempt to issue or receive the raw materials for the consignee (Track Machines) by means of a purchase order.

III. OVERALL DESCRIPTION

Product Perspective

This system can be viewed as a user efficient working environment which can generate more output through this. This system provides the user friendly interface resulting in knowing each and every usability feature of the system. 7This system helps in tracking record so that the past record can be verified and one can make decision based on the past records. Each record can be retrieved and can be verified for future transaction.

Also, this system provides high level of security of data leaking for only the admin people can access the database. 8No changes can be made in it until the verification of the user login id and password.

Product Functions
There are registered people in the system (Admin, Sub-Admin).

  i.   The main task of the admin is to maintain the Inventory and distribute the target properly to the entire divisional depot.
  ii.   The admin adds the divisions, category of raw material, consignee, unit and material into the system.
  iv.   Each division has a specific allocation code clearly mentioning the date when it is added.
  v.   Material details (Part no., Minimum Quantity for Alert, Category, Valid up to, Unit, and MAS) are added for the concerned consignee.
  vi.   Material information can be searched by selecting the Part No., Part Name, Category or Consignee.
  vii. Indent are added by the admin by filling the Indent form details such as Indent No., Indent Date, Indent From, Maker Name, Allocation, Description, Specification, Warranty, Last Purchase Order Rate, The Date by which the

Material is required, Basis for Assumed Unit, All Inclusive Rate per unit, Name of Technical Officer to whom reference should be made, justification for special Indent for Imp rests Items etc.

Based on which, Indent List is generated.

Purchase Order is made based on the Indent List specification by selecting the Indent No. for which the order is being made.

Purchase can also be made locally by selecting the Part No., Part Name, Quantity, Unit, and rate from the main division Bhusawal.

After purchase, purchase no. is generated. The purchased materials list is added by the admin mentioning the product name, part no., category, quantity and rate.

For all the division/machine, the details of the issued and received materials are stored in the system.

All the data stored in the database mentions the date on which it is created and is updated by the super- admin.

User Classes

There are three levels of users.

Super- Admin – The one who control all the activities inside the system, provides the raw materials, adds the other divisions, units, materials, Consignee, Indent to the Inventory etc.

Sub- Admin 1 – The one at the sub-divisional depots who manages the issued and received materials from their respective inventory.

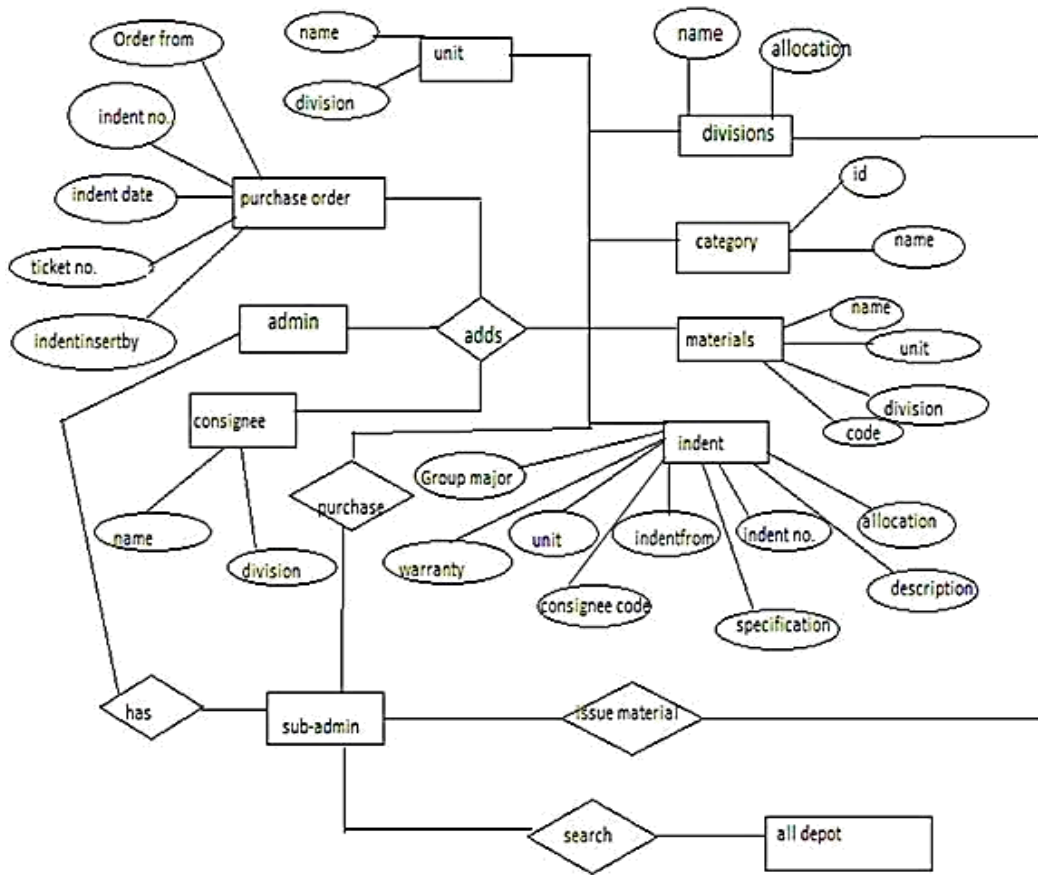Sub- Admin 2 – The one who is meant for searching the raw materials in every depot.

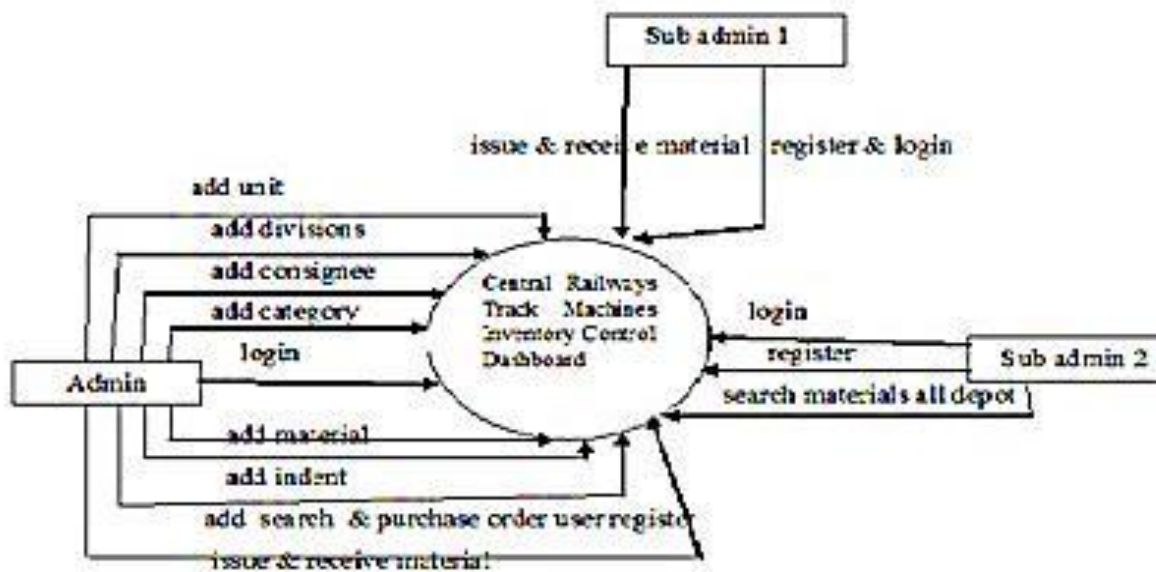Figure 1. Entity Relationship Diagram

Figure 2. Context Level DFD

IV. SCOPE

This system aids in tracing record so that past record can be certified them and one can make judgment based on the older record. 9This system finalizes the exertion in a very less interval consumption and great level efficiency.

10This system is established in such a way that even new consumers can also control the structure easily. The design are prepared quickly and the records are directly hold back into the database can be retained for longer period of time. Each record can be reclaimed and can be verified for future contract.

Also, this system provide high level of security of data leaking for only the management people can have authority to access the database. No alterations can be made in it until the certified consumer login id and password.

V. CONCLUSION

Central Railway Track Machines Inventory Control Dashboard for such a mammoth widespread system is an important facet of Asset Management. In future enhancement, this application covers all the track inventory holding units in the country numbering more than three thousand. All of them have been linked on one platform. This will enable optimization & balancing of inventory and speedy disposal of scrap and thereby increasing earnings from this source.

Apart from improvement in system efficiency, these will also have intangible benefits to the humanity in the form of environment protection by reduction of carbon footprint which is a global cause of concern at present. The system will be helpful to contribute significantly to planet earth by removing more than 1.0 lakh registers related to track maintenance. This will result in saving of close to 500 trees a year.

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