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TRISAN INFO PRIVATE LIMITED

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| FUNCTIONAL REQUIREMENT DOCUMENT VERSION 1.1| Mahesh & bhanu |



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| TEAM OS | FLEET MANAGEMENT SYSTEM |

**TABLE OF CONTENTS**

1. **PROJECT ANALASIS AND PLANNING**
   1. Purpose……………………………………………………………………4
   2. Scope……………………………………………………………………...4
   3. Assumptions and Dependencies…………………………………………..5
   4. Definitions, Acronyms and Abbreviations………………………………..5
2. **SYSTEM OVERVIEW**
   1. System Characteristics…………………………………………………….6
   2. System Architecture……………………………………………………….6
   3. User Characteristics……………………………………………………….7
3. **MODELING THE REQUIREMENTS IN DETAIL**
   1. Functional Requirements……………………...…………………………..9
   2. Non Functional Requirements……………………………………………25
4. **SYSTEM DESIGN**
   1. Software Development Tools& Technologies…………………………..27
   2. Naming conventions……………………………………………………...27
   3. Programming Standards………………………………………………….27
   4. Logical schema design (Data Base Design)……………………………...28
   5. Front End Design…………………………………………………………44
5. **GOALS OF IMPLEMENTATIONS**………………………………………………………....66

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**PROJECT ANALYSIS AND PLANNING**

**PURPOSE**

Fleet management system is the web application that oversees, coordinates and facilitates various transport and transport related activities. It is the Proactive management science of using and maintaining a fleet of vehicles in such a fashion that while spending the minimum amount of money, a vehicle manager is able to offer his/her users maximum flexibility, availability and reliability.

For any business or organizations fleet management is critical to handle because of traditional recordings of activities in the books. Effective fleet management aims at reducing and minimizing overall costs through maximum, cost effective utilization of resources such as vehicles, fuel, spare parts, etc.Fleet Management system has been developed in conjunction with the transport industry in an effort to provide a total web-based solution for maintenance, operational and administrative controls in any vehicle managing business.

**SCOPE**

Fleet Management system is web-based solution, to fulfill any vehicle managing businesses requirements. The competitive nature of our transport world today requires that we manage all aspects of the transport business. All these issues can be solved by Fleet management by computerizing various book keeping activities of vehicles there by reducing unnecessary human effort and time.

It is integrated web-based solution comprises of following modules:

##### Master Module

##### Branch management

##### Staff management

##### Inventory management Master

##### Route management Module

##### Operation Management/ Trip Module

##### Vehicle Maintenance Module

##### Daily Routine Module

##### Repair & Replaced Parts History Management

##### Mechanics & Technicians management

##### Vehicle Request/Replacement Management

##### Personal Use of Company Vehicle Module

##### Utility management

**Detailed Phases of the engagement:**

* Requirement gathering and finalization of user Requirements.
* High level Design
* Detailed Design
* Construction(development)
* Unit Testing
* Integration Testing
* System Testing

**ASSUMPTIONS AND DEPENDENCIES**

* User should have pc/laptop with Internet connection in order to access the application.
* User's web browser should completely support the JavaScript.
* By default, admin account will be created automatically with full controls.

**DEFINITIONS, ACRONYMS AND ABBREVIATIONS**

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| --- | --- |
| **Definition/Acronym/Abbreviation** | **MEANING** |
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**SYSTEM OVERVIEW**

Fleet Management is an innovative application designed to improve the productivity and eﬃciency of the vehicle management. It empowers managers with actionable information on key performance metrics that help drive down operating costs and enhance accountability.

**SYSTEM CHARACTERISTICS**

Key benefits and characteristics of fleet management system:

* Increases Productivity
* Reduce fuel costs
* Improve customer service
* Increase worker productivity
* Decrease vehicle maintenance
* Improve driver communications
* View vehicles and assets on one screen
* Monitor Driver safety
* Share data with other systems
* to operate in real-time or in bursts, linked to month-end reporting
* user friendly interface
* a large number of concurrent users
* to be highly resilient or fault tolerant
* provides to protect data
* scaleable and easily maintainable in the future

**SYSTEM ARCHITECTURE(MVC)**

The system under consideration will perhaps be based upon an n-tier, client-server architecture. It is possible that the architecture will have secure managed interfaces or proxies to isolate systems from illegal access. The Architecture may be a simple client-server system in which web technologies are used to provide forms from a simple server that can be filled in remotely by someone, for example, at a border post. With a simple requirement to collect basic information, which can be entered as it is captured by the user, this two-tier architecture may well be quite sufficient.

The architecture proposed is a tried approach that, Itwill provide the flexibility to support ever-changing business (often legislatively driven) requirements. Its key feature is that it separates out business logic, client access technology and centrally held data into discrete layers with standard, open interfaces. Today n-tier architectures can often be divided into several tiers as follows:

**client or ‘access’ tier(view)** – which facilitates access by both external and internal clients through technologies such as web browsers

**presentation tier** – the layer that accesses information from the other systems as required, and can contain its own ‘business rules’ for simple processes

**business tier(controller)** – contains the business information layer

**persistence tier (model)**– the database layer, which provides the facilities to store data.

Depending upon the solution proposed for the system in question there may be a balance of functions placed into each of these layers. We believe that in the design process it is vital, however, to have a layered architecture as the basis of the solution to facilitate change and adaptation of the system in the future – in other words to protect the investment that has been made in the system as technologies develop in the future. The degree of isolation afforded to elements of the system through adopting a layered approach is significant and can help immunise the project from having to be replaced in full in years to come – some key elements will survive technological developments.

Scalability of the architecture could become an issue. With a layered approach the ability to scale to meet future requirements is relatively easy as additional server power can be deployed into the various layers of the system.

The access layer (client) may have to cater for a range of terminals that may eventually need to access information. This illustrates a key point in the design of the architecture of the systems. Depending upon where the data is going to be processed and analysed, different physical layouts of servers may be required to provide the levels of service required by the users of the system. It may be that there are local nodes that collect information in each administration, and it is then routed to a specialist node and, from there, onto a central repository which contains the master files where regional factors are considered in order to help establish policy in an effective way.

## Infrastructure Services

Infrastructure Services should be provided to all applications with a view to reducing the time, cost and risks of development through re-use. To gain full advantage of infrastructure services the requirements of all current applications and the anticipated requirements from future applications should be analysed. These should be fed into the design of the services. The Infrastructure Services can be built incrementally, implementing the most common requirements first, followed by more specialised services. Topics covered in this section might include:

* Security
* Audit
* Performance monitoring and reporting
* Error Handling
* Debugging
* Logging.

**USER CHARACTERISTICS**

Fleet Management system involves with three types of users.

* Super Admin
* Branch Manager
* Users(Drivers, Cleaners)

**Super Admin Role:**

Super Admins have, by default, all capabilities and access to the site network administration features and all other features. He/she can do any changes to the database and add branches, manager and let manager do other stuff.

**Manager Role:**

The manager plays a vital role in the vehicle management system. The manager controls the entire database. The allocation of vehicles to drivers and keep tacking of vehicles service chargers calculated by the manager itself.

**User’s Role:**

The users can login/logout the database. He/She can view his/her personal details, duty shifts and can enter the details after work is done. The user can just view the information whereas he/she could not make changes in the database

**MODELING THE REQUIREMENTS IN DETAIL**

Amodular approach has been followed to provide for the necessary flexibility to use only the modules related to the user's specific environment.

## FUNCTIONAL REQUIREMENTS

##### **Access to Fleet Management Website**

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| **­Case Description** | Providing Access to The Home page for the Fleet management System   1. Super Admin 2. Branch Manager 3. User(drivers/Cleaners) |
| **Priority** | Essential |
| **Trigger** | Home page URL |
| **Precondition** | Should have pc/laptop with internet connection and any WEB Browser. |
| **Dependencies** | No |
| **Basic Path** | URL of the Home-page will give access to the homepage for all type of users. |
| **Privileges** | Accessible to all |
| **Alternate path** | No |
| **Post Condition** | Home Page contains THE LINKS AND INFORMATION for the   1. About Company 2. Management of the Company 3. Users of the Company |
| **Exception path** | If there is connection failure. Server returns the wait state. |

##### **Authentication**

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| **­Case Description** | Authentication is required for the   * Management of Company (super Admin) * Employee Members of Company to make changes in Database. * Branch Manager * Drivers(Cleaners) |
| **Priority** | Essential |
| **Trigger** | Home page URL |
| **precondition** | Company management and employees should have user credentials(username, password, User type). |
| **Dependencies** | Database (users table) |
| **Basic Path** | URL of the Home-page will give access to the Login page. |
| **Alternate path** | no |
| **Privileges** | Accessible to all |
| **Post Condition** | 1. The server returns a form before every functional operation by the company members, asking user-name and password. 2. If the password does not match the Server returns a message and allows the user to try again. 3. If after 3 tries the password does not match, the Server will return a message telling the user to contact the respective sub-branch manager to receive their password. 4. If the password and user-name matches, identifies the company member & allows him/her to make changes in database, according to their user credentials. |
| **Exception path** | If there is connection failure. Server returns the wait state. |

##### **Master Module**

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| **­Case Description** | The module provides utilities for controlling the module status of all modules in the whole installation "Master modules" are (in most cases) custom modules or features that provide dependencies to all modules that are needed to run the site. In combination with Features and maybe some custom code and scripts the whole site configuration can be managed via that approach. Locality ManagementLocality ManagementCountry ManagementState ManagementPolicy Master  * + - Driver Registration policy(terms & conditions)     - Branch Manager Registration Policy     - vehicle safety Inspection(to driver) policy     - Personal use of company vehicles policy     - Driver and Vehicle safety rules     - Scheduling drivers to vehicles rules policy     - Refunds     - Cancellation Management  Inventory Management MasterVehicle TypeVehicle Brand |
| **Priority** | Essential |
| **Trigger** | Master Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin user credentials. |
| **Dependencies** | No |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | Super Admin Only |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Branch management**

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| --- | --- |
| **­Case Description** | Branch Management module quickly and easily helps to manage and track different branches vehicle management system. Viewing,Adding & updating and terminating services in a branch. |
| **Priority** | Essential |
| **Trigger** | Branch Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin user credentials. |
| **Dependencies** | Locality Management Master |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | Super Admin Only |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Staff management**

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| --- | --- |
| **­Case Description** | Staff Management module quickly and easily helps you manage and track staff in vehicle management system. Viewing,Adding & updating and terminating staff.   1. Branch managers 2. Drivers/Cleaners |
| **Priority** | Essential |
| **Trigger** | Staff Management Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Branch Management Module |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Inventory management Master**

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| **­Case Description** | Inventory module provides a powerful and flexible set of features to help manage and report your inventory information. Vehicle management Inventory module facilitates processes of maintaining the appropriate level of stock in a warehouse.  **Inventory Module Consist of**:   1. Vehicle Management 2. Vehicle Parts / Accessories and other tools Management |
| **Priority** | Essential |
| **Trigger** | Inventory Management Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Master |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Route management Module**

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| --- | --- |
| **­Case Description** | Route Management module quickly and easily helps to manage and track different routes in vehicle management system. Viewing,Adding & updating and deleting routesin branches. |
| **Priority** | Essential |
| **Trigger** | Route Management Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Locality Management Master |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Operation Management/ Trip Module**

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| --- | --- |
| **­Case Description** | OperationManagement module quickly and easily helps toschedule drivers and vehicles in vehicle management system. Viewing,Adding & updating and deleting schedule in branches.   1. Schedule a Vehicle 2. View schedule 3. Update/delete schedule |
| **Priority** | Essential |
| **Trigger** | Operation Management Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Module, staff Management Module, Route Management Module |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Vehicle Maintenance Module**

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| --- | --- |
| **­Case Description** | Vehicle Maintenance Management module quickly and easily helps to manage and track vehicle maintenance in vehicle management system. Viewing,Adding & updating and terminating vehicle maintenance functions in branches.   1. Fuel Maintenance 2. Tyre Maintenance |
| **Priority** | Essential |
| **Trigger** | VehicleMaintenance Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management, Staff Management |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Daily Routine Module**

|  |  |
| --- | --- |
| **­Case Description** | Daily RoutineManagement module quickly and easily helps to manage and track daily working log of staff and vehicles in vehicle management system. Viewing,Adding & updating and terminating daily work log functions in branches. |
| **Priority** | Essential |
| **Trigger** | Daily Routine Module, a link located in Super Admin Zone |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Master, Staff Management, Route Management |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Repair & Replaced Parts History Management**

|  |  |
| --- | --- |
| **­Case Description** | Repair & Replaced Parts History Management module quickly and easily helps to manage and track vehicle repairs and accidents. Viewing,Adding & updating and vehicle repairs and accidents records in branches.   1. General Services 2. General Repairs/accidental repairs 3. Purchased Parts |
| **Priority** | Essential |
| **Trigger** | Repair & Replaced Parts History Management Module, a link located in Super Admin Zone. |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Master, mechanics & technicians Management |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Mechanics & Technicians management**

|  |  |
| --- | --- |
| **­Case Description** | Mechanics and TechniciansManagement module quickly and easily helps to manage and track of mechanics and service centers that provides services tovehicle management system. Viewing,Adding & updating and terminating mechanics & technicians in branches. |
| **Priority** | Essential |
| **Trigger** | Mechanics & Technicians Management Module, a link located in Super Admin Zone. |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | no |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Vehicle Request/Replacement Management**

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| --- | --- |
| **­Case Description** | Vehicle Request Management module quickly and easily helps to manage and track vehicles requesting and sending vehicles to other branches as they requested in vehicle management system. Viewing,Adding & updating vehicle requests functions in branches. |
| **Priority** | Essential |
| **Trigger** | Vehicle Request/ Replacement Management Module, a link located in Super Admin Zone. |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Module |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Personal Use of Company Vehicle Module**

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| --- | --- |
| **­Case Description** | Personal Use of Company VehicleManagement module quickly and easily helps to manage and track of staff who use company vehicles for their personal purposes in vehicle management system. Viewing,Adding & updating and terminating personal usage of vehicles to staff in branches. |
| **Priority** | Essential |
| **Trigger** | Personal Use of Company Management Module, a link located in Super Admin Zone. |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | Inventory Management Module |
| **Basic Path** | 1. Clicks on any sub link in the module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (CRUD) that we wish, and click submit. 3. The Server with replaces the old data with the new data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The changes (CRUD operations on the module) made in the module will be updated in the database. |
| **Exception path** | 1. If the connection is terminated before the form is submitted, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the form is submitted, but before the user is returned to the respective module page, the record in the status of the trucks Table of the Database is updated and the Server is returned to the wait state. |

##### **Utilities Management**

|  |  |
| --- | --- |
| **­Case Description** | UtilitiesManagement module quickly and easily helps tocreate reports of any module in vehicle management system. |
| **Priority** | Essential |
| **Trigger** | Report Management Module, a link located in Super Admin Zone. |
| **precondition** | 1. Should have pc/laptop with internet connection and any WEB Browser. 2. Requires super Admin, Branch manager user credentials. |
| **Dependencies** | All Modules |
| **Basic Path** | 1. Clicks on generate report in any module, an entry link. 2. The Server returns a form with respect to that link, with the available data of the sub link. Select and operation (export to excel or print to pdf) that we wish, and clicks submit. 3. The Server fetches the report with given data and returns the user to the master module. |
| **Alternate path** | 1. If after three attempts to match the name and password the Server will return a message and block the user from the section temporarily. 2. If the user asks any private information, it displays an apology message stating you are not right person. |
| **Privileges** | * Super Admin   + Accessible to every operation. * Branch Manager   + Branch manager can do changes (CRUD operations) to his appointed locality only. |
| **Post Condition** | The requested reports are generated. |
| **Exception path** | 1. If the connection is terminated before the report is generated, the fields are cleared and the Server is returned to the wait state. 2. If the connection is terminated after the report is generated, but before the user is returned to the respective module page, the report is downloaded and the Server is returned to the wait state. |

## NON FUNCTIONAL REQUIREMENTS

1. **Design Constraints**

* Software Requirements
  + **OS** : Any Operating System. [ Linux / Windows ]
  + **Project Development** : PHP-Webserver, SQL Database,Jquery Package.
* Hardware Requirements
  + HDD 500GB , RAM 4GB
  + Broadband Internet Connection.
* Communication Network Requirements
  + Broadband Internet Connection.

1. **Performance Requirements**

* Creating Backups of Fleet Management System for every year.
* Messaging the unwanted situations to the management to take decisions.

1. **Safety Requirements**

* Creating Backups of Fleet Management System for every year.
* Messaging the unwanted situations to the management to take decisions.

1. **Security Requirements**

* Providing Secured USER IDENTITY AUTHENTICATION.
* Preventing illegal access for every functional web-page that make changes in database

1. **User-Interface Requirements**

* Providing Corresponding USER INTERFACES for different AUTHENTICATION levels. The authentication levels will be
  + Super Admin
  + Branch Manager
  + User(Driver & Cleaners)

1. **Software Quality Attributes**

* **Portability**:

Fleet Management System is compatible with all versions of webbrowsers.

* **Availability**:

Since Fleet Management System is a web application365 days available to users.

* **Flexibility**:

This application can simply allow changes according to any requirements from the customer or management requirements. In future it will have further updated versions.

* **Usability**:

This application is providing interface for the super admin, branch managers and users i.e. all categories of users are allowed to use this software as their requirements.

**SYSTEM DESIGN**

## sOFTWARE DEVELOPMENT TOOLS & TECHNOLOGIES

This section lists the tools chosen to assist software development, including testing. The actual software chosen will be heavily dependent upon the language in which the system will be implemented.

The list may include:

**Web Programming Languages (Techonologies)**

* + **CodeIgniter (PHP framework)**
  + **Jquery**
  + **Ajax**
  + **HTML[5] & CSS**

Hypertext Markup Language is widely using markuplanguageto designwebpages and its elements. HTML5 is used to make the website interactive, A powerful script to build efficient user-interface.

* + **Bootstrap**

**Tools and Development Environment**

* + Xampp(includes PHP runtime environment, MYSQL)
  + IDE (Project editing)
  + Photoshop
  + Word processor (for documentation)

## NAMEING CONVETIONS

Conventions for naming files**,** programs, modules, and possibly other structures such as variables and messages, should be as listed here.

#A table of the filetypes and the permitted names or extensions for each is recommended for quick reference.

## pROGRAMMING sTANDARDS

In general, the programming standard should define a consistent and uniform programming style. Specific points to cover are:

* Modularity and structuring;
* Headers and commenting;
* Indenting and layout;
* Library routines to be used;
* Language constructs to use;
* Language constructs to avoid.

## LOGICAL SCHEMA DESIGN (DATA BASE DESIGN)

All the modules including user security logical data structure is as follows:

##### **Master Module**

##### **Locality Management**

##### Country Management

##### State Management

##### Locality Management

##### **Table name :**country

##### **Description :**It tells information about the countries list

##### **Index file: (**country\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | Country\_id | Int(10) | PK | It tells the identification number of the country and it also act as a primary key |
| 2. | Country\_name | Varchar(20) |  | Name of the country |

##### **Table name :**states

##### **Description :**It tells information about the states list

##### **Index file: (**state\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | State\_id | Int(10) | PK | It tells the identification number of the country and it also act as a primary key |
| 2. | State\_name | Varchar(20) |  | Name of the state |

##### **Table name :**locality

##### **Description :**It tells information about the locality list.

##### **Index file: (**locality\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | Locality\_id | Int(10) | PK | It tells the identification number of the locality and it also act as a primary key |
| 2. | Locality | Varchar(20) |  | Name of locality |
| 3. | city | Varchar(20) |  | Name of city |
| 4. | State\_id | Int(10) | FK | Identification number of a country given by **states** table and it acts a s foreign key |
| 5. | Country\_id | Int(10) | FK | Identification number of a country given by **country** table and it acts a s foreign key |
| 6. | Pin\_code | Int(6) |  | pincode |

##### Policy Master

##### Inventory Management Master

##### Vehicle Type

##### Vehicle Brand

##### **Table name :**vehicle\_type

##### **Description :**It tells information about the vehicle types.

##### **Index file: (**v\_type\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | V\_type\_id | Int(10) | PK | It tells the identification number of the vehicle type id and it also act as a primary key |
| 2. | V\_category | Varchar(20) |  | Name of the vehicle category |
| 3. | description | Text area |  | Description about the vehicle category |

##### **Table name :**vehicle\_brand

##### **Description :**It tells information about the vehicle brands.

##### **Index file: (**v\_brand\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | V\_brand\_id | Int(10) | PK | It tells the identification number of the vehicle brand and it also act as a primary key |
| 2. | V\_brand\_name | Varchar(20) |  | Name of the vehicle brand |

##### **Branch Management**

##### **Table name :**branches

##### **Description :**It tells information about the branches.

##### **Index file: (**b\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | b\_id | Int(10) | PK | It tells the identification number of the branches and it also act as a primary key |
| 2. | b\_name | Varchar(20) |  | Name of the branch name |
| 3. | Country\_id | Int(10) | FK | Identification number of a country given by **country** table and it acts a s foreign key |
| 4. | State\_id | Int(10) | FK | Identification number of a country given by **states** table and it acts a s foreign key |
| 5. | Locality\_id | Int(10) | FK | Identification number of a country given by **locality** table and it acts a s foreign key |
| 6. | status | Tiny int(1) |  | Status of the branch (active/inactive/terminate) |

##### **Staff Management**

##### **Branch Manager**

##### **Drivers/ Cleaners**

##### **Table name :**branch\_manegers

##### **Description :**It tells information about the employees(branch managers).

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the branch managers and it also act as a primary key |
| 2. | name | Varchar(20) |  | Name of the branch manager name |
| 3. | dob | date |  | Date of birth of the branch manager |
| 4. | doj | date |  | Date of joining of branch maneger |
| 5. | B\_id | Int(10) | FK | Identification number of a branch id given by **branches** table and it acts a s foreign key |
| 6. | gender | char(5) |  | Gender of the branch manager |
| 7. | education | varchar(10) |  | Highest education qualification of the branch manager |
| 8. | email | varchar(25) |  | Email id of the branch manager |
| 9. | phone | Int(10) |  | Phone num |
| 10. | User\_status | Tiny int(1) |  | Status of the branch manager active/inactive/terminated |
| 11. | address | Varchar(200) |  | Address of the branch manager |
| 12. | password | Varchar(10) |  | password |

##### **Table name :**drivers

##### **Description :**It tells information about the employees(drivers/cleaners).

##### **Index file: (**d\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the branch managers and it also act as a primary key |
| 2. | name | Varchar(20) |  | Name of the branch manager name |
| 3. | dob | date |  | Date of birth of the branch manager |
| 4. | doj | date |  | Date of joining of branch maneger |
| 5. | B\_id | Int(10) | FK | Identification number of a branch id given by **branches** table and it acts a s foreign key |
| 6. | gender | char(5) |  | Gender of the branch manager |
| 7. | education | varchar(10) |  | Highest education qualification of the branch manager |
| 8. | email | varchar(25) |  | Email id of the branch manager |
| 9. | phone | Int(10) |  | Phone num |
| 10. | User\_status | Tiny int(1) |  | Status of the branch manager active/inactive/terminated |
| 11. | address | Varchar(200) |  | Address of the branch manager |
| 12. | password | Varchar(10) |  | password |
| 13. | remarks | Varchar(200) |  | Remarks on driver/cleaner |
| 14. | experience | Int(5) |  | Experience in years |
| 15. | L\_no | Varchar(20) |  | License number |
| 16. | L\_type | Varchar(15) |  | License type |
| 17. | rta | Varchar(20) |  | rta |
| 18. | Badge\_no | Varchar(20) |  | Driver badge number |
| 19. | L\_expire\_on | date |  | License expire date |
| 20. | I\_provider\_name | Varchar(20) |  | Insurance provider name |
| 21. | I\_agent\_name | Varchar(20) |  | Insurance agent name |
| 22. | I\_provider\_email | Varchar(25) |  | Insurance provider email |
| 23. | I\_policy\_type | Varchar(20) |  | insurance policy type |
| 24. | I\_policy\_no | Varchar(20) |  | Insurance policy number |
| 25. | I\_policy\_expire\_date | date |  | Insurance policy expire date |
| 26. | I\_policy\_renewal\_date | date |  | Insurance policy renewal date |
| 27. | A\_name | Varchar(20) |  | Alternative person name |
| 28. | A\_relation | Varchar(20) |  | Alternative person relation with employee |
| 29. | A\_contact\_no | Int(10) |  | Alternative person contact number |
| 30. | A\_address | Varchar(200) |  | Alternative person address |

##### **Inventory Management**

* **Vehicle Management**

##### **Table name :**vehicles

##### **Description :**It tells information about the vehicles.

##### **Index file: (**v\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **Column Name** | **Type (size)** | **key** | **Description** |
| 1. | V\_id | Int(10) | PK | It tells the identification number of the vehicles and it also act as a primary key |
| 2. | V\_p\_type | Varchar(10) |  | Vehicle type rent/ lease/ own |
| 3. | V\_type | Int(10) | FK | Identification number of a vehicle type given by vehicle\_typetable and it acts a s foreign key |
| 4. | V\_brand | Int(10) | FK | Identification number of a vehicle brand given by vehicle\_brand table and it acts a s foreign key |
| 5. | V\_number | Int(10) |  | Vehicle number |
| 6. | Seating\_capacity | Int(5) |  | Vehicle seating capacity |
| 7. | Fuel\_type | Varchar(15) |  | Vehicle using fuel diesel / petrol / gas etc. |
| 8. | AC / Non AC | Varchar(15) |  | Vehicle facility AC / Non AC |
| 9. | Mileage | Varchar(15) |  | Vehicle giving mileage |
| 10. | Registration\_type | Varchar(15) |  | Vehicle registration type |
| 11. | Life\_tax\_paid\_date | date |  | Life tax paid date |
| 12. | Chassis\_no | Int(10) |  | Vehicle chassis number |
| 13. | Next\_tax\_paid\_date | date |  | Next tax paid date |
| 14. | Owner\_name | Varchar(15) |  | Owner name |
| 15. | Owner\_Address | Varchar(200) |  | Owner address |
| 16. | Owner\_num | Int(10) |  | Owner contact number |
| 17. | Insurance\_Provider\_name | Varchar(15) |  | Vehicle Insurance provider name |
| 18. | Insurance\_Agent\_name | Varchar(15) |  | Vehicle Insurance agent name |
| 19. | Insurance\_Agent\_number | Int(10) |  | Vehicle Insurance agent number |
| 20. | Insurance\_provider\_email | Varchar(15) |  | Vehicle Insurance provider email |
| 21. | Insurance Policy Type | Varchar(15) |  | Vehicle Insurance policy type |
| 22. | Insurance Policy Number | Int(10) |  | Vehicle Insurance policy number |
| 23. | Insurance policy expire date | date |  | Vehicle Insurance expire date |
| 24. | Insurance policy renewal date | date |  | Vehicle Insurance renewal date |
| 25. | Warranty start date | date |  | Vehicle warranty start date |
| 26. | Warranty end date | date |  | Vehicle warranty end date |
| 27. | Warranty details of part | Varchar(15) |  | Vehicle warranty parts details |
| 28. | Warranty maker of part | Varchar(15) |  | Vehicle warranty parts maker |
| 29. | IMI date remainder | date |  | Next Imi date |
| 30. | IMI Completion Date | date |  | Imi completion date |
| 31. | IMI Banker Name | Varchar(15) |  | Imi providing banker name |
| 32. | IMI agent name | Varchar(15) |  | Imi providing agent name |
| 33. | IMI EMI Amount | Int(10) |  | Imiemi amount |
| 34. | (Purchased show room name/)(rent/lease) | Varchar(15) |  | Vehicle purchased show room |
| 35. | Purchased show room address | Varchar(15) |  | Vehicle purchased show address |
| 36. | Purchased date | date |  | Vehicle purchased date |
| 37. | Purchased cost | Int(10) |  | Vehicle purchased amount |
| 38. | Status | Int(1) |  | In trip/in shed/terminated |

* **Vehicle Parts / Accessories and other tools Management**

##### **Table name :**additional\_inventory

**Description :** It tells information about the additional inventory that firm has like Fuel & lubricant Stock Tyre Stock Reflector Kit Fire Extinguisher Safety Belts Jack and Lug Wrench Air Pump First Aid Kit Drivers Uniform Cell Phones ( if company provides) Etc.

**Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the additional inventory and it also act as a primary key |
| 2. | name | Varchar(30) |  | Name of the inventory |
| 3. | stock | int(10) |  | Count of the inventory |

##### **Route Management**

##### **Table name :**routes

##### **Description :**It tells information about the routes.

##### **Index file: (**r\_id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | r\_id | Int(10) | PK | It tells the identification number of the routes and it also act as a primary key |
| 2. | R1 | Varchar(30) |  | Route one(location one) |
| 3. | R2 | varchar(30) |  | Route two(location two) |
| 4. | Via\_locations | varchar(100) |  | Inbetwen locations from route one to route two |
| 5. | Distance | Int(30) |  | Distance between route one to route two |
| 6. | Travel time | int(30) |  | Time required to travel route one to route two |

##### **Vehicle Maintenance**

##### **Fuel Maintenance**

##### **Table name :**petrol\_pump

##### **Description :**It tells information about theavailable petrol pumps .

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the petrol pumps and it also act as a primary key |
| 2. | name | Varchar(20) |  | Name of the petrol pump name |
| 3. | phone | Int(10) |  | Phone num of the the petrol pump |
| 4. | Fuel\_type | varchar(10) |  | Type of the fuel it is offered |
| 5. | Fuel\_price | int(10) |  | Price of the fuel per/liter |
| 6. | address | Varchar(200) |  | Address of the petrol bunk |
| 7. | status | Tiny int(1) |  | Status of the petrol pump(active/inactive/terminate) |

##### **Table name :**fuel\_billing

##### **Description :**It tells information about thefuel consumption of the vehicles

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the petrol pumps and it also act as a primary key |
| 2. | Name\_organization | Varchar(20) |  | Name of the vehicle management system |
| 3. | date | date |  | Date of the recipt given |
| 4. | Recipt\_number | int(10) |  | Recipt number |
| 5. | Vehicle\_id | Int(10) | FK | Identification number of a vehicle id given by vehicles table and it acts a s foreign key |
| 6. | Driver\_id | Int(10) | FK | Identification number of driver id given by driver table and it acts a s foreign key |
| 7. | Fuel\_type | Varchar(10) |  | Fuel type |
| 8. | fuel | Int(10) |  | Quantity of fuel |
| 9. | price | Int(10) |  | Price of the fuel |
| 10. | Pump\_id | Int(10) | FK | Identification number of pump id given by petrol\_pump table and it acts a s foreign key |
| 11. | status | Tiny int(1) |  | Status of the bill(used/not used) |

##### **Tyre Maintenance**

##### **Table name :**tyre\_shops

##### **Description :**It tells information about the available tyre shops.

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the tyre shop and it also act as a primary key |
| 2. | name | Varchar(20) |  | Name of the tyre shop name |
| 3. | phone | Int(10) |  | Phone num of the thetyre shop |
| 4. | tyre\_type | varchar(10) |  | Type of the tyres it is offered |
| 5. | tyre\_price | int(10) |  | Price of the tyre per/liter |
| 6. | status | Tiny int(1) |  | Status of the tyre shop (active/inactive/terminate) |

##### **Table name :**tyre\_billing

##### **Description :**It tells information about thetyre consumption of the vehicles

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the petrol pumps and it also act as a primary key |
| 2. | Name\_organization | Varchar(20) |  | Name of the vehicle management system |
| 3. | date | date |  | Date of the recipt given |
| 4. | Recipt\_number | int (10) |  | Recipt number |
| 5. | Vehicle\_id | Int(10) | FK | Identification number of a vehicle id given by vehicles table and it acts a s foreign key |
| 6. | Driver\_id | Int(10) | FK | Identification number of driver id given by driver table and it acts a s foreign key |
| 7. | Tyre\_type | Varchar(10) |  | Tyre type |
| 8. | tyre | Int(10) |  | Quantity of tyre |
| 9. | price | Int(10) |  | Price of the tyre |
| 10. | Pump\_id | Int(10) | FK | Identification number of pump id given by petrol\_pump table and it acts a s foreign key |
| 11. | status | Tiny int(1) |  | Status of the bill(used/not used) |

##### **Daily Routine Record**

##### **Table name :**Daily\_routine

##### **Description :**It tells information about the daily activities log.

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the daily routine and it also act as a primary key |
| 2. | date | Varchar(30) |  | Starting date of the trip |
| 3. | route | int(5) |  | Route id that itztravalling or merge of location from to ids |
| 4. | Distance | float(10) |  | Total distance travaled |
| 5. | Starting\_km | float(10) |  | Starting km value |
| 6. | Ending\_km | float(10) |  | Ending km value |
| 7. | Start\_time | float(10) |  | Starting time |
| 8. | End\_time | float(10) |  | Ending time |
| 9. | Trip\_insurance | Int(10) |  | Trip insurance if any |
| 10. | D\_id | Int(10) | FK | Identification number of a branch id given by **drivers** table and it acts a s foreign key |
| 12. | V\_id | Int(10) | FK | Identification number of a branch id given by **branch\_managers**table and it acts a s foreign key |

##### **Repair & Replaced parts History Management**

##### **Table name :general\_service/repairs**

##### **Description :**It tells information about thegeneral services of the vehicles.

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the general services/repairsof the vehicles and it also act as a primary key |
| 2. | Type\_of\_service | varchar(10) |  | * General Services   + Water wash   + etc * Repairs   + General repair   + Accidental repair |
| 3. | Service\_start\_time\_date | date |  | Servicestart date and time |
| 4. | Service\_end\_time\_date | date |  | Service end date and time |
| 5. | Service\_due\_on | date |  | Next service date if appointed |
| 6. | Amount | Int(10) |  | Total cost for that service |
| 7. | Bill\_number | int(20) |  | Bill number given by mechanic/service provider |
| 8. | Vehicle\_id | Int(10) | FK | Identification number of a vehicle id given by vehicles table and it acts as foreign key |
| 9. | Shed\_id | Int(10) | FK | Identification number of a branch id given by mechanics table and it acts as foreign key |
| 10. | Given\_driver\_id | int (10) | FK | Identification number of a given driver id given by driver table and it acts as foreign key. |
| 11. | Received\_driver\_id | Int(10) | FK | Identification number of a given driver id given by driver table and it acts as foreign key. |
| 12. | Replace\_parts\_ids | Varchar(200) | FK | Identification numbers of a given replaced parts given bypurchased\_parts table and it acts as foreign key. |
| 13. | Service\_description | Varchar(200) |  | Services description |

##### **Table name :purchased\_parts**

##### **Description :**It tells information about thepurchased vehicles parts and their details while doing repair to the vehicle

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the mechanic sheds/service centers and it also act as a primary key |
| 2. | Vehicle\_id | Int(10) | FK | Identification number of a given vehicle id given by vehicles table and it acts as foreign key. |
| 3. | repair\_id | int(10) | FK | Identification number of a given repair id given by repairs table and it acts as foreign key. |
| 4. | amount | int(10) |  | Price of the vehicle part |
| 5. | No\_of\_vehicle\_parts | Int(5) |  | No of vehicle parts |
| 6. | Part\_name | varchar(200) |  | Vehicle part name |
| 7. | warrenty | varchar(10) |  | Warrenty is there are not |
| 8. | Warrenty\_state\_date | date |  | Warrenty start date |
| 9. | Warrenty\_end\_date | date |  | Warrenty end date |
| 10. | Part\_description | Varchar(200) |  | Description of the vehicle part |

##### **Mechanics & Technicians /shed/authorised service centerManagement**

##### **Table name :**Mechanics

##### **Description :**It tells information about the Mechanics and their sheds.

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the mechanic sheds/service centers and it also act as a primary key |
| 2. | type | Int(1) |  | Mechanic shed/service centre |
| 3. | owner\_name | Varchar(20) |  | Name of the owner |
| 4. | phone | Int(10) |  | Current using phone number |
| 5. | mail | varchar(30) |  | Email id |
| 6. | Services\_offered | varchar(200) |  | Services offered by them |
| 7. | Address | varchar(200) |  | Address |

##### **Vehicle Request/ Replacement Management**

##### **Table name :**vehicle\_request

##### **Description :**It tells information about vehicle requests in between

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the mechanic sheds/service centers and it also act as a primary key |
| 2. | R\_branch\_id | Int(10) | FK | Identification number of a vehicle requesting branch id given by **branch id** table and it acts a s foreign key |
| 3. | R\_to\_branch\_id | Int(10) | FK | Identification number of a vehicle requesting to branch id given by **branch id** table and it acts a s foreign key |
| 4. | No\_of\_vehicles | Int(5) |  | No of vehicles |
| 5. | V\_type | Int(10) | FK | Identification number of a vehicle type id given by **vehicle\_type**table and it acts a s foreign key |
| 6. | V\_brand | Int(10) | FK | Identification number of a vehicle brand id given by **vehicle\_brand**table and it acts a s foreign key |
| 7. | Seating\_capacity | Int(5) |  | Seating capacity of the vehicle |
| 8. | Ac/non AC | Varchar(2) |  | Ac/non ac |
| 9. | Fuel \_type | Varchar(10) |  | Fuel type of the vehicle |
| 10. | Other features | varchar(200) |  | Other additional features of the requesting vehicle |
| 11. | Status | Varchar(10) |  | It has three states:  **Pending:**   1. The vehicle request has sent. But didn’t seen by other branch   **Processing**:   1. The vehicles are sent but the requested branch hasn’t received   **Completed**:   1. The vehicle are received to the requesting branch |

##### **Table name:**vehicle\_request\_response

##### **Description :**It tells information aboutresponses to vehicle requests among branches

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the mechanic sheds/service centers and it also act as a primary key |
|  | R\_id | Varchar(10) | FK | Identification number of a vehicle request id given by **vehicle\_request**table and it acts a s foreign key |
| 2. | No\_of\_vehicles | Int(5) |  | Number of vehicles transformedto the requesting branch |
| 3. | V\_ids | Varchar(200) | FKs | Identification numbers of a vehicle ids given by **vehicle** table and it acts a s foreign keys |
| 4. | Received\_b\_status | Varchar(10) |  | Status of the requesting branch where the vehicles are  Received/not received |
| 5. | Status | Varchar(10) |  | It has three states:  **In journey:**   1. The vehicles are sent but the requested branch hasn’t received.   **Request period**:   1. The requesting vehicles received 2. The duration in which the requesting branch has kept the vehicle.   **Completed**:   1. The vehicle has returned to the branch from requesting branch. |

##### **Personal use of Company vehicle Management**

##### **Table name :**Perosnal\_use\_of\_Vehicles

##### **Description :**It tells information about the employees who use company vehicles.

##### **Index file: (**id**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Column name** | **Type(size)** | **Key** | **Description** |
| 1. | id | Int(10) | PK | It tells the identification number of the personal use of vehicles and it also act as a primary key |
| 2. | Employee\_id | Int(10) | FK | Identification numbers of employee ids given by branch maanger and driver/cleanertable and it acts a s foreign keys |
| 3. | Vehicle\_id | Int(10) | FK | Identification numbers of a vehicle ids given by **vehicle** table and it acts a s foreign keys |

##### **Operation Management/ Trip customer relationship module**

## FRONT END DESIGN

**Master Module**

**Locality Management Master**

* Country Management
* State Management
* Locality Management

**Country Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Country Name\* | Input |  | country\_name | Not empty, Allow only Alphabets, size = 25 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | X | X |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | X | X |

**State Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| State Name\* | Input |  | state\_name | Not empty, Allow only Alphabets, size = 25 |

|  |  |  |  |
| --- | --- | --- | --- |
| Operations | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | X | X |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | X | X |

**Locality Management(City, Locality, Pincode)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Country\* | Select Box | Fetch from country management | country\_name | Not empty |
| State\* | Select Box | Fetch from state management | city\_name | Not empty |
| City\* | input |  | state\_name | Allow only Alphabets, Not empty, size=20 |
| Locality\* | input |  | locality\_name | Allow only Alphabets, Not empty, size=20 |
| Pin Code\* | input |  | locality\_pin | Allow only numarics, Not empty, size=6 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | X | X |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | X | X |

**Inventory Management Master**

**Vehicle Type**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Id | Auto generate |  |  |  |
| Vehicle category\* | Select | Cargo / Passanger | Vehicle\_category | Not empty, Allow only Alphanumeric |
| description\* | Text area |  | Category\_dscryptn | Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | X | X |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | X | X |

**Vehicle Brand**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Brand Name\* | Input |  | brand\_name | Not empty, Allow only Alphabets |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | X | X |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | X | X |

**Staff Management Module**

**Add Branch Managers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| Name \* | Input |  | manager\_name | Allow only alphabets , Not empty |
| Branch \* | Select Box | Fetch from Branch Management | manager\_locality | Not empty |
| DOB | Date |  | manager\_dob | Allow only date format |
| DOJ \* | Date |  | manager\_doj | Allow only date format, Not empty |
| Gender \* | Select Box | Male/Female | manager\_gender | View Gender, Not empty |
| Education | Input |  | manager\_education | Allow only alphabets |
| Email \* | Input |  | manager\_email | Allow only email format, Not empty |
| Mobile \* | Input |  | manager\_mobile | Allow only numerics, Not empty, size=10 |
| Address | Textarea |  | manager\_address |  |
| Status \* | View | Active/Inactive/Terminate |  | Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operation** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y | X |
| Update | Y | Y (Self Service) | X |
| Delete | Y | X | X |
| Dynamic Search on ( locality ) | Y | X | X |
| Print | Y | X | X |
| Export to Excel | Y | X | X |
| Refresh | Y | Y | X |

**Drivers/Cleaners Creation**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Category** | **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| Employee personal details | Employee ID\* | Input |  | d\_id | Not empty, alaphanemarics |
| Name \* | Input |  | d\_name | Allow only alphabets , Not empty |
| Branch \* | Select Box | Fetch from Branch Management | d\_locality | Not empty |
| DOB | Date |  | d\_dob | Allow only date format, Not empty |
| DOJ \* | Date |  | d\_doj | Allow only date format, Not empty |
| Gender \* | Select Box | Male/Female | d\_gender | View Gender, Not empty |
| Education | Input |  | d\_education | Allow only alphabets, Not empty |
| Email \* | Input |  | d\_email | Allow only email format, Not empty |
| Mobile \* | Input |  | d\_mobile | Allow only numarics, Not empty, size=10 |
| Address | Textarea |  | d\_address | Allow only alphabets , Not empty |
| Status \* | View | Active/Inactive/Terminate | d\_status | Not empty |
| Remarks | Text Area |  | d\_remarks | Not empty |
| Experience | Input |  | d\_experience | Allow only numeric, Not empty |
| License Details | License No | Input |  | d\_licence | Allow only alpha numeric, Not empty |
| License Type |  |  | d\_licence\_type | Not empty |
| RTA | Input |  | d\_rta | Allow only alpha numeric, Not empty |
| Badge No | Input |  | d\_badge\_no | Allow only alpha numeric, Not empty |
| License Expires On | Input |  | d\_licence\_expire\_on | Allow only specified date format, Not empty |
| Insurance Details | Insurance Provider Name | Input |  | d\_ insurance \_name | Allow only alphabets, Not empty |
| Insurance Agent Name | Input |  | d\_ insurance \_agent | Allow only alphabets, Not empty |
| Insurance provider email | Input |  | d\_ insurance \_agent\_email | Allow only email format, Not empty |
| Insurance policy type | Input |  | d\_ insurance \_p\_type | Allow only alphanumeric,  Not empty |
| Insurance policy number | Input |  | d\_ insurance \_p\_nmber | Allow only alphanumeric,  Not empty |
| Insurance policy expire date | Date picker |  | d\_ insurance \_p\_ex\_date | Allow specified date format, Not empty |
| Insurance policy renewal date | Date picker |  | d\_ insurance \_p\_r\_date | Allow specified date format, Not empty |
| Alternative contact Details | Name | Input |  | d\_r\_name | Allow only alphabets, Not empty |
| Relationship | Select | Father/mother/husband/wife | d\_r\_name | Not empty |
| Contact No | Input |  | d\_r\_contact\_no | Allow only numeric, Not empty |
| Address | Text Area |  | d\_r\_address | Not empty |

**Privileges**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operation** | **Super Admin** | **Branch Manager** | | **User** |
| Insert | Y | Y | Constraint to Branch manager locality | X |
| View | Y | Y | X |
| Update | Y | Y | X |
| Delete | Y | Y | X |
| Dynamic Search on  ( locality ) | Y | Y | X |
| Print | Y | Y | X |
| Export to Excel | Y | Y | X |
| Refresh | Y | Y | X |

**Branch Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| Branch Id \* | Auto generated |  | branch\_id |  |
| Branch Name \* | Input |  | branch\_name | Allow only alphabets, Not empty |
| Country \* | Select | Fetch from locality management master | branch\_country | Not empty |
| State \* | Select | branch \_state | Not empty |
| Locality \* | Select | branch \_locality | Not empty |
| Status \* | Select | Active/Inactive/Terminate | branch\_status | Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Inventory Management Module**

1. **Vehicle Management**
   1. **Rent/Lease**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Category** | **Fields** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Vehicle details | Vehicle type | Select | Fetch from vehicle management master | vehicle\_type | Not null |
| Vehicle brand | Select | vehicle\_brand | Not null |
| Vehicle number | Input |  | vehicle\_number | Allow only alpha numeric, Not null |
| Seating capacity | Input |  | vehicle\_s\_capacity | Allow only numeric,  Not null |
| Fuel Type | Input |  | vehicle\_fuel\_type | Only alphabets, Not null |
| AC / Non AC | Select | AC / Non AC | vehicle\_comfort | Not null |
| Mileage | Input |  | vehicle\_mileage | Only numerical, Not null |
| Registration Type | Input |  | vehicle\_reg\_type | Alpha Numeric, Not null |
| Life tax paid date | Date |  | vehicle\_ltax\_date | Read only, Not null |
| Chassis Number | Input |  | vechicle\_cnumber | Only Alpha Numeric, Not null |
| Next tax paid date | Date |  | vehicle\_ntp\_date | Read only, Not null |
| If it is cargo vehicle type | Road tax | Input |  | vehicle\_road\_tax | Alpha Numeric, Not null |
| Permits | Select | National Permit | vehicle\_permits | Alpha Numeric, Not null |
| Vehicle permit | Select | Ghat section / Heavy duty | Vehicle\_epermits | Alpha Numeric, Not null |
| Owner Details | Owner name | Input |  | vehicle\_owner\_name | Only alphabets, Not null |
| Owner Address | Textarea |  | vechicle\_owner\_address | Alpha Numeric, Not null |
| Owner Mobile Number | Input |  | vehicle\_owner\_mobile | Only number, Not null |
| Vehicle Insurance Details | Insurance Provider Name | Input |  | vehicle\_ip\_naem | Only alphabets, Not null |
| Insurance Agent Name | Input |  | vehicle\_ia\_name | Only alphabets, Not null |
| Insurance Agent Number | Input |  | vehicle\_ia\_number | Only alphanumeric, Not null |
| Insurance Provider Email | Input |  | vehicle\_ipro\_email | Only Email pattern, Not null |
| Insurance Policy Type | Input |  | vehicle\_ipolicy\_type | Alphanumeric,  Not null |
| Insurance Policy Number | Input |  | vehicle\_ipolicy\_number | Alphanumeric,  Not null |
| Insurance policy expire date | Date |  | vehicle\_p\_expire | Not null |
| Insurance policy renewal date | Date |  | vehicle\_p\_renewal | Not null |
| Warranty details | Warranty start date | Date |  | vehicle\_warranty\_start | Not null |
| Warranty end date | Date |  | vehicle\_warranty\_end | Not null |
| Warranty details of part | Textarea |  | vehicle\_part\_details | Allow only alphanumeric, Not null |
| Warranty maker of part | Input |  | vehicle\_part\_maker | Allow only alphanumeric, Not null |

* 1. **Purchased / Own**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Category** | **Fields** | **Field Type** | **Field Options** | **Field Name** | **Validations** |
| Vehicle details | Vehicle type | Select | Fetch from vehicle management master | vehicle\_type | Not null |
| Vehicle brand | Select | vehicle\_brand | Not null |
| Vehicle number | Input |  | vehicle\_number | Allow only alpha numeric, Not null |
| Seating capacity | Input |  | vehicle\_s\_capacity | Allow only numeric,  Not null |
| Fuel Type | Input |  | vehicle\_fuel\_type | Only alphabets, Not null |
| AC / Non AC | Select | AC / Non AC | vehicle\_comfort | Not null |
| Mileage | Input |  | vehicle\_mileage | Only numerical, Not null |
| Registration Type | Input |  | vehicle\_reg\_type | Alpha Numeric, Not null |
| Life tax paid date | Date |  | vehicle\_ltax\_date | Read only, Not null |
| Chassis Number | Input |  | vechicle\_cnumber | Only Alpha Numeric, Not null |
| Next tax paid date | Date |  | vehicle\_ntp\_date | Read only, Not null |
| If it is cargo vehicle type | Road tax | Input |  | vehicle\_road\_tax | Alpha Numeric, Not null |
| Permits | Select | National Permit | vehicle\_permits | Alpha Numeric, Not null |
| Vehicle permit | Select | Ghat section / Heavy duty | Vehicle\_epermits | Alpha Numeric, Not null |
| Purchase Details | Purchased show room name | Input |  | vehicle\_showroom\_name | Alphanumeric,  Not null |
| Purchased show room address | Textarea |  | vehicle\_sroom\_address | Alphanumeric,  Not null |
| Purchased date | Date |  | vehicle\_purchase\_date | Not Null |
| Purchased cost | Input |  | vehicle\_purchase\_cost | Not Null |
| Owner Details | Owner name | Input |  | vehicle\_owner\_name | Only alphabets, Not null |
| Owner Address | Textarea |  | vechicle\_owner\_address | Alpha Numeric, Not null |
| Owner Mobile Number | Input |  | vehicle\_owner\_mobile | Only number, Not null |
| Vehicle Insurance Details | Insurance Provider Name | Input |  | vehicle\_ip\_naem | Only alphabets, Not null |
| Insurance Agent Name | Input |  | vehicle\_ia\_name | Only alphabets, Not null |
| Insurance Agent Number | Input |  | vehicle\_ia\_number | Only alphanumeric, Not null |
| Insurance Provider Email | Input |  | vehicle\_ipro\_email | Only Email pattern, Not null |
| Insurance Policy Type | Input |  | vehicle\_ipolicy\_type | Alphanumeric,  Not null |
| Insurance Policy Number | Input |  | vehicle\_ipolicy\_number | Alphanumeric,  Not null |
| Insurance policy expire date | Date |  | vehicle\_p\_expire | Not null |
| Insurance policy renewal date | Date |  | vehicle\_p\_renewal | Not null |
| IMI details | IMI date remainder | Date |  | vehicle\_imi\_rdate | Date validation, Not null |
| IMI Completion Date | Date |  | vehicle\_imi\_cdate | Date validation, Not null |
| IMI Banker Name | Input |  | vehicle\_imi\_bname | Allow only alphabetic, Not null |
| IMI agent name | Input |  | vehicle\_imi\_aname | Allow only alphabetic, Not null |
| IMI EMI Amount | Input |  | vehicle\_emi\_amount | Allow only numeric,  Not null |
| Warranty details | Warranty start date | Date |  | vehicle\_warranty\_start | Not null |
| Warranty end date | Date |  | vehicle\_warranty\_end | Not null |
| Warranty details of part | Textarea |  | vehicle\_part\_details | Allow only alphanumeric, Not null |
| Warranty maker of part | Input |  | vehicle\_part\_maker | Allow only alphanumeric, Not null |

1. Vehicle Parts / Accessories Management

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| name | input |  | name | Not empty |
| stock | input |  | stock | Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Route Management Module**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  |  |  |
| From Location | Select | Fetch from locality management master | route\_from | Not empty |
| To Location | Select | route\_to |
| Via. Locations | Multiple Select | route\_via |
| Distance | Input |  | route\_distance | Only numeric, Not empty |
| Travel Time | Input | Active/Inactive/Terminate | route\_time | Time stamp, Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Vehicle Maintenance Module**

1. **Fuel Maintenance**
   * **Petrol Pumps**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field name** | **Validations** |
| id | Auto generated |  | pump\_id |  |
| name | input |  | pump\_name | Allow only alphanumeric,  Not empty |
| phone | input |  | pump\_phone | Allow only numeric,  Not empty |
| Fuel Type | Input |  | pump\_Fuel\_type | Allow only alphanumeric,  Not empty |
| Fuel Price | Input |  | pump\_Fuel\_price | Allow only alphanumeric,  Not empty |
| Address | Textarea |  | pump\_address | Allow only alphanumeric,  Not empty |
| Status | Select | active/inactive/terminate | pump\_status | Not empty |

* + **Fuel Billing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generated | Int(10) | bill\_id |  |
| Name Organization | Read only | Fetch from branch management | bill\_from | Not empty |
| Date | Date |  | bill\_date | Allow only date format,  Not empty |
| Vehicle Id | Select | Fetch from vehicle management | bill\_vehicle\_id | Not empty |
| Driver Id | Select | Fetch from driver management | bill\_driver\_id | Not empty |
| Fuel Type | Select | Fetch from Petrol pumps management | bill\_fuel\_type | Not empty |
| Fuel Quantity | Input |  | bill\_fuel\_quantity | Allow only numeric, Not empty |
| Price | Hidden | Fetch from Petrol pumps management |  |  |
| Total Price | Read only |  | bill\_total | Not empty |
| Pump Id | Select | Fetch from Petrol pumps management | bill\_pump | Not empty |
| Status | Select | used/not used | bill\_status | Not empty |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

1. **Tyre Maintenance**
   1. **Tyre Shops**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generated |  | shop\_id |  |
| Shop Name | Input |  | shop\_name | Allow alphanumeric,  Not empty |
| Phone | Input |  | shop\_phone | Allow only numeric,  Not empty |
| Tyre Type | Input |  | shop\_t\_type | Allow alphanumeric,  Not empty |
| Tyre Price | Input |  | shop\_t\_cost | Allow alphanumeric,  Not empty |
| Status | Select | active/inactive/terminate | shop\_status | Not empty |

* 1. **Tyre Billing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Filed Name** | **Validations** |
| id | Auto generated |  | bill\_id |  |
| Name of organization | Input | Fetch from branch management module | bill\_organization | Not empty |
| Buying date | Date |  | bill\_date | Allow date format,  Not empty |
| Receipt Number | Input |  | bill\_r\_number | Allow only alphanumeric, Not empty |
| Vehicle Id | Select | Fetch from vehicle management module | bill\_vehicle\_id | Not empty |
| Driver Id | Select | Fetch from user management module | bill\_driver\_id | Not empty |
| Tyre Type | Select | Fetch from tyre shops management | bill\_tyre\_type | Not empty |
| Shop Id | Select |  | Not empty |
| Price | Hidden |  |  |
| Quantity | Input |  | bill\_quantity | Allow only numeric,  Not empty |
| Total Price | Read only |  | bill\_price | Not empty |
| Status | Select | used/not used | bill\_status | Not emtpy |

**Privileges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Daily Routine Module**

1. **Internal**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  |  |  |
| Vehicle | Select | Fetch from vehicle management module | routine\_vehicle | Not empty |
| Route | Select | Fetch from route management module | routine\_route | Not empty |
| Driver | Select | Fetch from driver/cleaner management module | routine\_driver | Not empty |
| Cleaner | routine\_cleaner | Not empty |
| Date | Select Date |  | routine\_date | Date formate,  Not empty |
| Starting KM | Input |  | routine\_startkm | Only numeric, Not empty |
| Ending KM | Input |  | routine\_endkm | Only numeric, Not empty |
| Start time | Select Time |  | routine\_starttime | Time stamp, Not empty |
| End time | Select Time |  | routine\_endtime | Time stamp, Not empty |
| Trip insurance | Textarea |  | routine\_tinsurance |  |
| Status | Select | Active/Inactive/Terminate | routine\_status |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

1. **External**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  |  |  |
| Vehicle type | Select | Fetch from vehicle management master | Routine\_v\_type | Not empty |
| Vehicle Id | Select | Fetch from vehicle management module | routine\_vehicle | Not empty |
| From location | Select | Fetch from locality management module | routine\_route | Not empty |
| From location | Select | Fetch from locality management module | routine\_route | Not empty |
| Goods details | Textarea | If vehicle type is cargo this details will be entered. | routine\_goods | Allow only alphanumeric, Not empty |
| From Whom | Input | routine\_whom |
| To Whom | Input | routine\_from |
| Driver | Select | Fetch from driver/cleaner management module | routine\_driver | Not empty |
| Cleaner | routine\_cleaner | Not empty |
| From Date | Select Date |  | routine\_date | Date formate,  Not empty |
| To Date | Select Date |  | routine\_date | Date formate,  Not empty |
| Trip Duration | Input readonly | Calculated based on from date and to date |  |  |
| Starting KM | Input |  | routine\_startkm | Only numeric, Not empty |
| Ending KM | Input |  | routine\_endkm | Only numeric, Not empty |
| Start time | Select Time |  | routine\_starttime | Time stamp, Not empty |
| End time | Select Time |  | routine\_endtime | Time stamp, Not empty |
| Trip insurance | Textarea |  | routine\_tinsurance |  |
| Status | Select | Active/Inactive/Terminate | routine\_status |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Service / Repair/ Replaced Parts Management Module**

1. **General Service**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  | gs\_id |  |
| Type of service | Select | General Service / General Repair | gs\_service\_type | Not empty |
| Service Done on | Select Date |  | gs\_dumeon\_date | Allow only date format,  Not empty |
| Service Due on | Select Date |  | gs\_nextdue\_date | Allow only date format,  Not empty |
| Date | Select Date |  | gs\_service\_date | Allow only date format,  Not empty |
| Amount | Input |  | gs\_amount | Allow alphanumeric, Not empty |
| Bill Name | Input |  | gs\_bill\_name | Allow alphanumeric, Not empty |
| Start Time | Select Time |  | gs\_start\_time | Allow only time format,  Not empty |
| End Time | Select Time |  | gs\_end\_time | Allow only time format,  Not empty |
| Vehicle Id | Select | Fetch from vehicle management master | gs\_vehicle\_id | Not empty |
| Shed Id | Select | Fetch from vehicle Shed Management | gs\_shed\_id | Not empty |
| Given Driver | Select | Fetch from user Management module | gs\_given\_user | Not empty |
| Received Driver | Select | gs\_reveive\_user | Not empty |
| Service Description | Textarea |  | gs\_description | Allow alphanumeric, Not empty |
| Status | Select | Processing/Completed | gs\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

1. **General Repairs / Accidental Repairs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  | ar\_id |  |
| Type of service | Select | General Repair / Accidental Repairs | ar\_type | Not empty |
| Vehicle Id | Select | Fetch from vehicle management master | ar\_vehicle\_id | Not empty |
| Shed Id | Select | Fetch from vehicle Shed Management | ar\_shed\_id | Not empty |
| Given Date | Select Date |  | ar\_given\_date | Allow only date format,  Not empty |
| Received Date | Select Date |  | ar\_received\_date | Allow only date format,  Not empty |
| Amount | Input |  | ar\_amount | Allow alphanumeric, Not empty |
| Bill Number | Input |  | ar\_bill\_number | Allow alphanumeric, Not empty |
| Start Time | Select Time |  | ar\_start\_time | Allow only time format,  Not empty |
| End Time | Select Time |  | ar\_end\_time | Allow only time format,  Not empty |
| Given Driver | Select | Fetch from user Management module | ar\_given\_user | Not empty |
| Received Driver | Select | ar\_received\_user | Not empty |
| Service Description | Textarea |  | ar\_description | Allow alphanumeric, Not empty |
| Status | Select | Processing/Completed | ar\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

1. **Purchased Parts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fields** | **Field Type** | **Options** | **Field Name** | **Validations** |
| S.No | Auto generated |  | w\_id |  |
| Vehicle Id | Select | Fetch from vehicle management master | w\_vehicle\_id | Not empty |
| Shop Details | Select | Fetch from vehicle Shed Management | w\_shop\_details | Not empty |
| Bill Number | Input |  | w\_bill\_number | Allow alphanumeric, Not empty |
| Amount | Input |  | w\_amount | Allow only numbers, Not empty |
| Part Name | input |  | w\_part\_name | Allow alphanumeric, Not empty |
| Warranty | Select | Yes / No | w\_warranty | Allow alphanumeric, Not empty |
| Warranty Start Date | Select Date |  | w\_start\_date | Allow only date format,  Not empty |
| Warranty End Date | Select Date |  | w\_end\_date | Allow only date format,  Not empty |
| Warranty Duration | input |  | w\_duration | Allow alphanumeric, Not empty |
| Part Description | Textarea |  | w\_part\_description | Allow alphanumeric, Not empty |
| Status | Select | Processing/Completed | w\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Mechanic& Technicians Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generated |  | mt\_id |  |
| Type | Select | Mechanic shed / Service centre | mt\_type | Not empty |
| Owner Name | Input |  | mt\_owner\_name | Allow only alphanumeric,  Not empty |
| Phone | Input |  | mt\_phone | Allow only numeric, Not empty |
| Mail | Input |  | mt\_mail | Allow only mail format, Not empty |
| Services Offered | Textarea |  | mt\_services\_offered | Not empty |
| Address | Textarea |  | mt\_address | Not empty |
| Status | Select | Active/Inactive/Terminated |  | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Vehicle Request / Replacement Management**

* 1. **Vehicle Request**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generated |  | vr\_id |  |
| Request type | Select | General / Replacement | vr\_type | Not empty |
| R\_branch\_id | Read only | Fetch from branch details | vr\_branch\_id | Not empty |
| R\_to\_branch\_id | Select | Fetch from branch details | vr\_to\_id | Not empty |
| No\_of\_vehicles | Input |  | vr\_vehicles | Only numeric, Not empty |
| V\_type | Select | Select from vehicle management | vr\_type | Not empty |
| V\_brand | Select | vr\_brand | Not empty |
| Seating\_capacity | Input |  | vr\_seating\_capacity | Only numeric, Not empty |
| Ac/non AC | Select | AC/Non AC | vr\_facility | Not empty |
| Fuel \_type | Select | Diesel/Petril/Gas | vr\_fuel\_type | Not empty |
| Other features | Textarea |  | vr\_features | Not empty |
| Status | Select | Pending/Processing/Completed | vr\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

* 1. **Vehicle Request Response**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generated | Int(10) | response\_id |  |
| R\_id | hidden | Fetch from vehicle request | request\_id |  |
| No\_of\_vehicles | Input | r\_no\_vehicles |  |
| R\_V\_ids | readonly | r\_v\_ids |  |
| Assigned\_V\_ids | Select | Fetch from vehicle management module | r\_a\_ids | Not empty |
| Received\_b\_status | Input | Fetch from vehicle request | r\_v\_status | Not empty |
| Status | Select | Injourney/Request period/Completed | rr\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Personal Use of Company Vehicles Module**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Field Type** | **Options** | **Field Name** | **Validations** |
| id | Auto generate |  | personal\_id |  |
| Employee\_id | Select | Fetch from user management module | personal\_emp\_id | Not empty |
| Vehicle\_id | Select | Fetch from vehicle management moudle | personal\_vehicle\_id | Not empty |
| Taken Date | Date Picker |  | personal\_tdate | Allow only date format, Not empty |
| Return Date | Date Picker |  | personal\_rdate | Allow only date format, Not empty |
| Number of days taken | Reaonly | Calculate from take, return date | personal\_days |  |
| Initial KMS Reading | Input |  | personal\_ikms | Allow only alphanumeric, Not empty |
| Return KMS Reading | Input |  | personal\_rkms | Allow only alphanumeric, Not empty |
| Status | Status | Taken/Return | personal\_status | Not empty |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations** | **Super Admin** | **Branch Manager** | **User** |
| Insert | Y | X | X |
| View | Y | Y (Self Branch) | Y (Self Branch) |
| Update | Y | X | X |
| Delete | Y | X | X |
| Dynamic search on (Country Name) | Y | Y (Self Branch) | X |
| Print | Y | X |
| Export to Excel | Y | X |
| Refresh | Y | X |

**Operation Management / Trip ModuleCustomer Relationship Module**

1. Cargo
2. Passenger
3. Schedule a Vehicle
4. View schedule
5. Update/delete schedule

**GOALS OF IMPLEMENTATION**

* In future, company may extend their branches, and then it should be capable to be shared for that branch officially.
* In future Management can use GPS connectivity to Trucks to find out the exact status of the trucks.
* At some instance, we may get many orders from the customers based on their requirements so at that instances also we have to maintain it accurately & efficiently.