

PROJECT REPORT

ON

TYRE TRACKING

BY: AMEYA MANDAVGADDE

Seat No: 11621

Certificate from Company



Internship Certificate

11th April 2020

To Whom It May Concern

This letter is to certify that Mr. Ameya Milind Mandavgade has been offered a position of Intern under the guidance of Mr. Sagar Deshmukh (Head – Product Division). His internship program is of 12 months and tenure is from July 08, 2019 to July 08, 2020

He is actively & diligently involved in the projects and tasks assigned to him for the project named 'Tyre Tracking'.

As per company policy, any kind of source code or executables cannot be shared with the Intern as its solely belongs to Techlead Software Engineering Pvt. Ltd.

A handwritten signature in blue ink, appearing to read 'Sagar Deshmukh'.

Sagar Deshmukh
Head, Product Division
Techlead Software Engineering Pvt Ltd

Certificate from Guide



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Ref. No., MCA/Project/023/2020-21
Date : 14/09/2020

CERTIFICATE

This is to certify that the Project Report entitled "*Tyres Tracking*" is prepared by *Mandavgade Ameya Milind*, a student of *M.C.A.* Course for the Academic Year 2019-20 at M.E.Society's Institute of Management & Career Courses (IMCC), Pune - 411 038. *M.C.A.* Course is affiliated to Savitribai Phule Pune University.

To the best of our knowledge, this is original study done by the said student and important sources used by him have been duly acknowledged in this report.

The report is submitted in partial fulfillment of *M.C.A.* Course for the Academic Year 2019-20 as per the rules & prescribed guidelines of Savitribai Phule Pune University.

Dr. Ravindra Vaidya
HOD, Department of MCA, IMCC

Dr. Santosh Deshpande
Director, IMCC

Acknowledgement

I am glad to take this opportunity to acknowledge the help of all those who helped me in designing, developing and ensuring the successful execution of my project on 'Tyre Tracking'.

I would like to express my sincere thanks to my project guide Mr Ravikant Zirmite and external guide Mr Saurabh Kumar for their valuable guidance and timely assistance which helped me to bring my project to a successful conclusion.

I would also like to extend my gratitude to 'Techlead Software Engineering Pvt. Ltd.' without whose support and guidance, this project would not have been possible.

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Chapter 1: INTRODUCTION

1.1 Company Profile

1.2 Existing System and need for System

1.3 Scope of Work

1.4 Operating Environment- Hardware and Software

1.5 Detailed Description of Technology Used

1.1 Company Profile

Techlead Software Engineering Pvt. Ltd. is an information technology and consulting company. By combining excellent technical skills with domain expertise, we have been able to deliver a wide range of cost-effective and innovative solutions to Governments as well as a number of organisations in Finance, Banking, Insurance, Retail, Transport, Education and Social sectors.

Techlead was founded in 1993 and initially provided software development and support services to Fujitsu-ICL Caribbean and their clients. Techlead later expanded to other territories and had offices in India, Jamaica, Singapore, UK and USA.

Techlead developed an innovative retail product which was then sold to Reflexis Systems. The Reflexis product is now being used by many of the largest retailers across the world.

1.2 Existing System and Need for System

Existing System:

Presently there is no method or system of tracking the tyres of vehicles.

Need for System:

There was a need to define a method and design a system to track the tyres for the performance and life of the tyres which can further ensures the safety of the passengers.

1.3 Scope of Work:-

This software is available for public use over the internet. This software will provide a graphical environment in which the users of the system will be able to perform various operations.

This system will capture, store, update and retrieve the information of tyres and to which vehicle it is associated in a fast and accurate way. This system provides assurance of proper accuracy and effectiveness thereby improving the existing services.

This system provides better management by providing desired flexibility, fast response ability, support changes and has the ability to maintain the quality of the service being provided.

This system will have stronger controls and various levels of user access options will be added. The Interface of this system has been made keeping in mind the end-user of the system. Hence it is easy to access and use. Any person with a basic technical knowledge can operate this system in an effective way.

The Basic idea behind designing this system is that the user of this system can login by filling the required information and check the information already present in the system.

Proper information can be obtained with the help of the details entered by the user. For all these reasons, A Computerized System is the best solution.

1.4 Operating Environment- Hardware and Software

1) Software Used:-

Front End:-Angular

Back End: - Java

IDE:- Visual Studio Code

2) System Requirement:-

Minimum RAM:-512 MB

Hard Disk:-80 GB

Minimum Processor:-Intel Pentium 4

Operating System:-Windows XP and above

1.5 Detailed Description of Technology Used

Technology	Description
Angular	<p>Angular is an app-design framework and development platform for creating efficient and sophisticated apps. These Angular docs help you learn and use the Angular framework and development platform, from your first app to optimizing complex apps for enterprises.</p> <p>Angular is a Type-Script based open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations.</p>
MySQL	<p>MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons →</p> <ul style="list-style-type: none"> • MySQL is released under an open-source license. So you have nothing to pay to use it. • MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages. • MySQL uses a standard form of the well-known SQL data language. • MySQL works very quickly and works well even with large data sets. <p>MySQL is very friendly to PHP, the most appreciated language for web development.</p>
Java	<p>Spring Framework is a Java platform that provides comprehensive infrastructure support for developing Java applications. Spring handles the infrastructure so you can focus on your application.</p> <p>Spring enables you to build applications from</p>

“plain old Java objects” (POJOs) and to apply enterprise services non-invasively to POJOs. This capability applies to the Java SE programming model and to full and partial Java EE.

Examples of how you, as an application developer, can use the Spring platform advantage:

- Make a Java method execute in a database transaction without having to deal with transaction APIs.
- Make a local Java method a remote procedure without having to deal with remote APIs.
- Make a local Java method a management operation without having to deal with JMX APIs.

Make a local Java method a message handler without having to deal with JMS APIs

Chapter 2: PROPOSED SYSTEM

2.1 Proposed System

2.2 Objectives of System

2.3 User Requirements

2.1 Proposed System:-

This system has been built for the purpose of automating the process of increasing the tyre life. The user has to login into the system by using their unique ID and password. After entering the correct details, a list of options will be displayed.

The administrator of this system is allocated the work of adding, updating, deleting and retrieving the required data from the database according to the requirement. When the administrator logs in, he has various options out of which he can select any one according to his/her requirement.

Similarly, the administrator is responsible for all the details pertaining to the tyres, vehicles, organization, department and vendor.

2.2 Objective of System:-

The purpose of developing TYRE TRACKING is to allow users to save costs associated with buying and maintaining tyre quality. Also the user can track COST PER KILOMETER (CPK) associated to a particular tyre, CPK allows the user to identify whether they are getting maximum out of tyres life. Life cycle of each individual tyre is tracked on a particular position. Whenever a tyre is removed from one position and put on another position or sent for rethreading the life on that position will be monitored till it reaches scrap yard.

2.3 User Requirements:-

- Better and effective UI for interaction.
- Do analysis to identify tyre wear and tear.
- Predict the Kms the tyre can travel before swapping or scrapping.
- Report of tyre analysis.
- Graphical representation about tyre status and performance.

Chapter 3: DIAGRAMS

3.1 Class Diagram

3.2 Object Diagram

3.3 Use Case

3.3.1 System Use Case

3.3.2 Admin Use Case

3.3.3 User Use Case

3.4 Activity Diagram

3.4.1 Admin Activity Diagram

3.4.2 User Activity Diagram

3.5 Sequence Diagram

3.5.1 Admin Sequence Diagram

3.5.2 User Sequence Diagram

3.6 Entity Relationship Diagram

3.7 Module Hierarchy Diagram

3.9 Module Specification

3.10 Data Dictionary

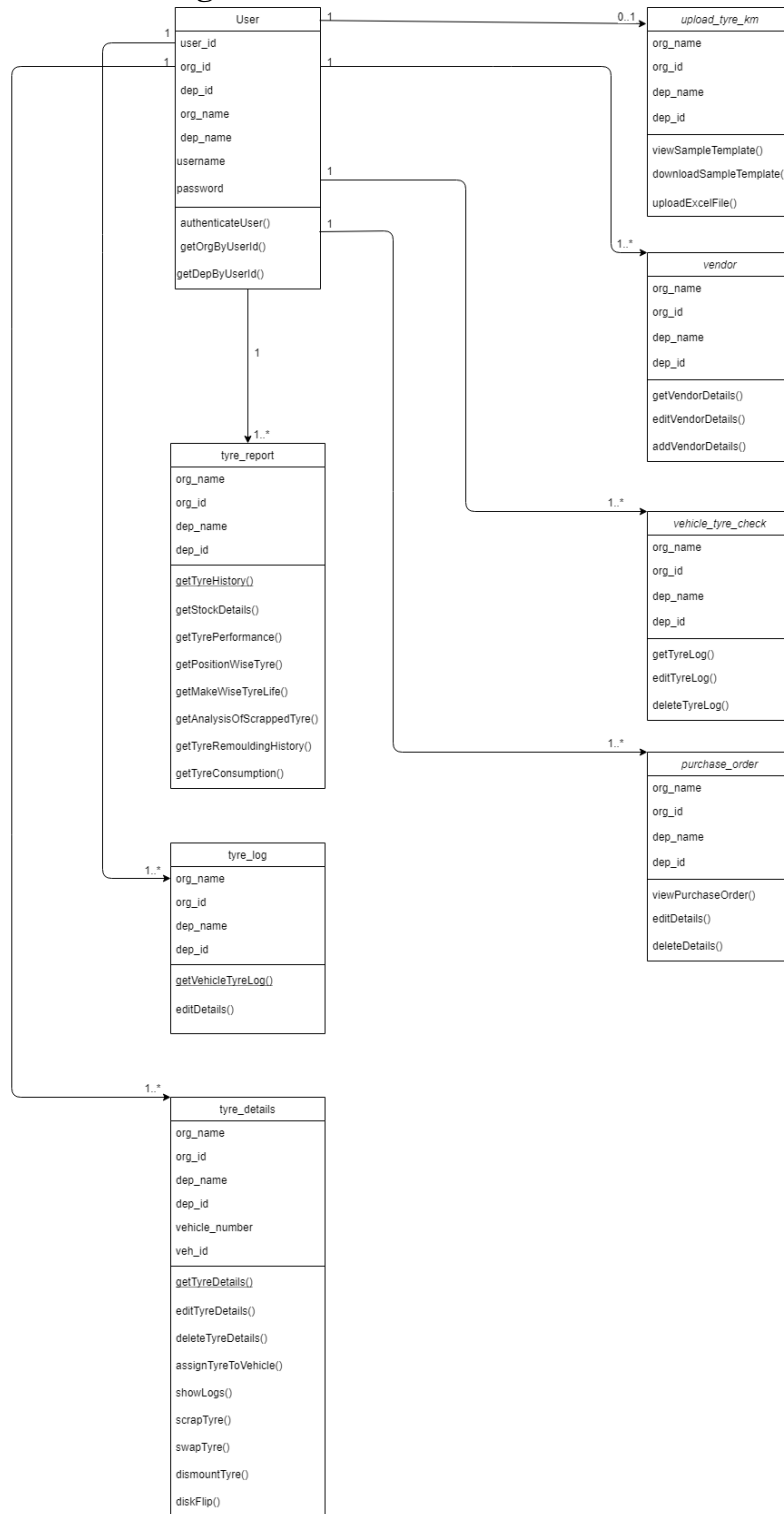
3.11 Table Specification

3.13 User Interface Design

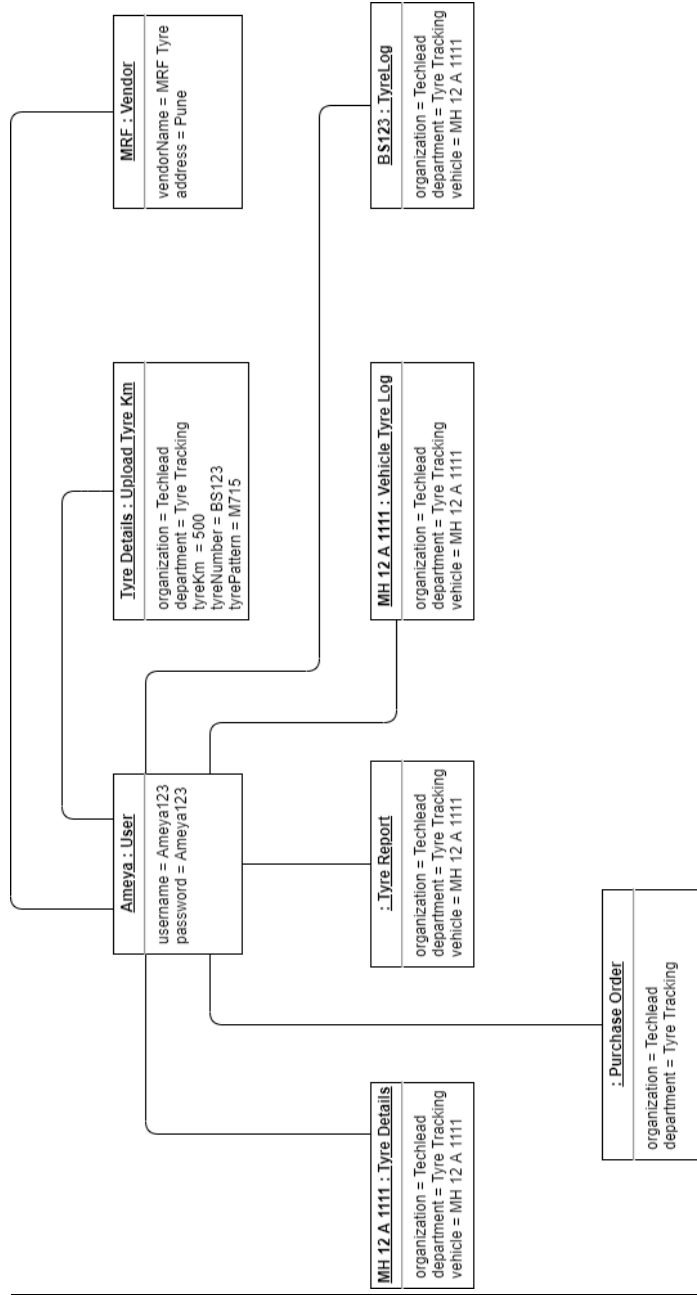
3.14 Data Dictionary

3.15 Table Specification

3.1 Class Diagram:-

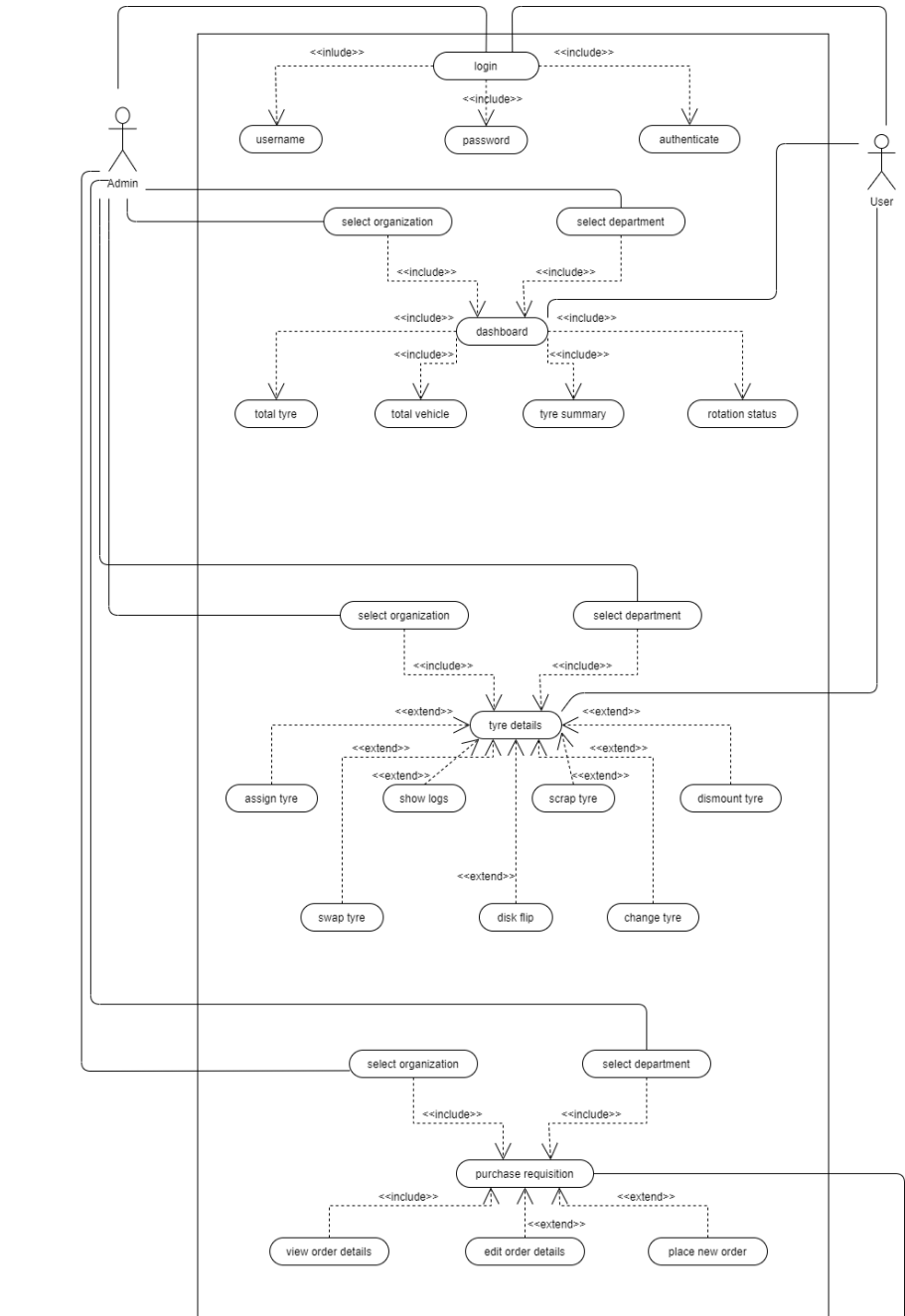


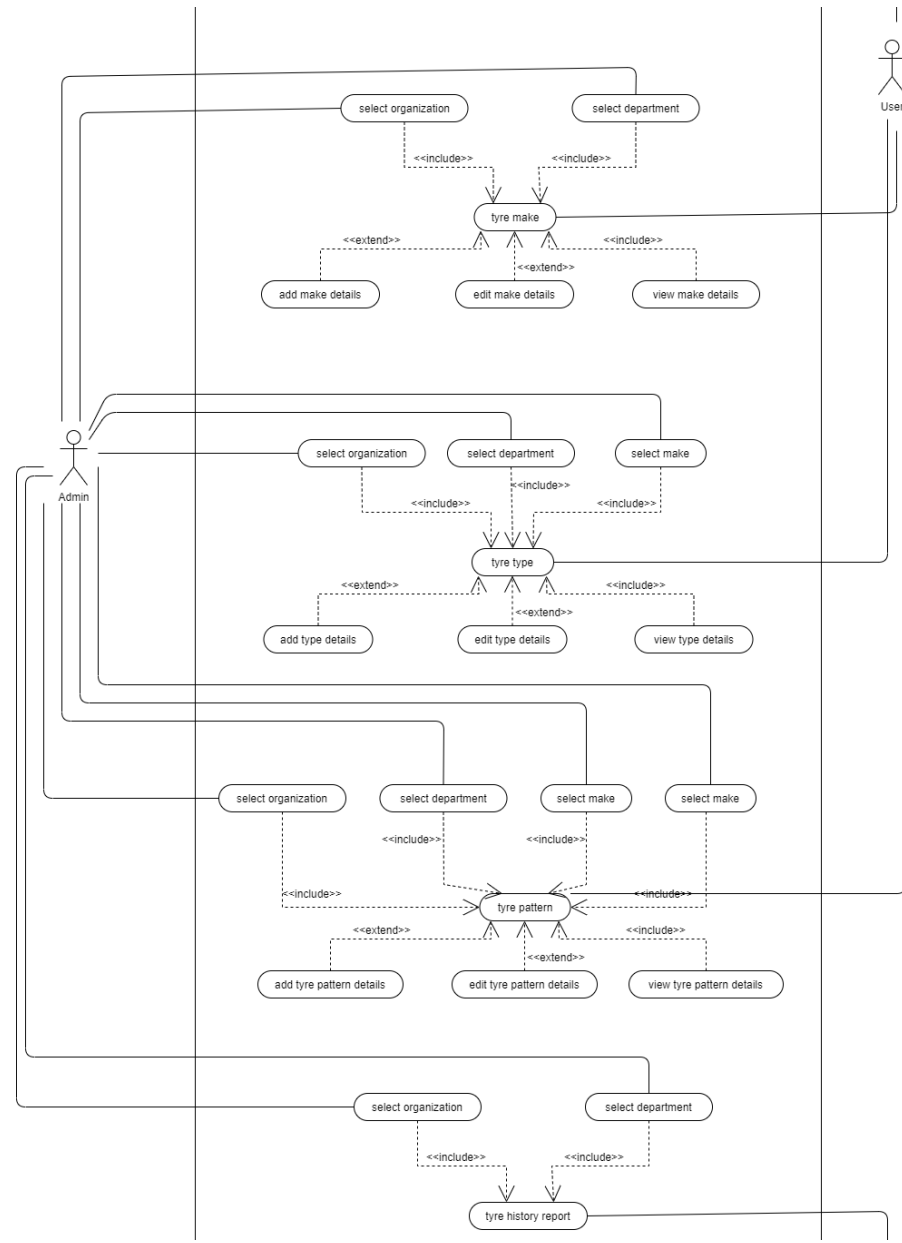
3.2 Object Diagram:-

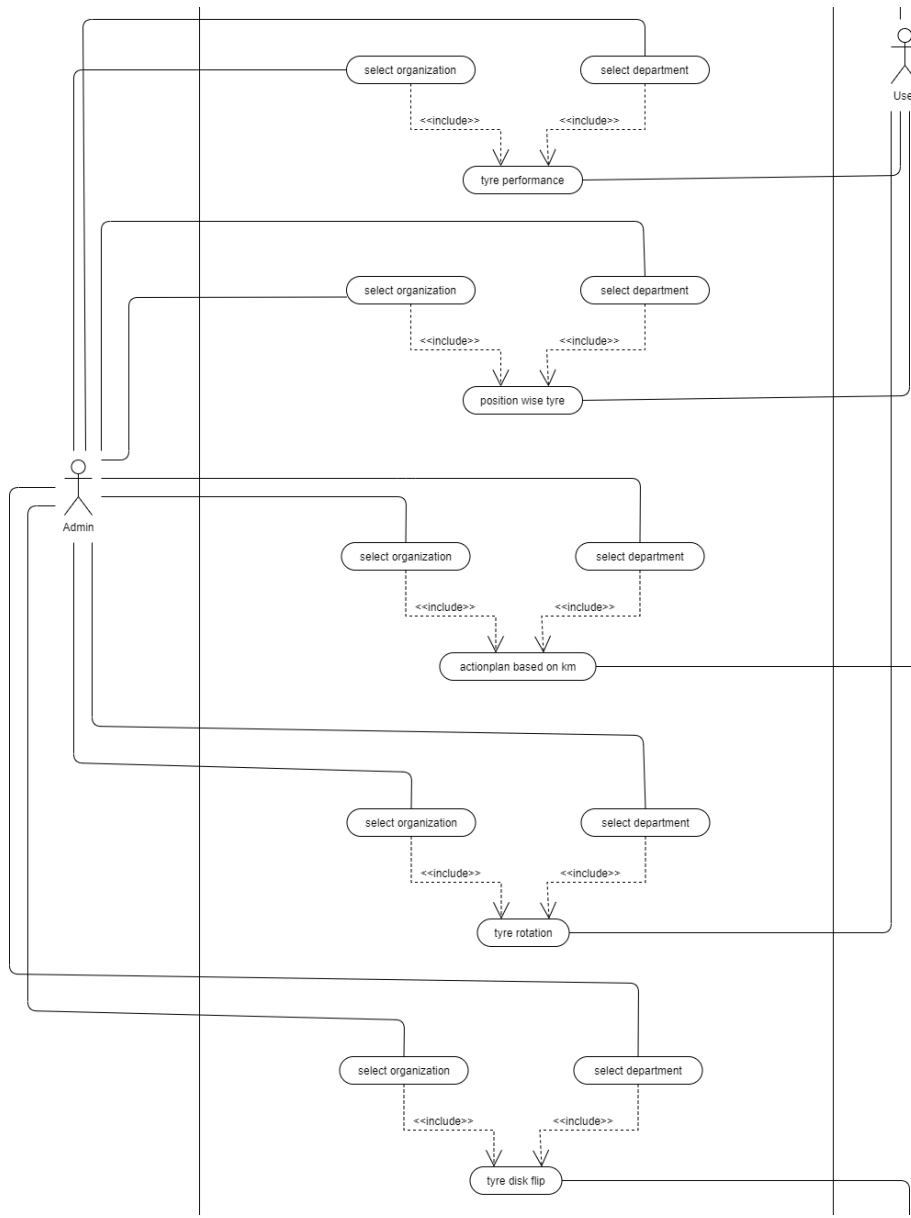


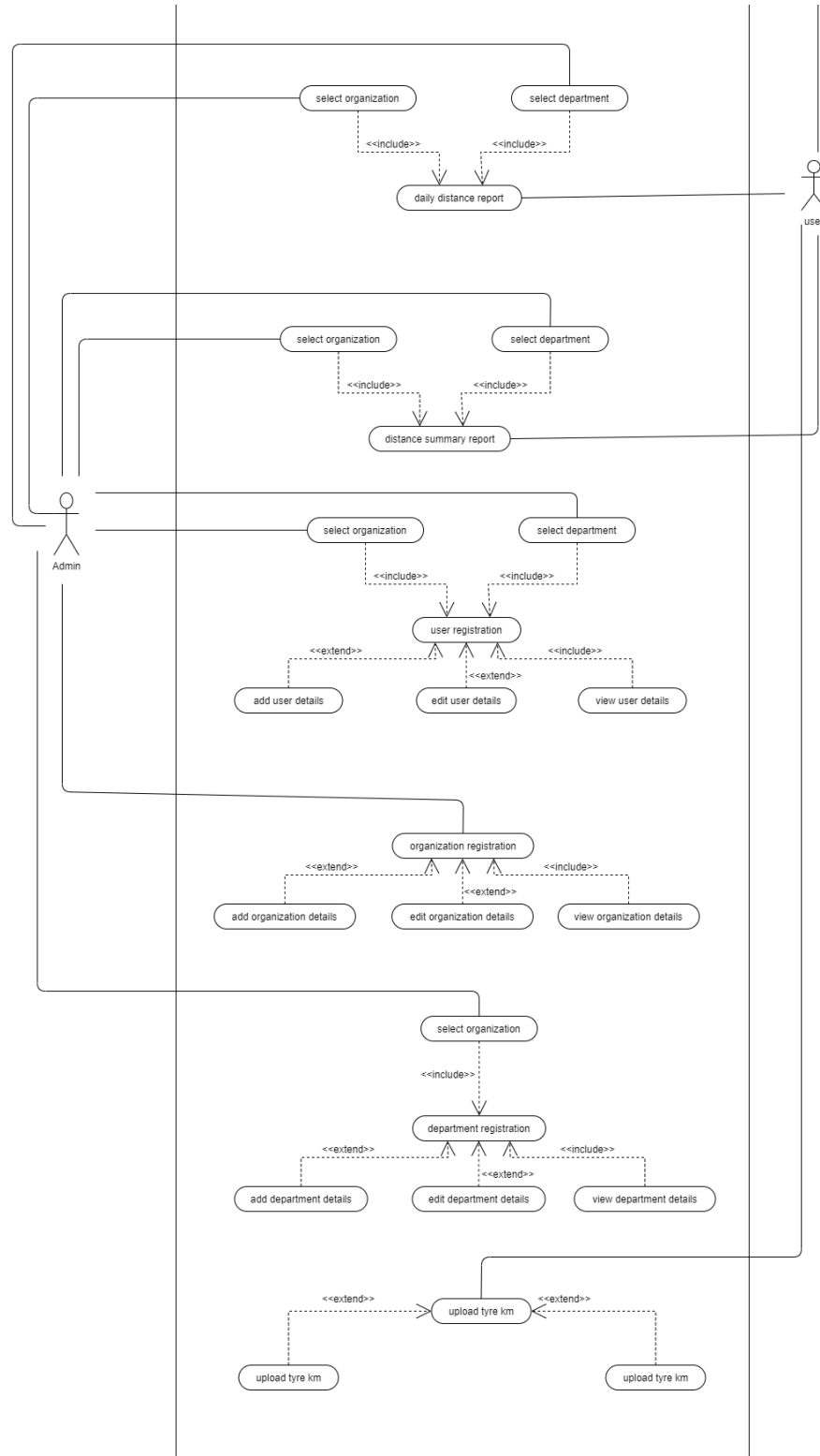
3.3 Use Case:-

3.3.1 System Use Case:-

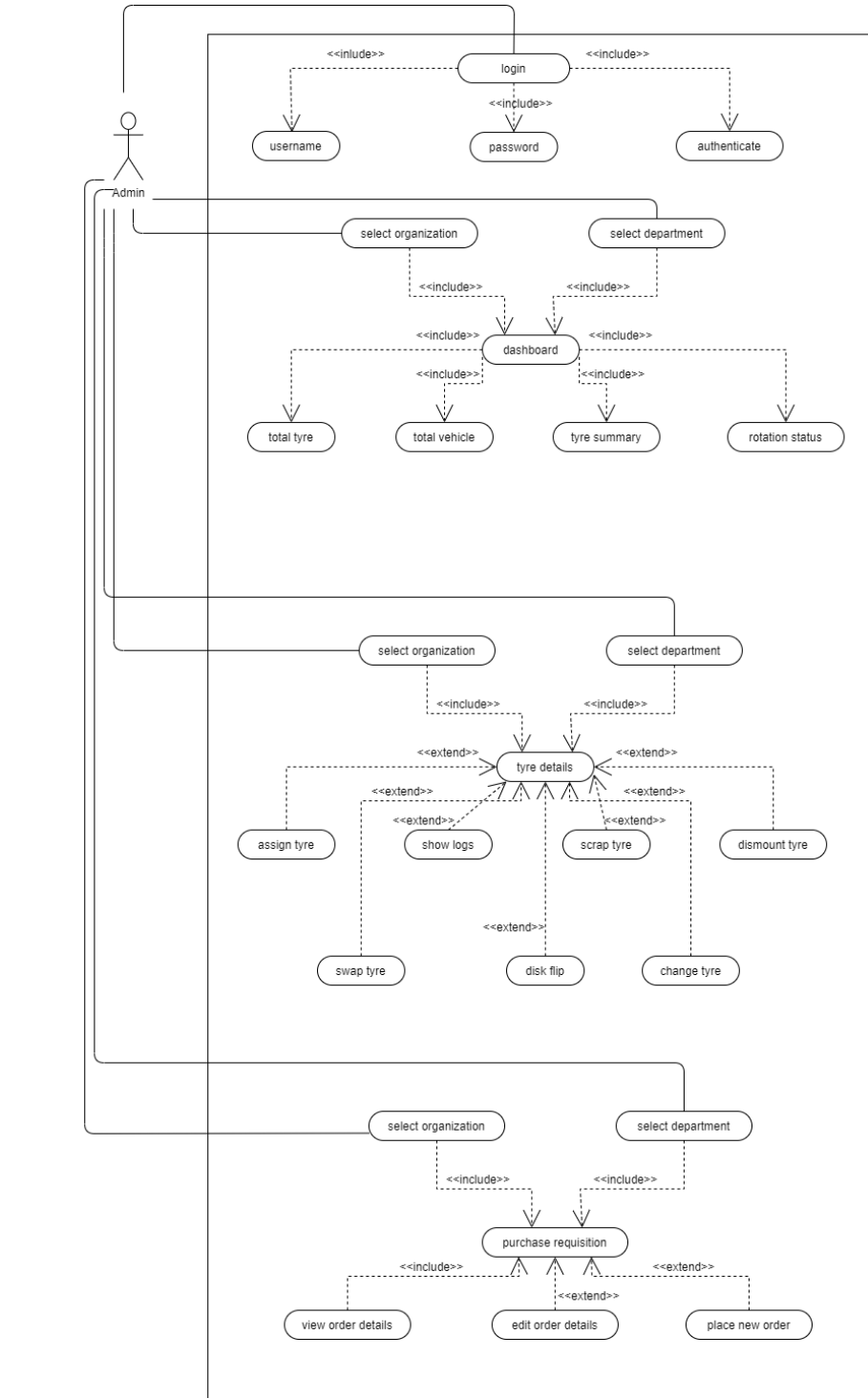


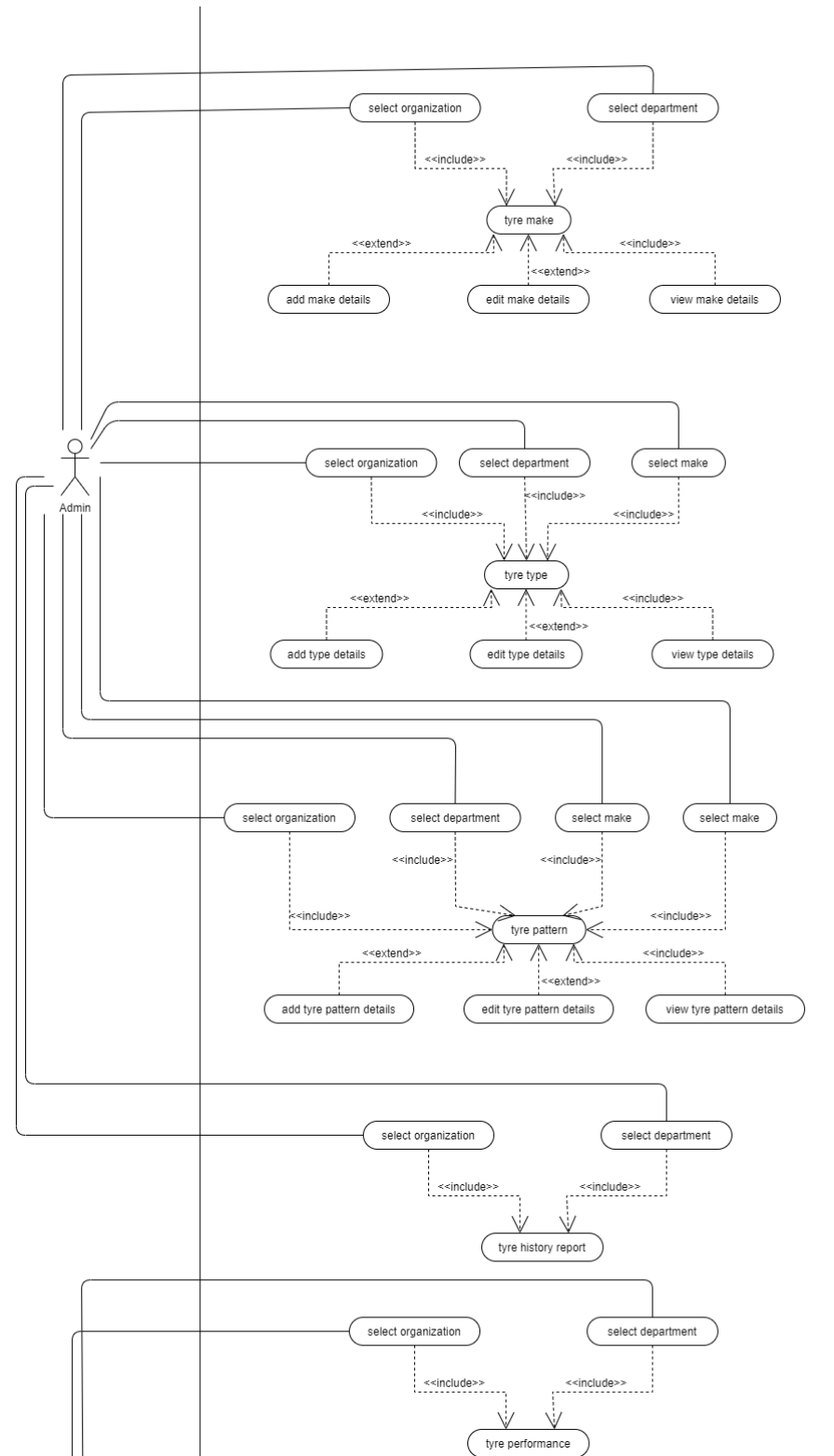


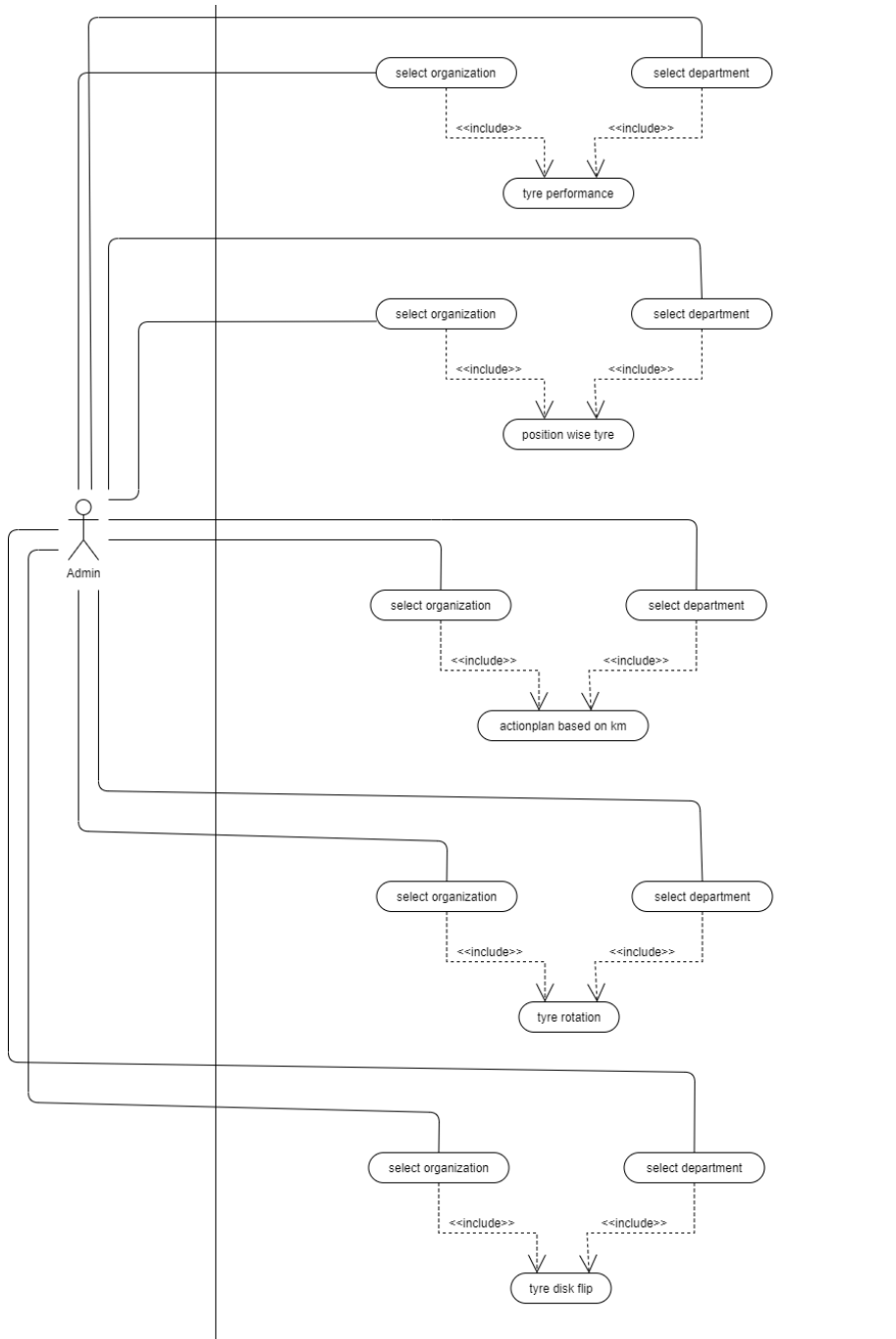


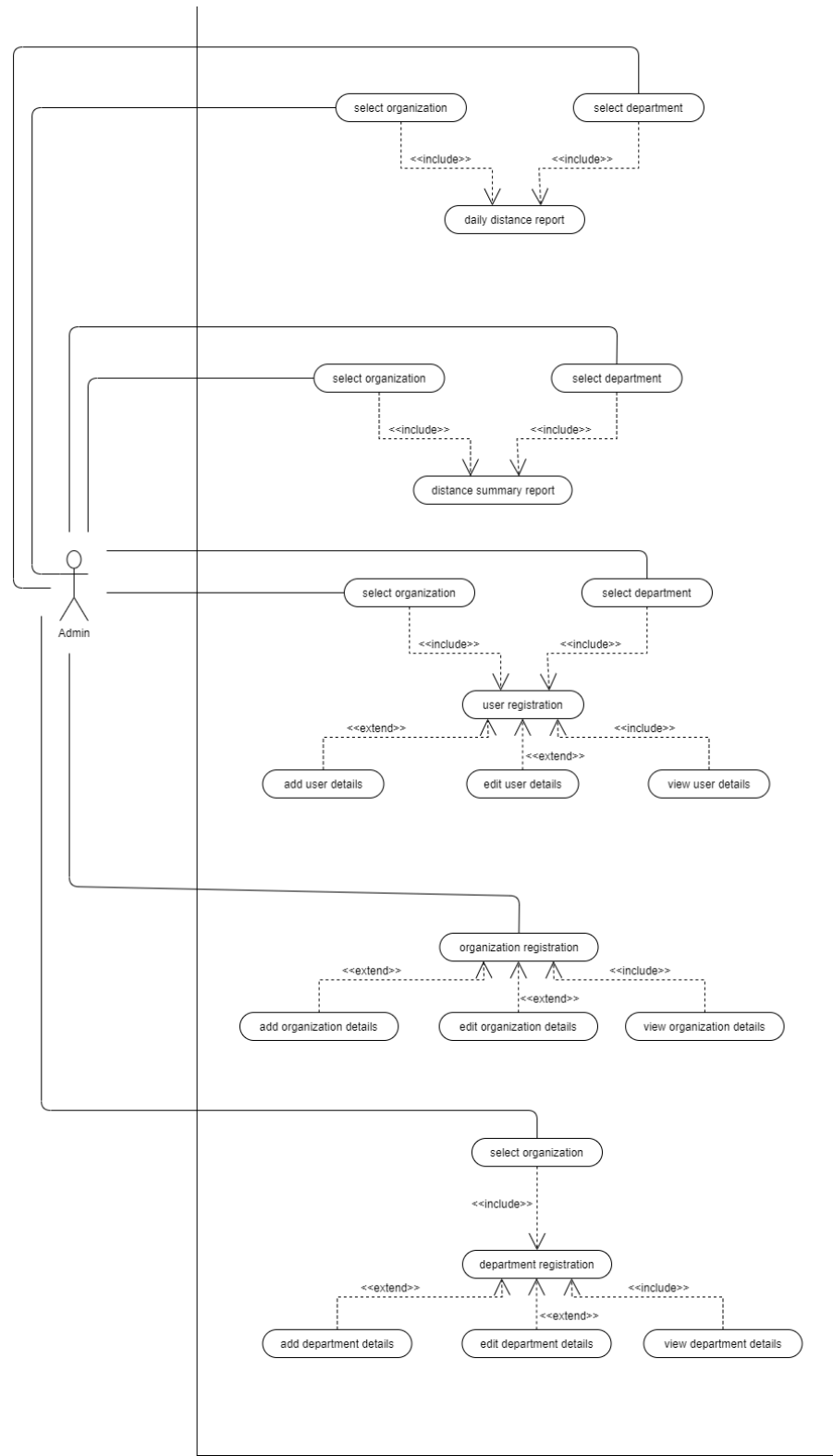


3.3.2 Admin Use Case:-

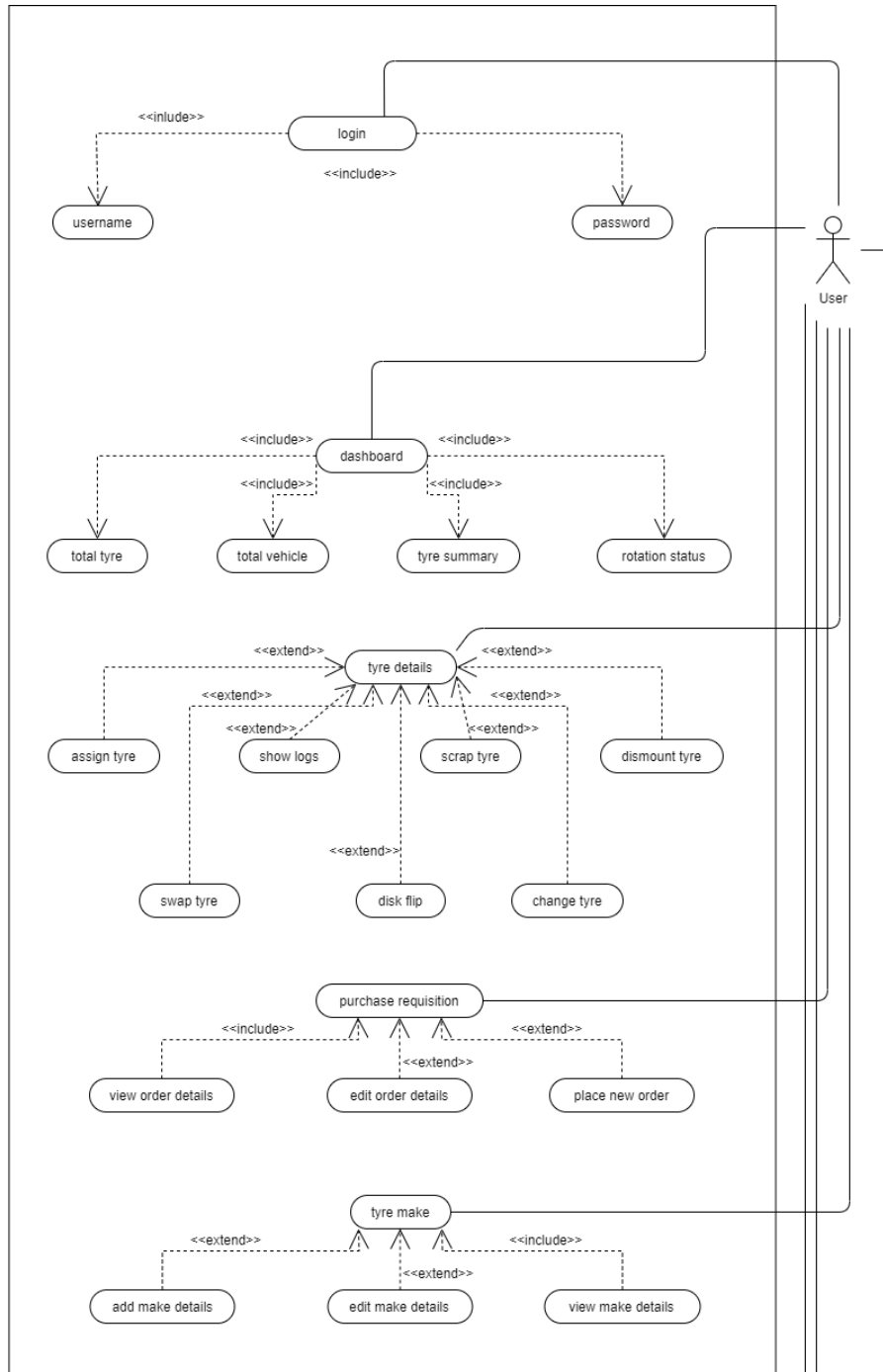


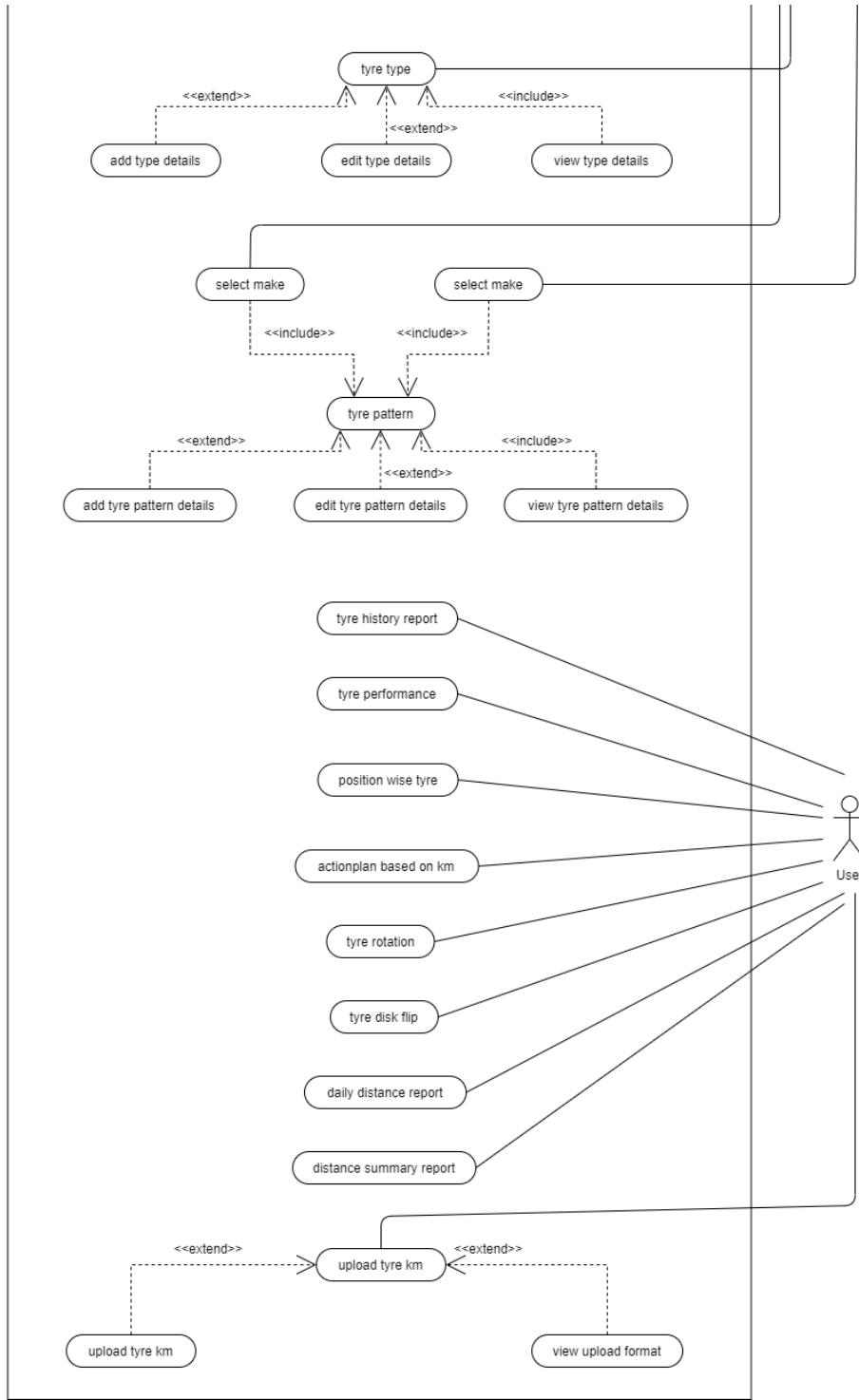






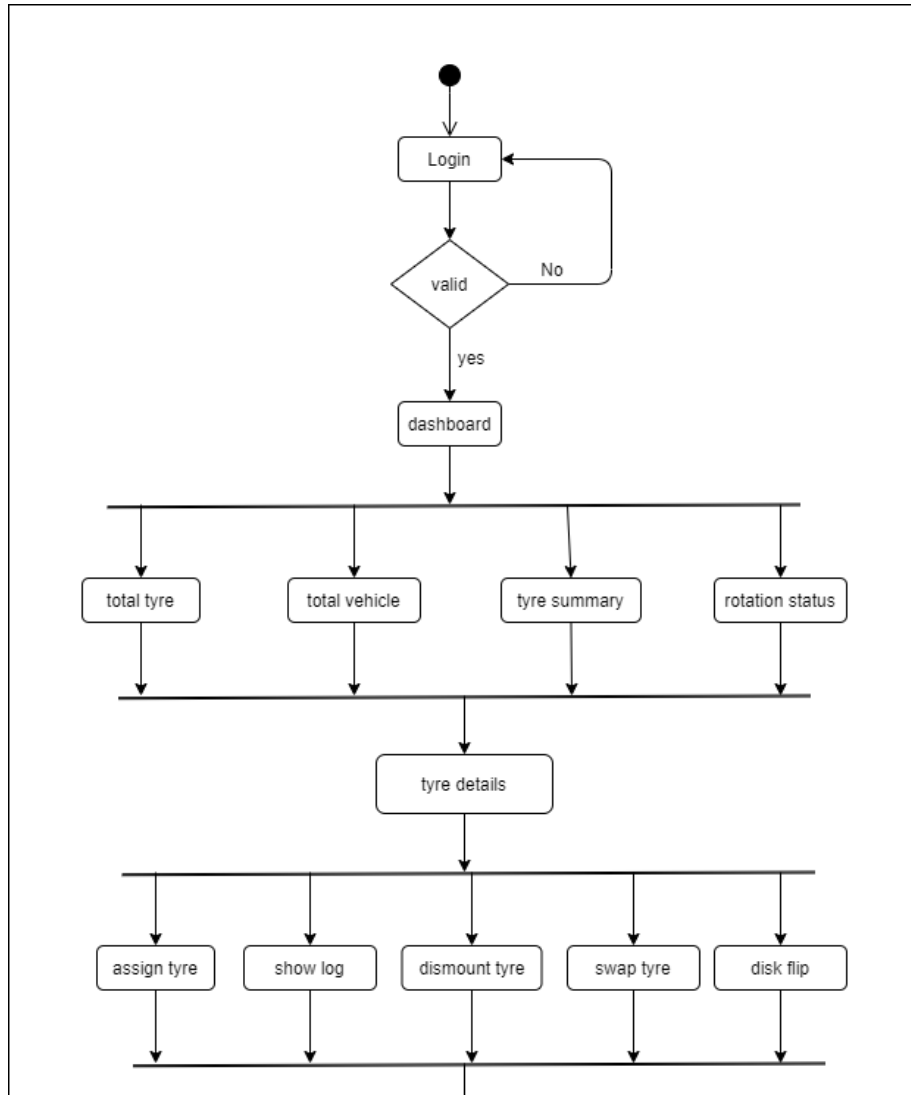
3.3.3 User Use Case:-

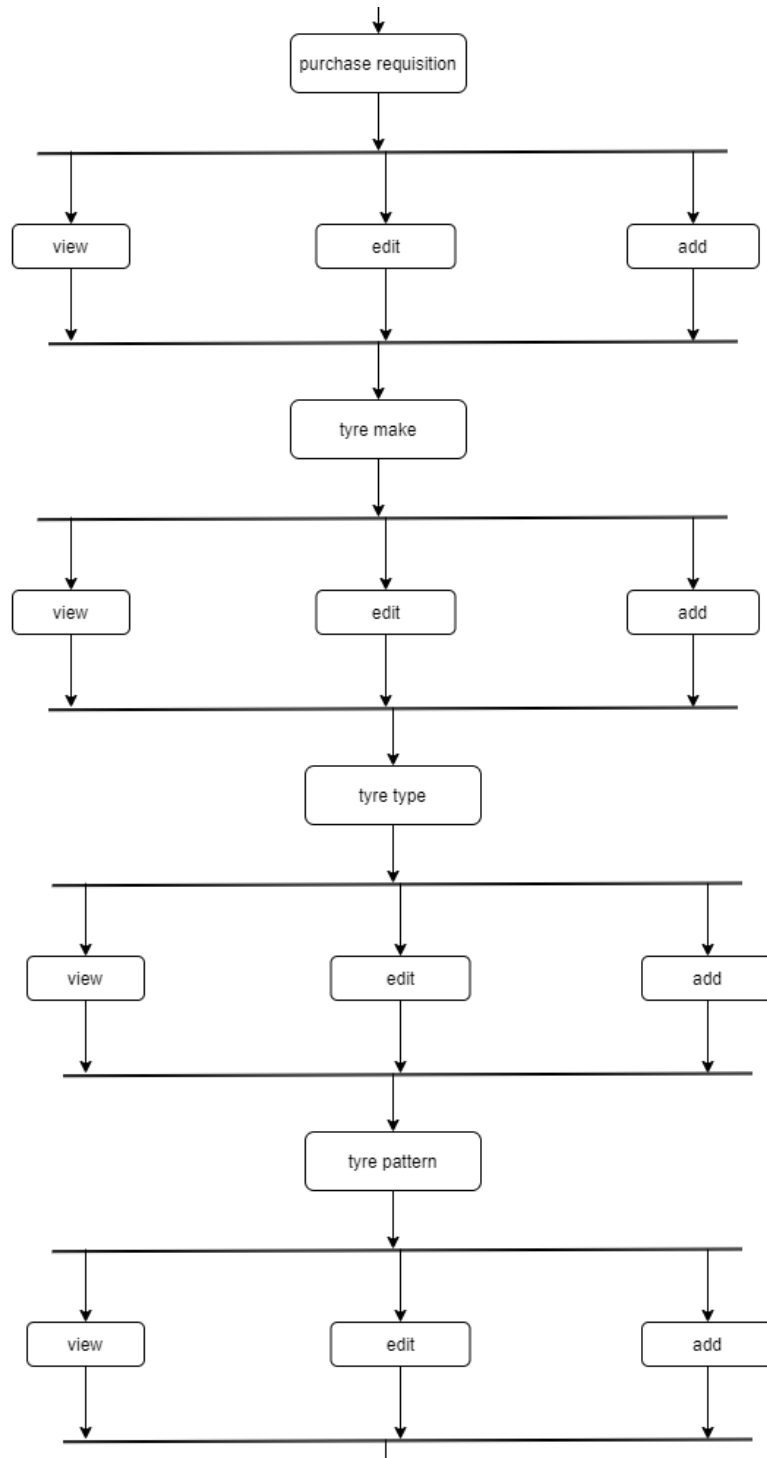


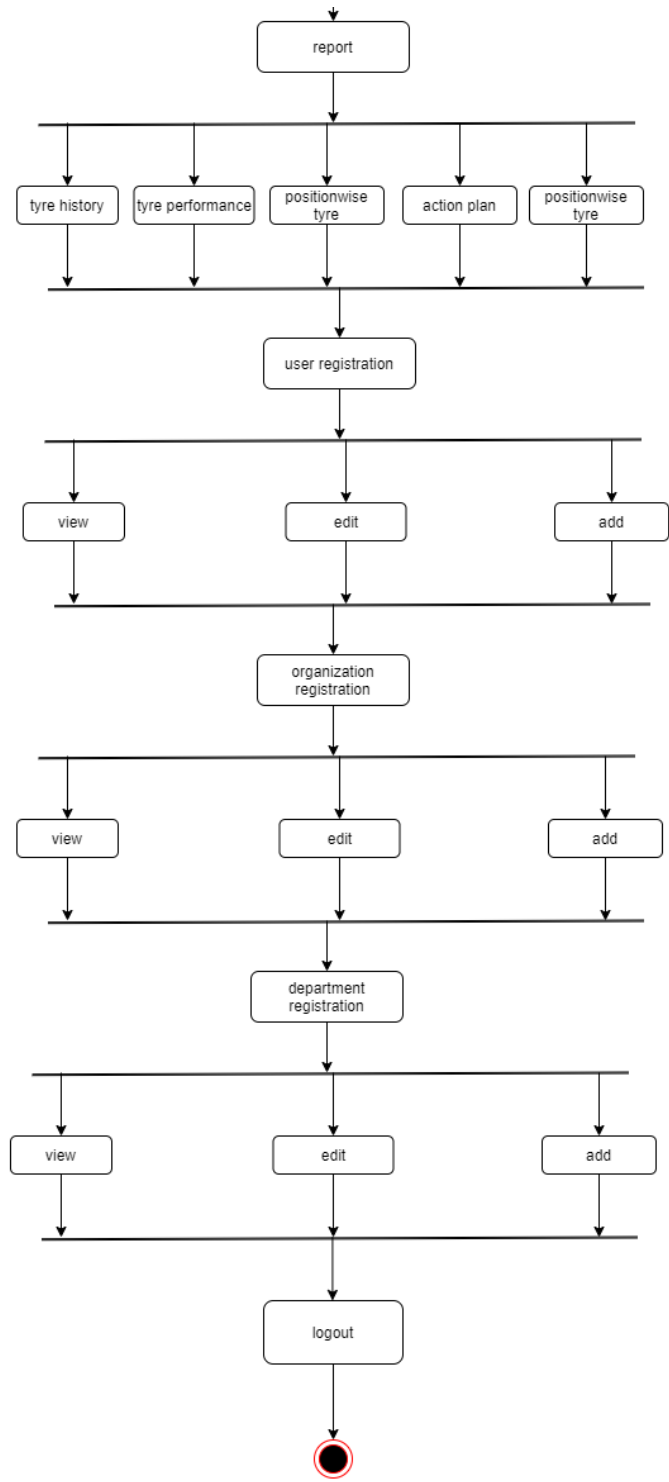


3.4 Activity Diagram

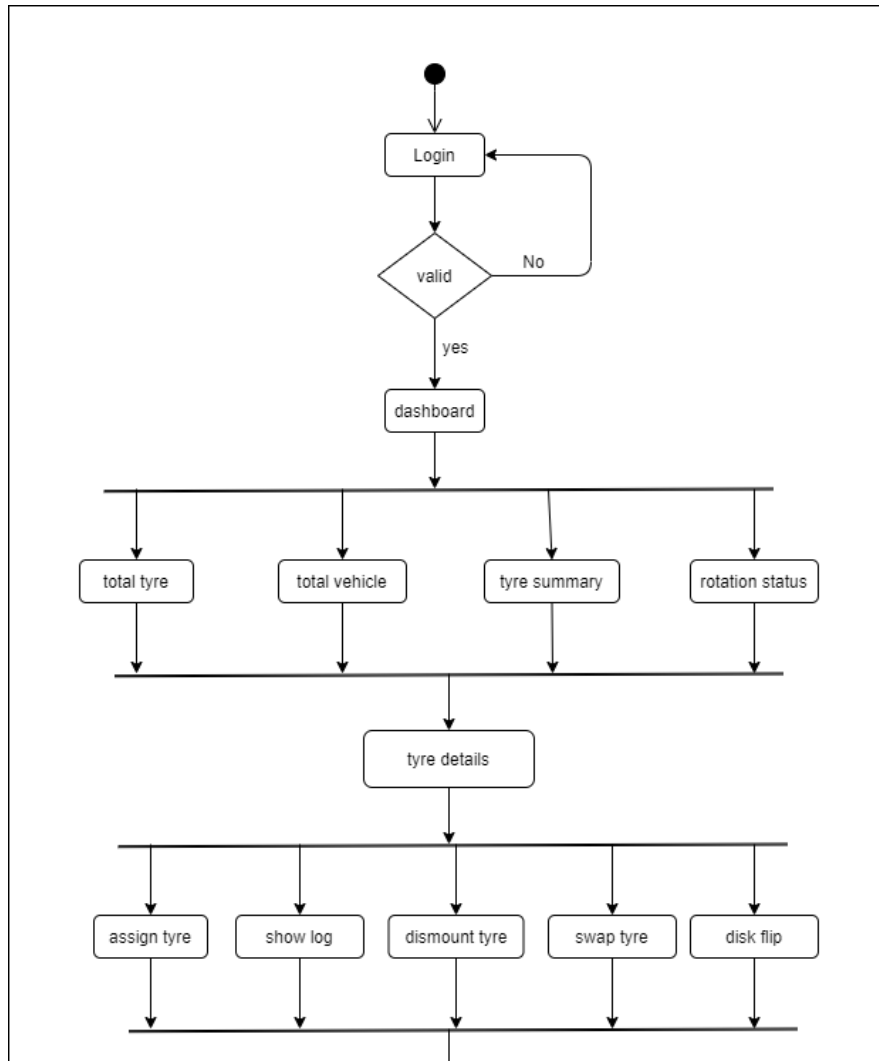
3.4.1 Admin Activity Diagram

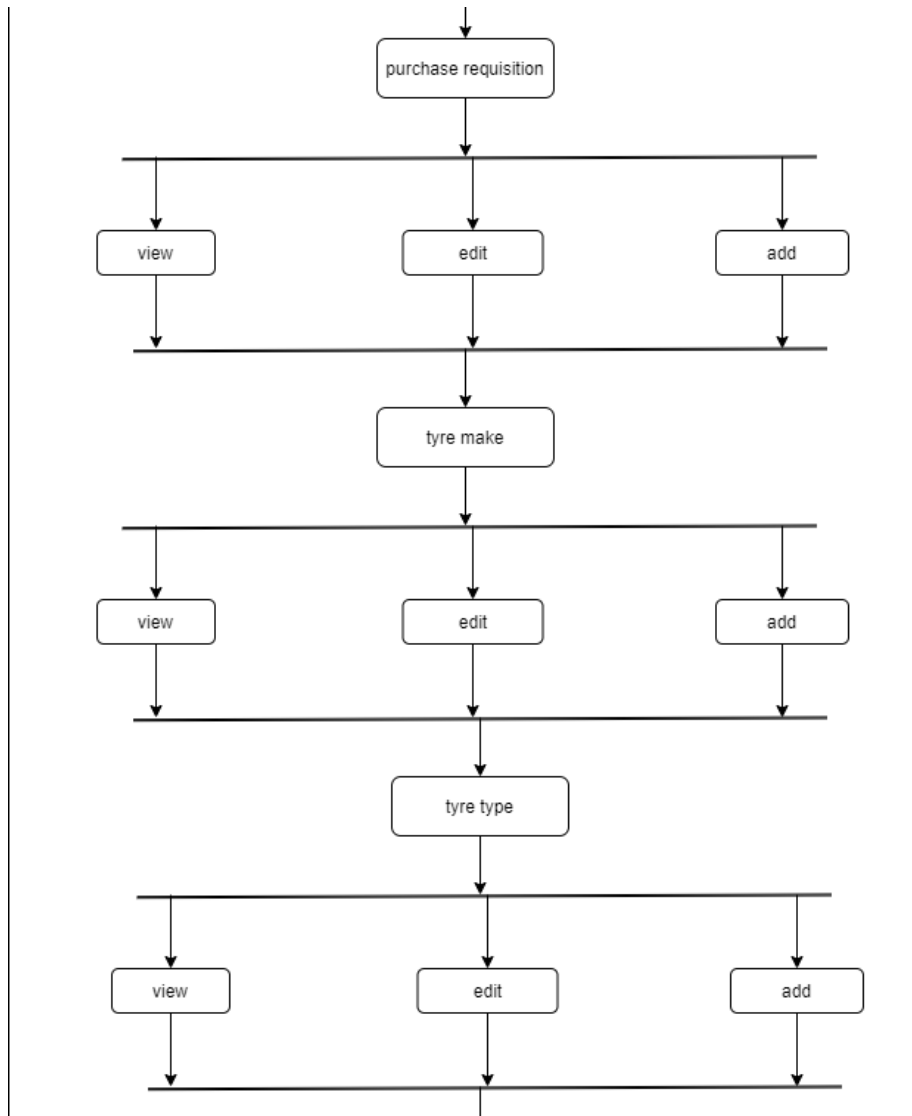


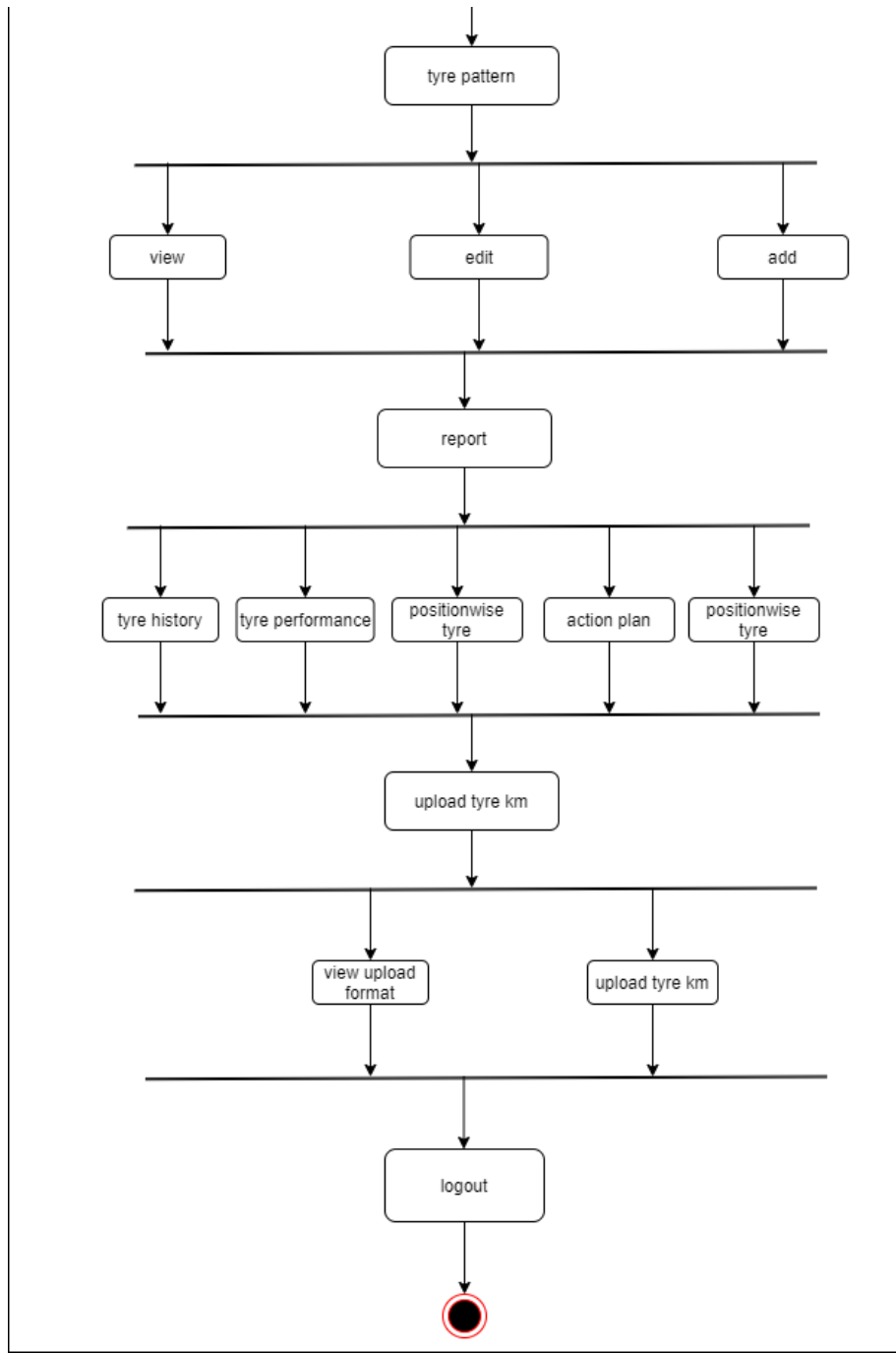




3.4.2 User Activity Diagram

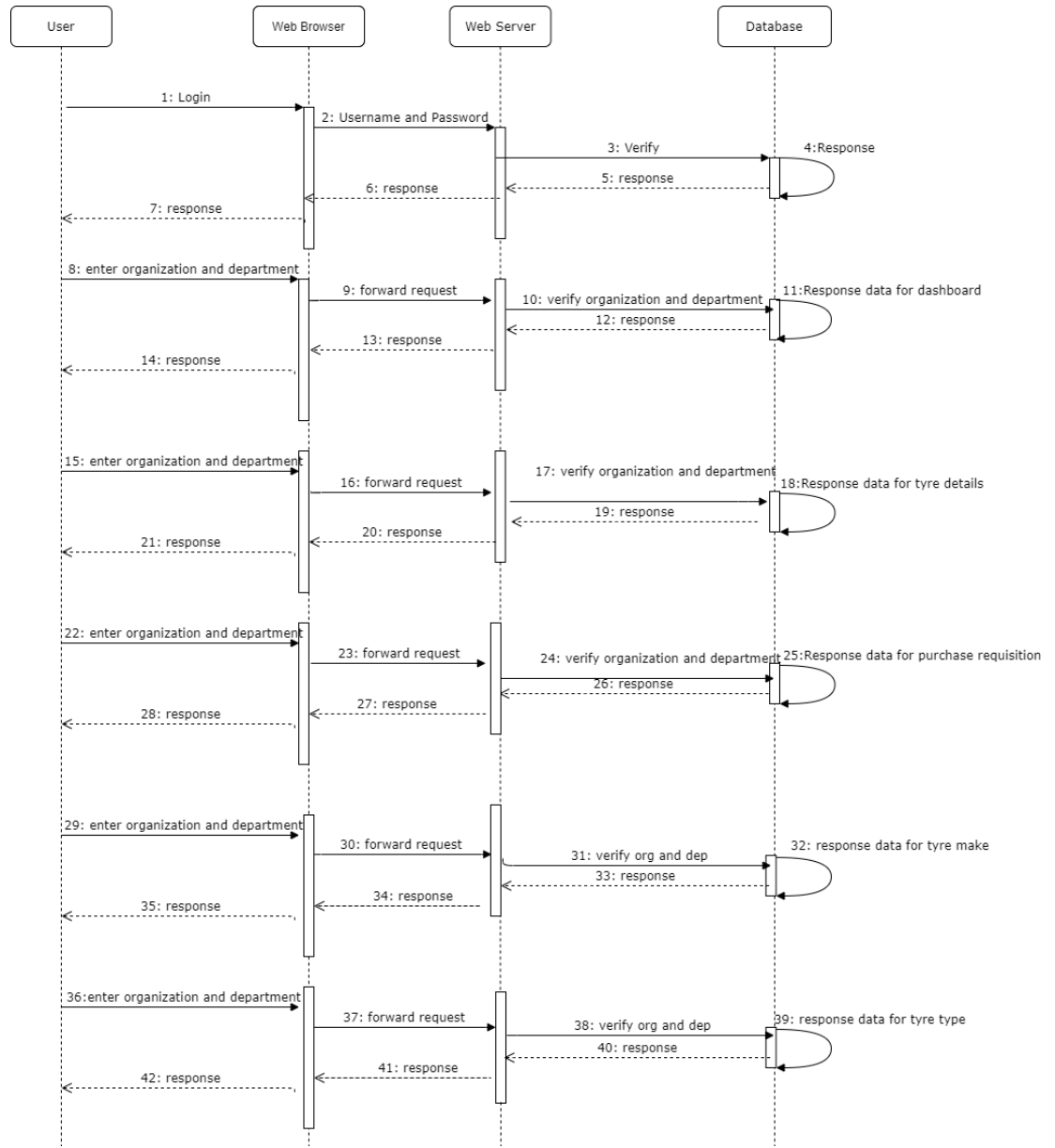


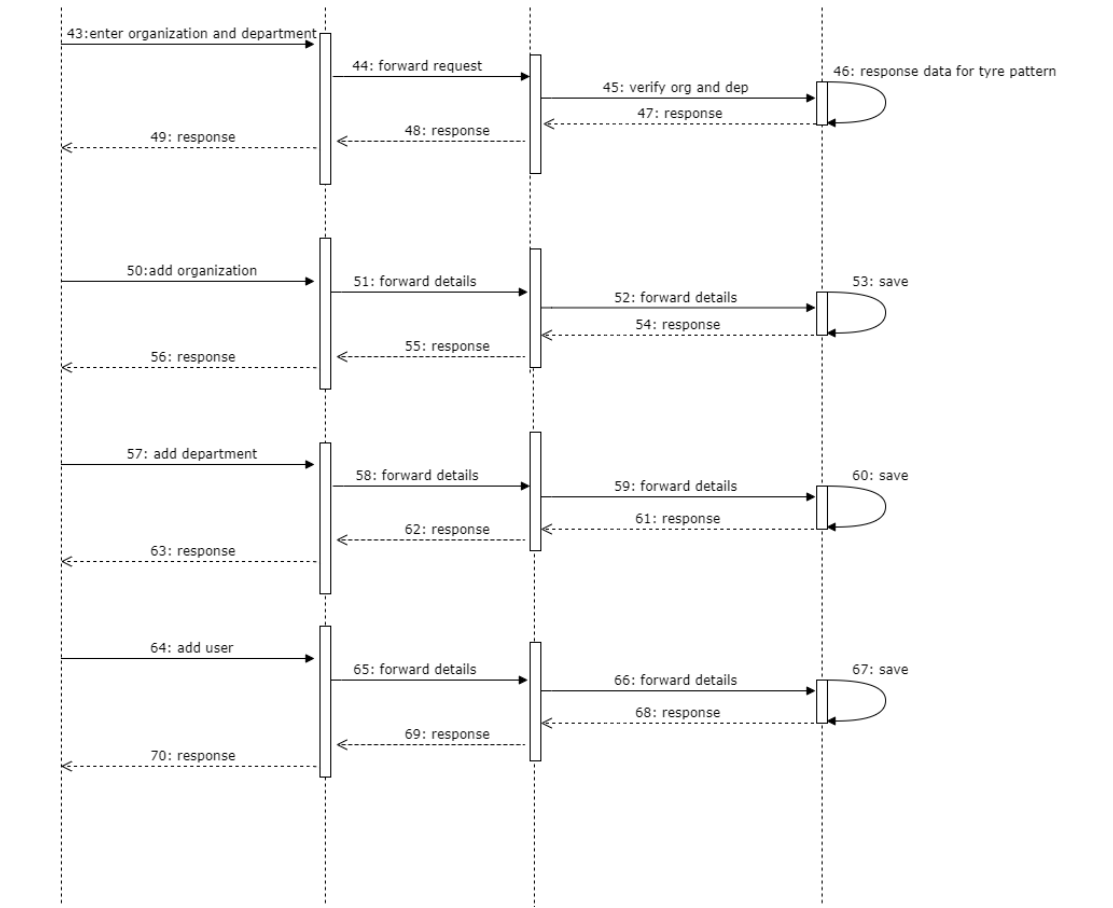




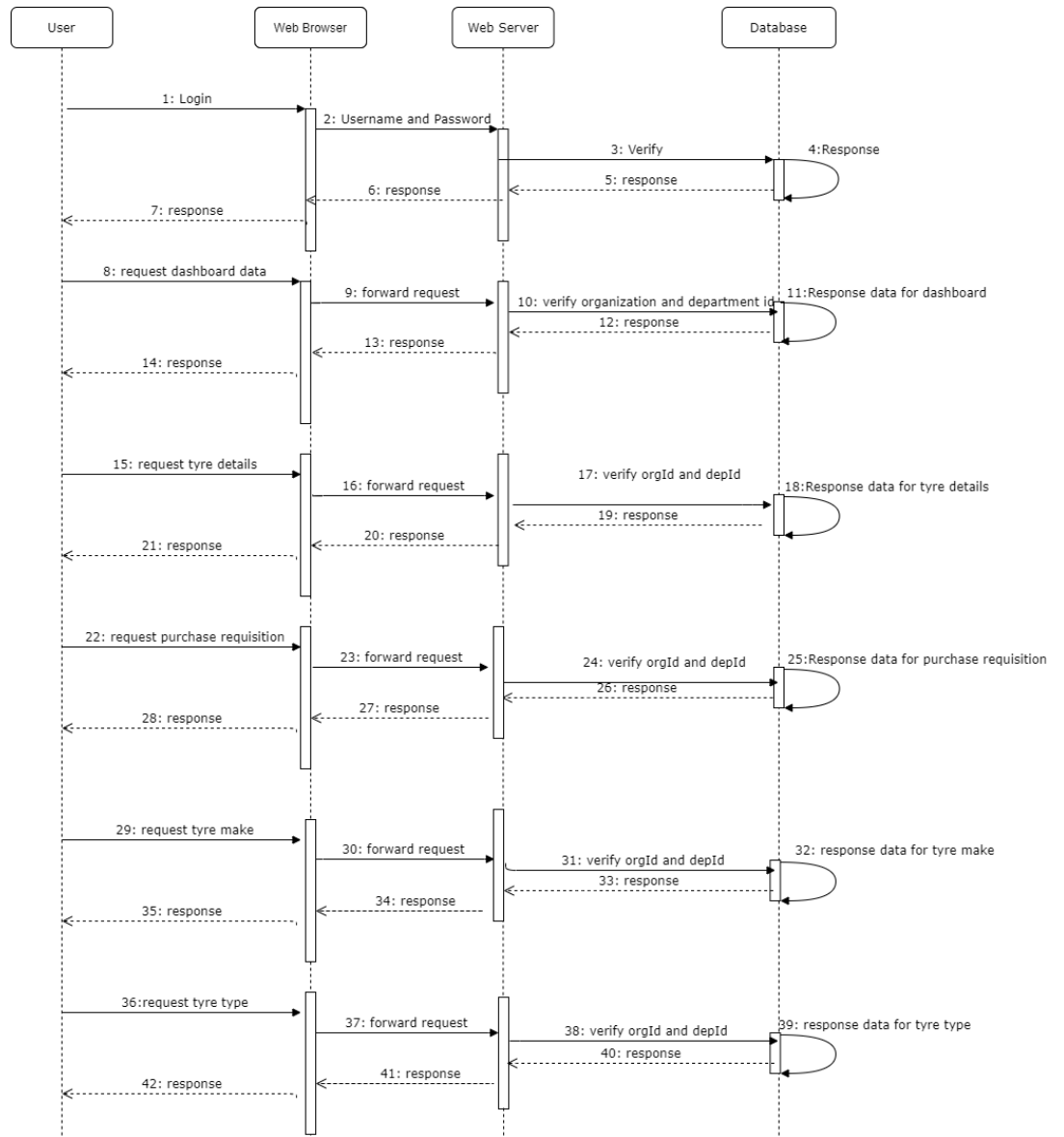
3.5 Sequence Diagram

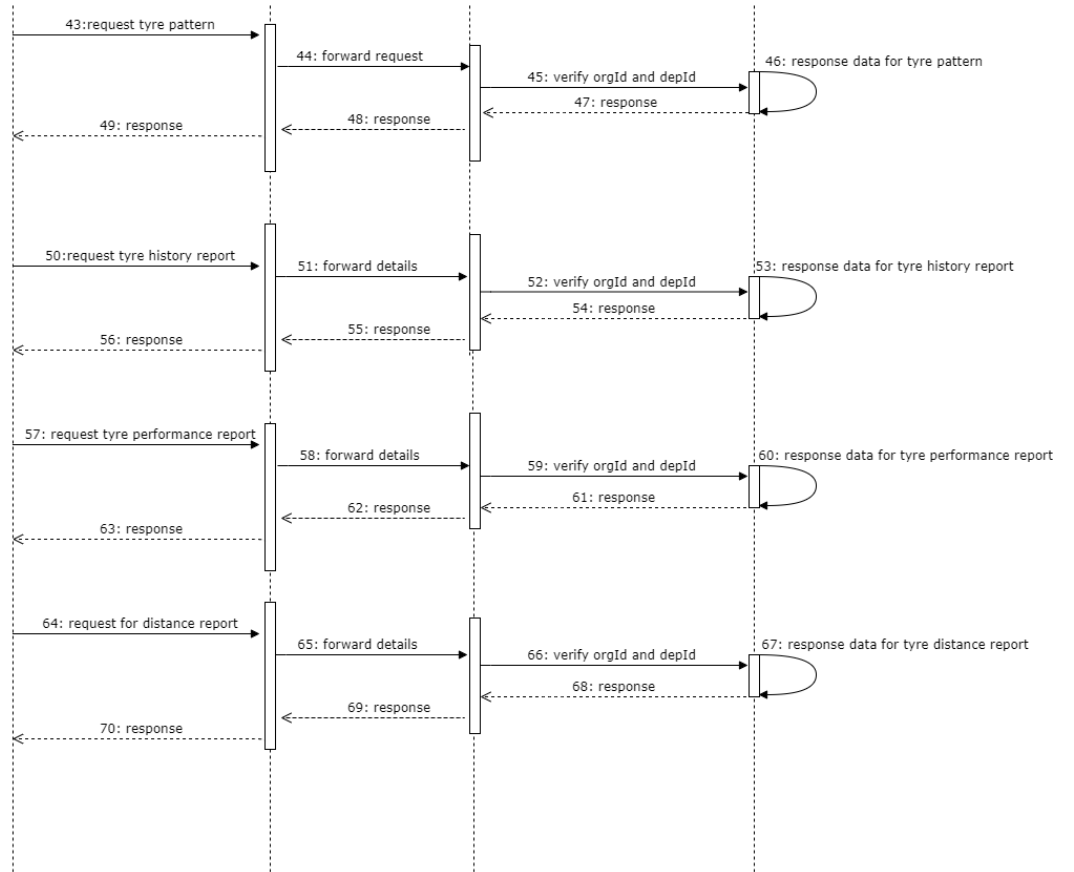
3.5.1 Admin Sequence Diagram



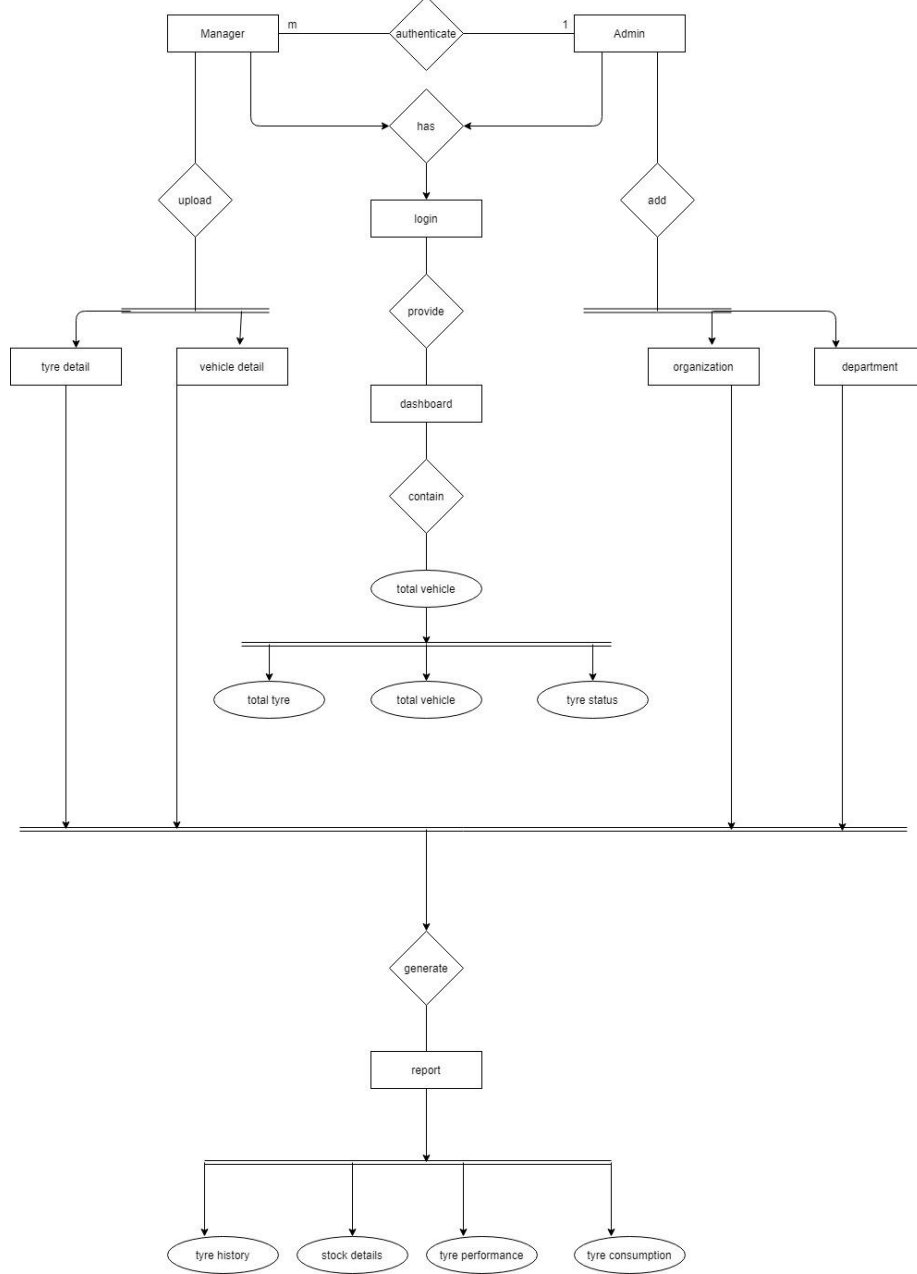


3.5.2 User Sequence Diagram

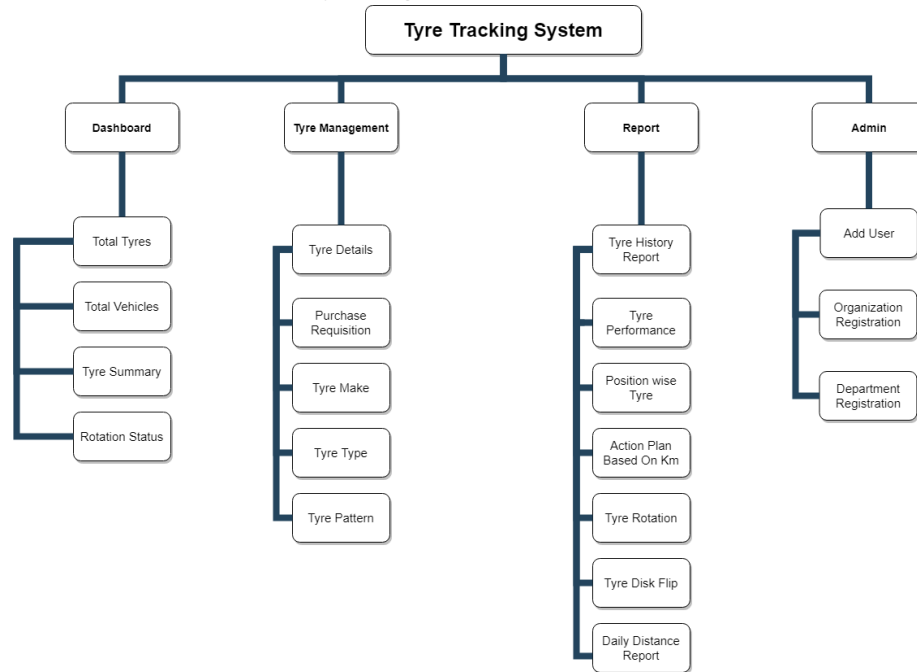




3.6 Entity Relationship Diagram



3.7 Module Hierarchy Diagram



3.10 Module Specification

Modules:

1) Dashboard Module:

In this module the user is presented with all the information regarding tyres such as total tyres, total vehicle, tyre status, tyre summary, rotation status in graphical format.

2) Tyre Details Module:

In tyre details module, the user is able to view all the tyres associated to his organization and its specific department by default. Optionally, the user can select specific vehicle corresponding to his organization and department to view only specific tyre information.

The user is presented with all the required information about tyre such as to which vehicle the tyre is associated, tyre number, tyre tag number, tyre position, tyre status, tyre type, tyre pattern, tyre make, etc.

The user is also presented multiple options to perform various operations on specific tyre from viewing

its history to changing its status, from adding new tyre to specific vehicle to dismounting the tyre, etc.

3) Tyre Management Module:

In tyre management module there are following 3 sub modules.

1) Tyre Make:

In this module the user can view the tyre make information of all the tyres that are used by the specific department of the organization.

The option for adding new tyre make, edit previous make data and delete make data is also available.

2) Tyre Type:

In this module the user can view the tyre type i.e. whether the tyre is tubeless or tube tyre on selecting the tyre make for his organization and department.

The option for adding new tyre type, edit previous type data and delete type data is also available.

3) Tyre Pattern:

In this module the user can view the tyre pattern which include tyre name, tyre size, tread pattern, benchmark Km specified by the manufacturer on selecting specific tyre type for specific tyre make for specific organization and department.

The option for adding new tyre pattern, edit previous pattern data and delete pattern data is also available.

4) Reports Module:

The user is presented with multiple reports for his organization and department which are as follows:

1) Tyre History:

In tyre history report, the user is presented with all the previous and current life status of tyre, tyre performance in various tyre phases and when was the last change updated.

2) Tyre Performance:

In this report the user is presented with average number of Kms travelled by specific tyre of the given make in various phases.

3) Action Plan Based On Km:

Based on the Kms travelled by the tyre in various tyre phases, the user then gets a notification when the tyre is near the end of its given phase to either change the tyre phase or perform tyre rotation.

4) Tyre Rotation:

Tyre rotation report specifies which tyre is on which vehicle and at what position and how many Kms the tyre travelled at that position.

5) Tyre Disk Flip:

Tyre disk flip report specifies which tyre is on which vehicle and at what position and how many Kms the tyre travelled at that position after disk flip.

6) Daily Distance Report:

Daily distance report specifies which tyre on which vehicle from what day to what date has travelled how much Kms.

7) Distance Summary Report:

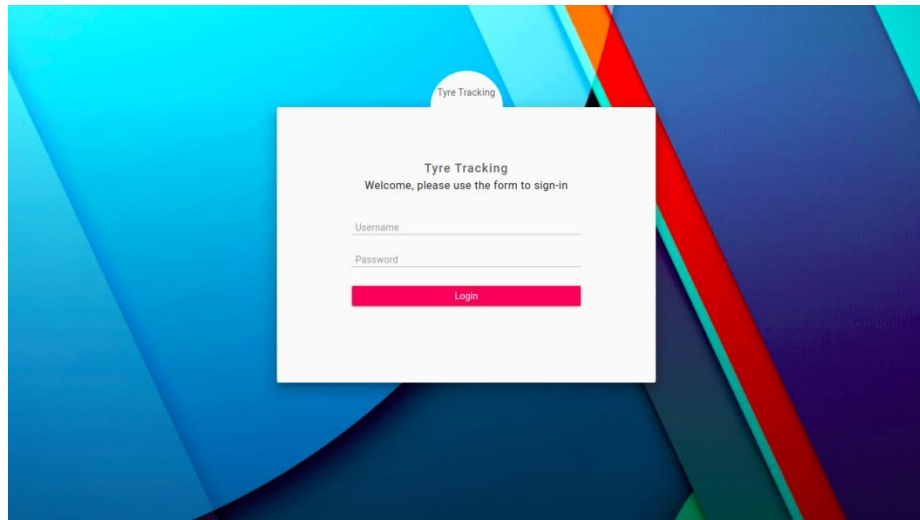
Distance summary report specifies which vehicle on what day has travelled how much Kms.

5) Administration Module:

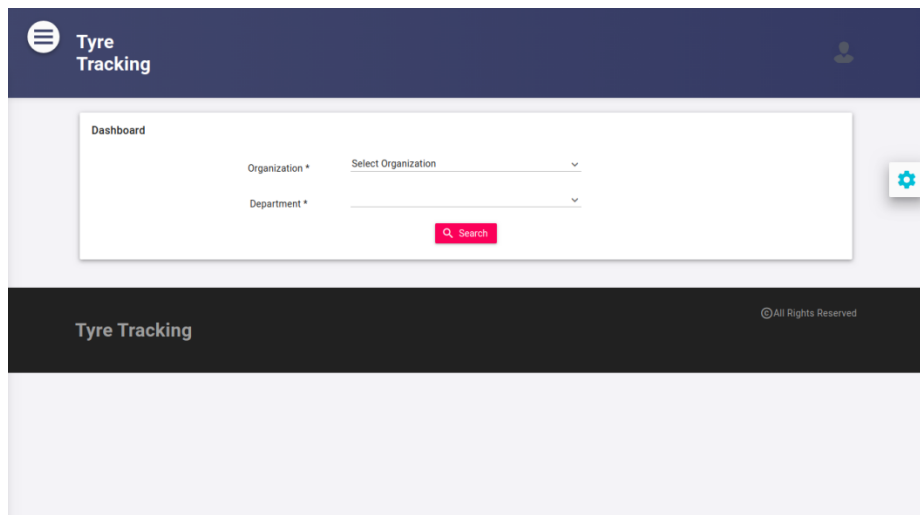
Admin handles and manages users, organizations and departments. He has the authority to add, update, and delete users, organizations and departments.

3.13 User Interface Design

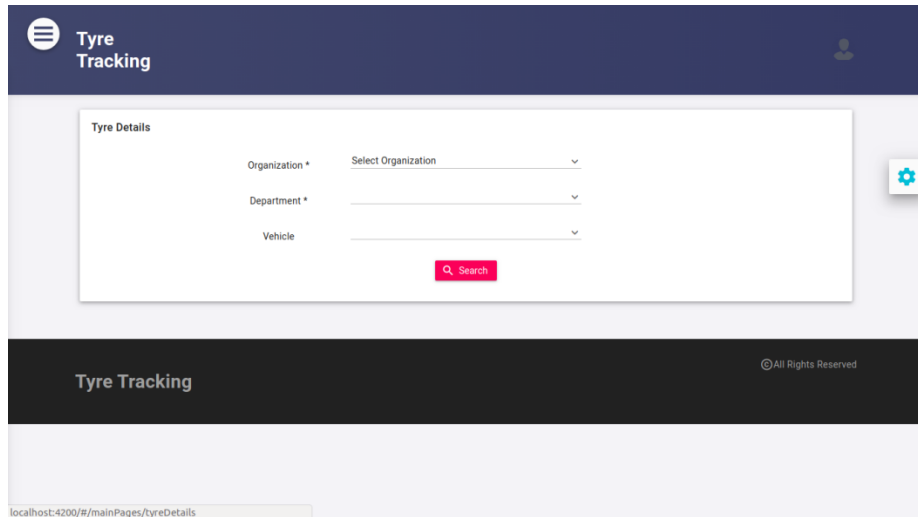
1. Login



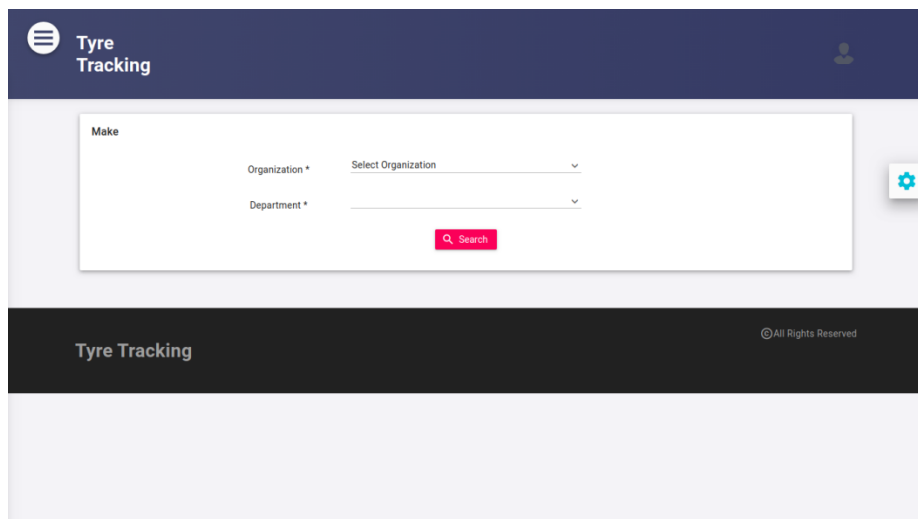
2. Dashboard



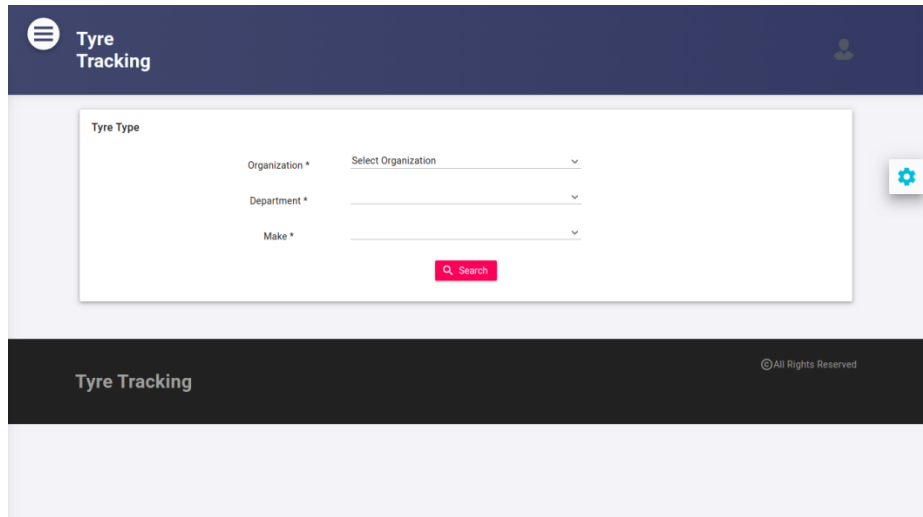
3. Tyre Details



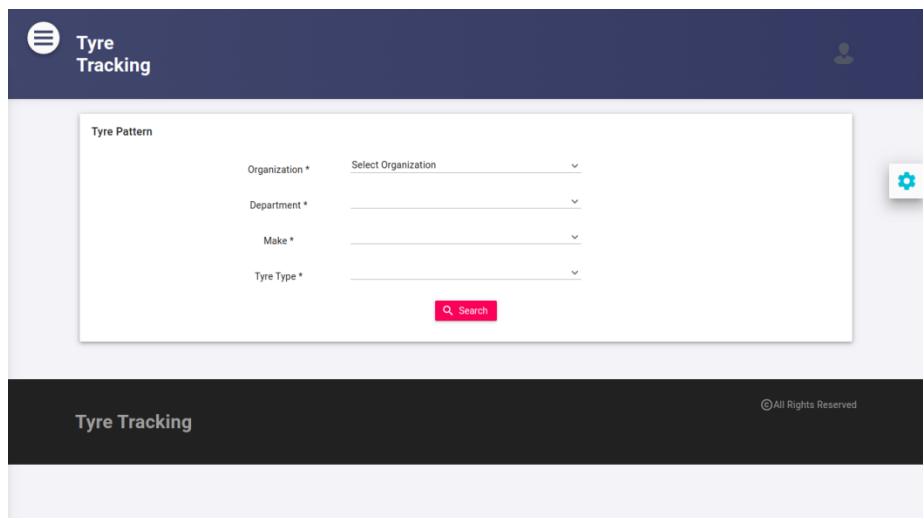
4. Tyre Make



5. Tyre Type



6. Tyre Pattern



7. Tyre Details

The screenshot displays the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a hamburger menu icon on the left, the text 'Tyre Tracking' in the center, and a user profile icon on the right. Below the header is a white form titled 'Tyre Details'. The form contains three dropdown menus: 'Organization *' with the placeholder text 'Select Organization', 'Department *', and 'Vehicle'. Below these fields is a red 'Search' button with a magnifying glass icon. To the right of the form is a settings gear icon. At the bottom of the page, there is a dark blue footer with 'Tyre Tracking' on the left and '©All Rights Reserved' on the right. A browser address bar at the very bottom shows the URL 'localhost:4200/#/mainPages/tyreDetails'.

8. Tyre History

The screenshot displays the 'Tyre Tracking' application interface for the 'Tyre History' section. The header and footer are identical to the previous screenshot. The main form is titled 'Tyre History' and includes the same 'Organization *' and 'Department *' dropdown menus. It also features a 'Report Type' section with two radio buttons: 'Assigned To Vehicle' (which is selected) and 'Not Assigned To Vehicle'. A red 'Search' button is positioned below the radio buttons. A settings gear icon is visible to the right of the form. The browser address bar at the bottom shows the URL 'localhost:4200/#/mainPages/tyreHistoryReport'.

9. Tyre Performance

The screenshot displays the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header, a white form titled 'Tyre Performance' is centered. The form contains the following fields: 'Organization *' (dropdown), 'Department *' (dropdown), 'From' (text input), and 'To' (text input). A red 'Search' button is located at the bottom right of the form. To the right of the form, there is a gear icon for settings. At the bottom of the page, a dark blue footer contains the text 'Tyre Tracking' and '©All Rights Reserved'. The browser's address bar at the bottom shows the URL 'localhost:4200/#/mainPages/tyrePerformanceReport'.

10. Position wise Tyre

The screenshot displays the 'Tyre Tracking' application interface for the 'Position Wise Tyre Report'. The header and footer are identical to the previous screenshot. The main form, titled 'Position Wise Tyre Report', includes the following fields: 'Organization *' (dropdown with 'Select Organization' text), 'Department *' (dropdown), 'Status' (radio buttons for 'Default', 'New', 'RTD1', 'RTD2', and 'RTD3'), and 'No Of Tyres' (radio buttons for '6', '8', '10', '12', '14', and '16'). There is also a checkbox labeled 'With Stepney'. A red 'Search' button is positioned at the bottom right of the form. A gear icon for settings is visible on the right side. The browser's address bar at the bottom shows the URL 'localhost:4200/#/mainPages/positionWiseTyreReport'.

3.14 Data Dictionary

Fields	Type	Size	Constraints	Description
ORG_ID	Smallint	5	Primary Key	Organization ID
ORG_NAME	Char	60	Not Null	Organization Name
ORG_ADDRESS	Varchar	100	Not Null	Organization Address
DEP_ID	Tinyint	3	Primary Key	Department ID
DEP_NAME	Varchar	100	Not Null	Department Name
DEP_ADDRESS	Varchar	100	Not Null	Department Address
DEP_CONTACT_NO	Char	15	Not Null	Department Contact Number
DEP_EMAIL_ID	Varchar	100	Not Null	Department Email
MAK_ID	Smallint	5	Primary Key	Tyre Make ID
MAK_NAME	Varchar	60	Not Null	Tyre Make Name
TTY_ID	Smallint	5	Primary Key	Tyre Type ID
TTY_NAME	Varchar	60	Not Null	Tyre Type Name
TPA_ID	Smallint	5	Primary Key	Tyre Pattern ID
TPA_NAME	Varchar	60	Not Null	Tyre Pattern

				Name
USR_ID	Smallint	5	Primary Key	User ID
UGP_ID	Tinyint	3	Not Null	User Group ID
USR_NAME	Char	20	Not Null	User Name
USR_PASSWORD	Char	40	Not Null	User Password
USR_FULL_NAME	Varchar	100	Not Null	User Name
TYR_ID	Smallint	5	Primary Key	Tyre ID
VEH_ID	Smallint	5	Primary Key	Vehicle ID
TYR_NO	Varchar	50	Not Null	Tyre Number
TYR_TAG_NO	Varchar	30	Not Null	Tyre Tag Number
TYR_POSITION	Varchar	30	Not Null	Tyre Position
TYR_LIFE_STATUS	Char	1	Not Null	Tyre Life Status (N = New , 1 = RTD1 , 2 = RTD2 , 3 = RTD3)
TYR_REMOULD_YN	Char	1	Not Null	Tyre Remould (Y= Yes , N = No)
TYR_SIZE	Varchar	20	Not Null	Tyre Size
TYR_NSD	Varchar	20	Not Null	Tyre NSD
TYR_BRAND	Varchar	50	Not Null	Tyre Brand

TYR_MAKE	Varchar	40	Not Null	Tyre Make
TYR_WORK_FLOW_STATUS	Char	1	Not Null	U = Usable , P = Punctured , R = Repair
TYR_NEW_RUNNING_KMS	float		Not Null	New Tyre Km
TYR_RTD1_RUNNING_KMS	float		Not Null	RTD1 Tyre Km
TYR_RTD2_RUNNING_KMS	float		Not Null	RTD2 Tyre Km
TYR_RTD3_RUNNING_KMS	float		Not Null	RTD3 Tyre Km
TYR_NEW_BENCHMARK_KMS	float		Not Null	New Tyre Benchmark Km
TYR_RTD1_BENCHMARK_KMS	float		Not Null	RTD1 Benchmark Tyre Km
TYR_RTD2_BENCHMARK_KMS	float		Not Null	RTD2 Benchmark Tyre Km
TYR_RTD3_BENCHMARK_KMS	float		Not Null	RTD3 Benchmark Tyre Km
TYR_ACTIVE_YN	Char	1	Not Null	Y = yes, N = No

3.15 Table Specification

1. Tyre

Fields	Type	Size	Constraints	Description
TYR_ID	Smallint	5	Primary Key	Tyre ID
VEH_ID	Smallint	5	Primary Key	Vehicle ID
TYR_NO	Varchar	50	Not Null	Tyre Number
TYR_TAG_NO	Varchar	30	Not Null	Tyre Tag Number
TYR_POSITION	Varchar	30	Not Null	Tyre Position
TYR_LIFE_STATUS	Char	1	Not Null	Tyre Life Status (N = New , 1 = RTD1 , 2 = RTD2 , 3 = RTD3)
TYR_REMOULD_YN	Char	1	Not Null	Tyre Remould (Y= Yes , N = No)
TYR_SIZE	Varchar	20	Not Null	Tyre Size
TYR_NSD	Varchar	20	Not Null	Tyre NSD
TYR_BRAND	Varchar	50	Not Null	Tyre Brand
TYR_MAKE	Varchar	40	Not Null	Tyre Make

TYR_WORK_FLOW_STATUS	Char	1	Not Null	U = Usable , P = Punctured , R = Repair
TYR_NEW_RUNNING_KMS	float		Not Null	New Tyre Km
TYR_RTD1_RUNNING_KMS	float		Not Null	RTD1 Tyre Km
TYR_RTD2_RUNNING_KMS	float		Not Null	RTD2 Tyre Km
TYR_RTD3_RUNNING_KMS	float		Not Null	RTD3 Tyre Km
TYR_NEW_BENCHMARK_KMS	float		Not Null	New Tyre Benchmark Km
TYR_RTD1_BENCHMARK_KMS	float		Not Null	RTD1 Benchmark Tyre Km
TYR_RTD2_BENCHMARK_KMS	float		Not Null	RTD2 Benchmark Tyre Km
TYR_RTD3_BENCHMARK_KMS	float		Not Null	RTD3 Benchmark Tyre Km
TYR_ACTIVE_YN	Char	1	Not Null	Y = yes, N = No

2. Organization

Fields	Type	Size	Constraints	Description
ORG_ID	Smallint	5	Primary Key	Organization ID
ORG_NAME	Char	60	Not Null	Organization Name
ORG_ADDRESS	Varchar	100	Not Null	Organization Address

3. Department

Fields	Type	Size	Constraints	Description
DEP_ID	Tinyint	3	Primary Key	Department ID
DEP_NAME	Varchar	100	Not Null	Department Name
DEP_ADDRESS	Varchar	100	Not Null	Department Address
DEP_CONTACT_NO	Char	15	Not Null	Department Contact Number
DEP_EMAIL_ID	Varchar	100	Not Null	Department Email

4. Make

Fields	Type	Size	Constraints	Description
MAK_ID	Smallint	5	Primary Key	Tyre Make ID
MAK_NAME	Varchar	60	Not Null	Tyre Make Name

5. Tyre Type

Fields	Type	Size	Constraints	Description
TTY_ID	Smallint	5	Primary Key	Tyre Type ID
TTY_NAME	Varchar	60	Not Null	Tyre Type Name

6. Tyre pattern

Fields	Type	Size	Constraints	Description
TPA_ID	Smallint	5	Primary Key	Tyre Pattern ID
TPA_NAME	Varchar	60	Not Null	Tyre Pattern Name

7. User

Fields	Type	Size	Constraints	Description
USR_ID	Smallint	5	Primary Key	User ID
UGP_ID	Tinyint	3	Not Null	User Group ID
USR_NAME	Char	20	Not Null	User Name
USR_PASSWORD	Char	40	Not Null	User Password
USR_FULL_NAME	Varchar	100	Not Null	User Name

3.16 Test Procedures and Implementation

ID	Objective	Action	Expected Result	Actual Result	Status
1	Incorrect Username and Password	Display Error Message	Error at Sign in for Wrong Username and Password Message Display	Error message gets displayed	Pass
2	Correct Username and Password	Redirect	Redirect to dashboard Screen.	Redirected to Dashboard Home Screen.	Pass
3	Click on search button without selecting organization and department	Display warning message	Warning to select all required fields	Warning message to select required fields	Pass
4	Select organization and click search	Display warning message to select department	Warning to select department	Warning message to select department	Pass
5	Select organization and department and click search for no available data	Display informative message to inform user about no available data	Message about no data	Message about no data available	Pass

6	Select organization and department and click search for data	Display appropriate data inside table	Display data in table	Display data in table	Pass
7	Select from date greater than to date	Display error message	Display from date should be less than to date and clear both fields	Display from date should be less than to date and clear both fields	Pass
8	Select from date less than to date	Proceed for further input	Focus on next input	Focus on next input	Pass
9	Enter text for mobile number	Display error message while entering text	Display invalid format error while entering text	Display invalid format error while entering text	Pass
10	Hide button based on table column data	Hide specific button for specific record if column is blank	Hide button	Hide Button	Pass
11	Click on add record without entering data	Display error message to notify user about blank fields	Display error message	Display error message	Pass
12	Without entering required	Disable save button until all required	Disable save button	Disable save button	Pass

	fields disable save button	fields are entered			
13	On cancel button click clear all input values	Clear all input values on cancel button click	Clear input values	Clear input values	Pass
14	Redirect user to access denied page when accessing administrative forms	Redirect to access denied form for administrative privileges	Redirect to access denied form	Redirect to access denied form	Pass
15	Display reports to user based on his orgId and depId and hide organization and department selection	Hide organization and department selection for user and display reports based on his orgId and depId	Hide selection and display report	Hide selection and display report	Pass

Chapter 4: USER MANUAL

4.1 User manual

4.2 Menu Explanation

4.3 Program Specification

4.1 User Manual

Login:-

1. User enters valid username and password.
2. Click onto Login Button.

Dashboard:-

1. Display data in graphical format for his organization and department.

Tyre Details:-

1. Display entire tyre related data in table.
2. Provides user with various options to view logs, dismount tyre, assign tyre, swap tyre, etc.
3. Allows user to download data CSV.

Tyre Make:-

1. Display tyres make related data in table.
2. Provides user to add, update, delete make data.
3. Allows user to download data CSV.

Tyre Type:-

1. Display tyres type related data in table.
2. Provides user to add, update, delete make data.
3. Allows user to download data CSV.

Tyre Pattern:-

1. Display tyres pattern related data in table.
2. Provides user to add, update, delete make data.
3. Allows user to download data CSV.

Tyre History:-

1. Display tyres history in table for his organization and department.
2. Allows user to download data CSV.

Tyre Performance:-

1. Display tyres performance in table for his organization and department.
2. Allows user to download data CSV.

Position wise Tyre:-

1. Display position wise tyre in table for his organization and department.
2. Allows user to download data CSV.

Action Plan Based on Km:-

1. Display action plan in table for his organization and department.
2. Allows user to download data CSV.

Tyre Rotation:-

1. Display tyre rotation information in table for his organization and department.
2. Allows user to download data CSV.

Tyre Disk Flip:-

1. Display tyre disk flip information in table for his organization and department.
2. Allows user to download data CSV.

Daily Distance Report:-

1. Display daily Kms travelled by tyre on selection on date in table for his organization and department.
2. Also data is shown in bar graph.
3. Allows user to download data CSV.

Distance Summary Report:-

1. Display distance summary information for selected date of vehicle in table for his organization and department.
2. Allows user to download data CSV.

4.2 Menu Explanation

1. User logs into Tyre Tracking.
2. User is presented with dashboard with all the required information about tyres related to his organization and department.
3. Click on the menu icon to view all available menus.
4. User clicks on tyre details menu-
 - 4.1. User is presented with all tyres associated with his organization and department and their corresponding information.
 - 4.2. Option to download CSV file is available.
 - 4.3. Multiple options are provided to perform various operations on tyres inside the table.
5. User clicks on tyre make-
 - 5.1. User is presented with tyre make data.
 - 5.2. He can also perform various tasks such as add, update or delete any tyre make.
 - 5.3. CSV file download is also available.

6. User clicks on tyre type-
 - 6.1. User needs to select any tyre make and data based on that make is presented to user.
 - 6.2. He can also perform various tasks such as add, update or delete any tyre type.
 - 6.3. CSV file download is also available.

7. User clicks on tyre pattern-
 - 7.1. User needs to select tyre make based on which tyre types need to be selected and data based on those selections is presented to user.
 - 7.2. He can also perform various tasks such as add, update or delete any tyre pattern.
 - 7.3. CSV file download is also available.

8. User clicks on tyre history report-
 - 8.1. User needs to select either from the two options and click search to see data.
 - 8.2. CSV file download is also available.

9. User clicks on tyre performance report-
 - 9.1. User is presented tyre performance report.
 - 9.2. Optionally he can select from date and to date for viewing result. By default all information is loaded
 - 9.3. CSV file download is also available.

10. User clicks on position wise tyre report-
 - 10.1. User needs to select any one of status, any one of no of tyres, and optionally can select with Stepney based on which data is presented to user.
 - 10.2. CSV file download is also available.

11. User clicks on action plan based on Km report-
 - 11.1. User needs to select any one of the status based on which data is presented to user.
 - 11.2. CSV file download is also available.

12. User clicks on tyre rotation report-
 - 12.1. User is presented tyre rotation report.
 - 12.2. CSV file download is also available.

13. User clicks on tyre disk flip report-

13.1. User is presented tyre disk flip report.

13.2. CSV file download is also available.

14. User clicks on daily distance report-

14.1. User needs to select vehicle, from date and to date
to view report.

14.2. CSV file download is also available.

15. User clicks on distance summary report-

15.1. User needs to select date to view report.

15.2. CSV file download is also available.

4.3 Program Specification

Program Name	Constraint	Description
Login	Enter correct username and password.	Login details get checked against database.
Dashboard	Access is based on user login.	Only data related to that specific user is accessible.
Tyre Details	By default information about all vehicles is available. Optionally user can select a specific vehicle to view only its details.	Further actions can be performed against each tyre.
Tyre Make	By default user is presented with data. Further he can perform operations like add, update or delete with all required parameters.	Any updated details gets stored in database and reflected as soon as status becomes success.
Tyre Type	User needs to select tyre make to view data. Further he can perform operations like add, update or delete with all required parameters.	Any updated details gets stored in database and reflected as soon as status becomes success.

Tyre Pattern	<p>User needs to select tyre make and tyre type to view data.</p> <p>Further he can perform operations like add, update or delete with all required parameters.</p>	Any updated details gets stored in database and reflected as soon as status becomes success.
Tyre History Report	User needs to select any one of the parameter to view report.	Only data related to that specific parameter is displayed.
Tyre Performance Report	<p>By default user is presented with data.</p> <p>Optionally he can select from what date to what date he needs to view data.</p>	<p>By default every record specific to user is displayed.</p> <p>For selected date only records for those dates are displayed.</p>
Position wise tyre	<p>User needs to select any one from the status and no of tyres.</p> <p>Optionally he can choose whether he wants to view Stepney data as well.</p>	Data related to selected parameters is displayed.
Action plan based on Km	User needs to select any one from the status.	Data related to selected parameter is displayed.

Tyre disk flip report	By default user is presented with data associated to his organization and department.	Every record specific to user is displayed.
Tyre rotation report	By default user is presented with data associated to his organization and department.	Every record specific to user is displayed.
Daily distance report	User needs to select a vehicle and specify from date and to date to view data.	Data based on selected parameters is displayed to user.
Distance summary report	User needs to select date to view data.	Data based on selected parameters is displayed to user.

Drawbacks and Limitations

- Manual entry is required since the instrument has got limitation to connect to database.

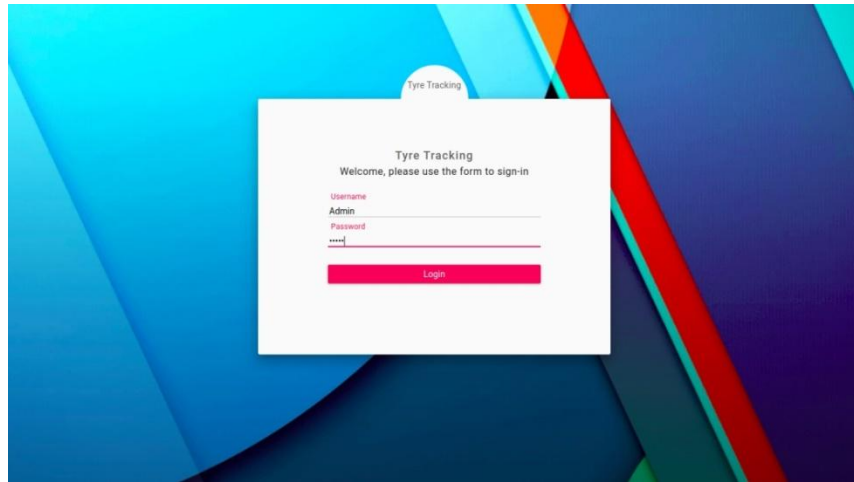
Proposed Enhancements

- The project can be further enhanced for studying life of remoulded tyres.

Annexures

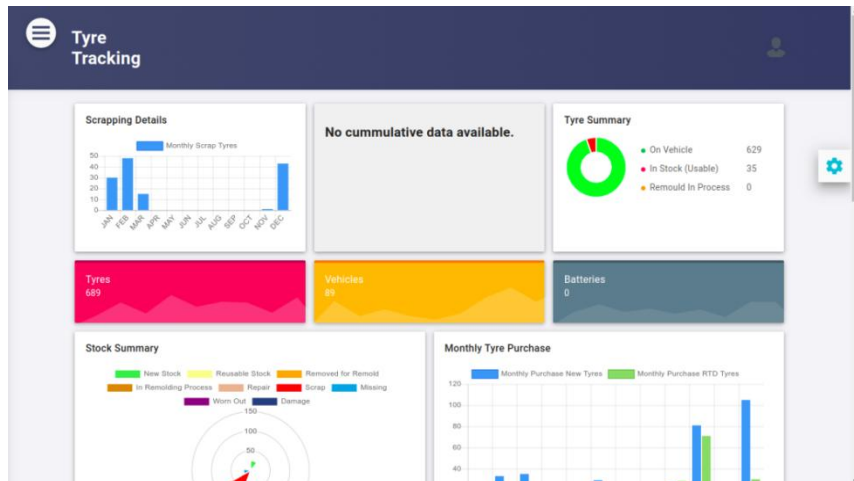
Annexure 1

1. Login

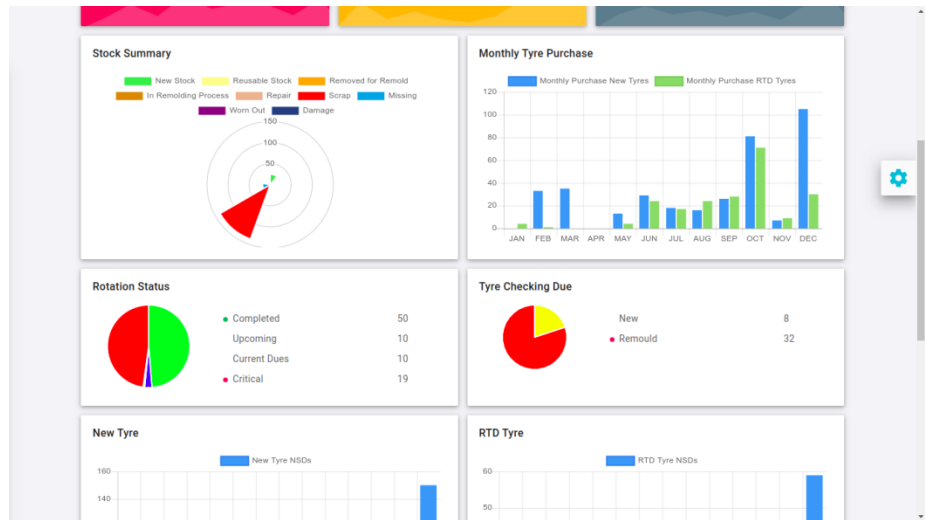


2. Dashboard

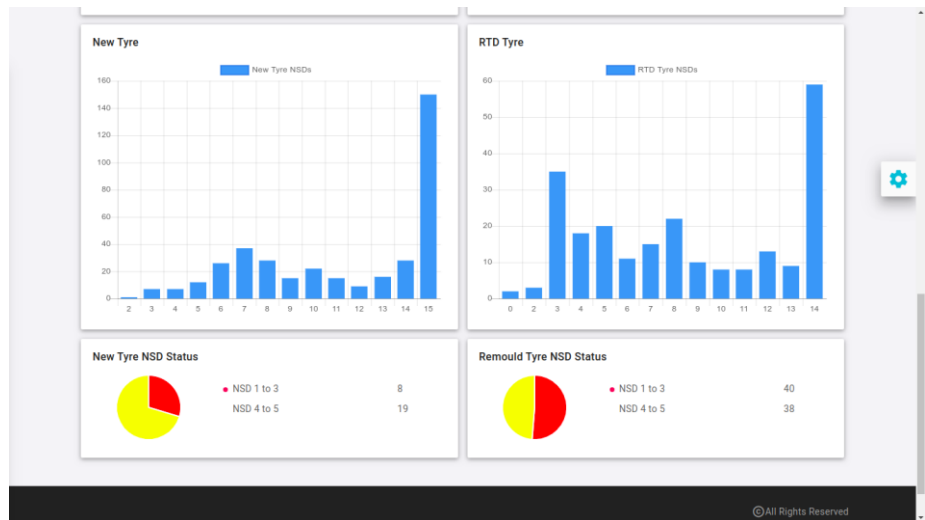
2.1.



2.2.



2.3.



3. Tyre Details

3.1.

The screenshot shows a web application interface for 'Tyre Details'. At the top, there is a red '+ New' button. Below it is a red header bar with the title 'Tyre Details' and a pagination indicator showing '1' of 1 items. The main content is a table with the following columns: 'Assigned To Vehicle', 'Tyre No', 'Tyre Tag No', 'Tyre Position', 'Inner NSD', 'Center NSD', and 'Outer NSD'. There are search filters for 'Search by vehicle no' and 'Search by tyre no'. The table contains three rows of data.

Assigned To Vehicle	Tyre No	Tyre Tag No	Tyre Position	Inner NSD	Center NSD	Outer NSD
NA	98745632100	98745632100		5	5	5
	987456321000	987456321000		15	15	15
NA	1			15	15	15

3.2.

The screenshot shows a web application interface for 'Tyre Details'. At the top, there is a red '+ New' button. Below it is a red header bar with the title 'Tyre Details' and a pagination indicator showing '1' of 1 items. The main content is a table with the following columns: 'Assigned To Vehicle', 'Tyre No', 'Center NSD', 'Outer NSD', 'Type', 'Tyre Pattern', 'Make', and 'Date Of Purchase'. There are search filters for 'Search by vehicle no' and 'Search by tyre no'. The table contains three rows of data.

Assigned To Vehicle	Tyre No	Center NSD	Outer NSD	Type	Tyre Pattern	Make	Date Of Purchase
NA	98745632100	5	5	TT	M751	Continental	26-02-2020
	987456321000	15	15	TT	M751	Continental	26-02-2020
NA	1	15	15	TT	M751	Continental	10-12-2019

3.3.

[+ New](#)

Tyre Details						
Assigned To Vehicle	Tyre No	Life Status	Work Flow Status	Benchmark Kms	Running Kms	Disk Flip Km
Search by vehicle no	Search by tyre no					
NA	98745632100	New	Usable	0	0	0
	987456321000	New	Usable	0	0	0
NA	1	New	Usable	8000	0	0

3.4.

[+ New](#)

Tyre Details					
Assigned To Vehicle	Tyre No	Rotation Kms	Rotation Date	Total Kms	Options
Search by vehicle no	Search by tyre no				Change
NA	98745632100	0		0	Edit + Assign To Details Delete Scrap
	987456321000	0		0	Edit + Assign To Details Delete Scrap
NA	1	0		0	Edit + Assign To Details Delete Scrap

3.5.

Tyre Logs

Tyre No	Vehicle No	Tyre Position	Event	Event Date	Tyre Kms	Tread Depth (Left)	Tread Depth (Center)	Tread Depth (Right)	Average Tread Depth	Odometer Reading	Tyre Total Km	Cost
1			Tyre purchase	2020-03-09 18.06.04.0		15	15	15				

Buttons: CSV, Close

3.6.

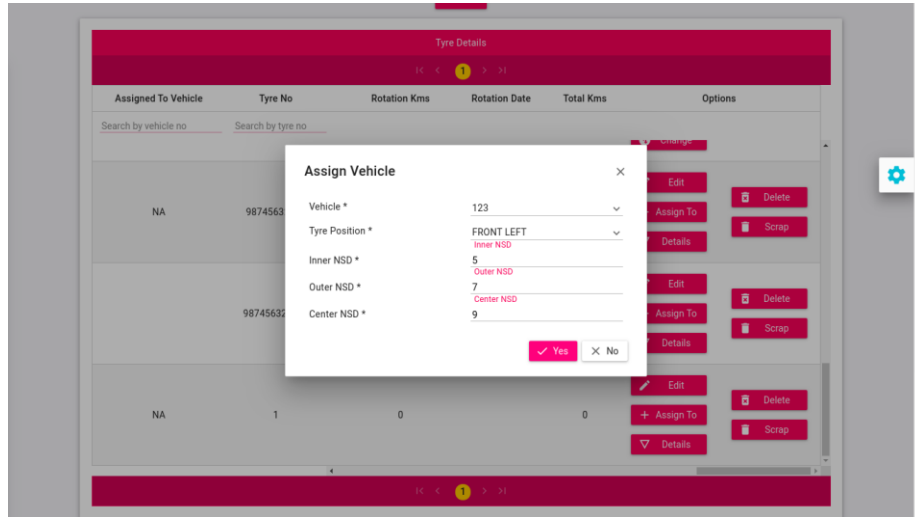
Tyre Tracking

Tyre No * Tyre Tag No *
 Make * Tyre Type *
 Pattern * Date Of Purchase *
 Vendor * Purchase Cost *

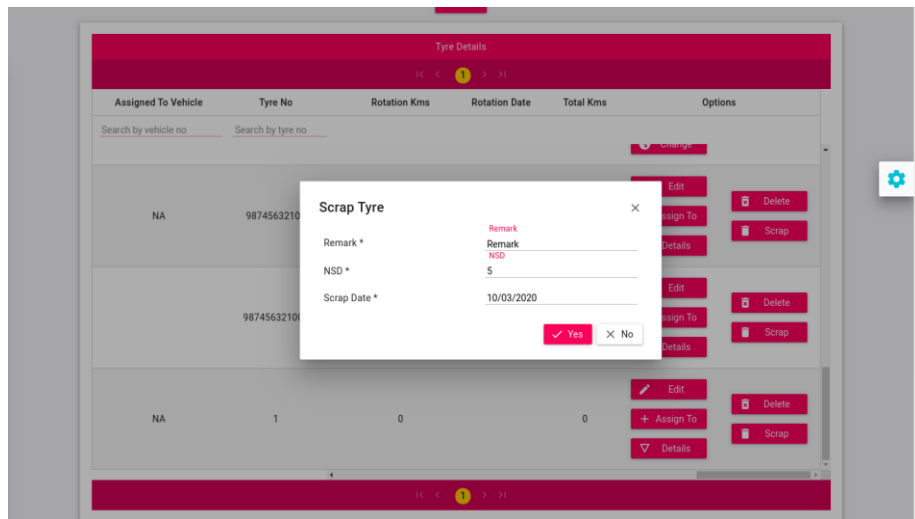
Buttons: Save, Cancel

©All Rights Reserved

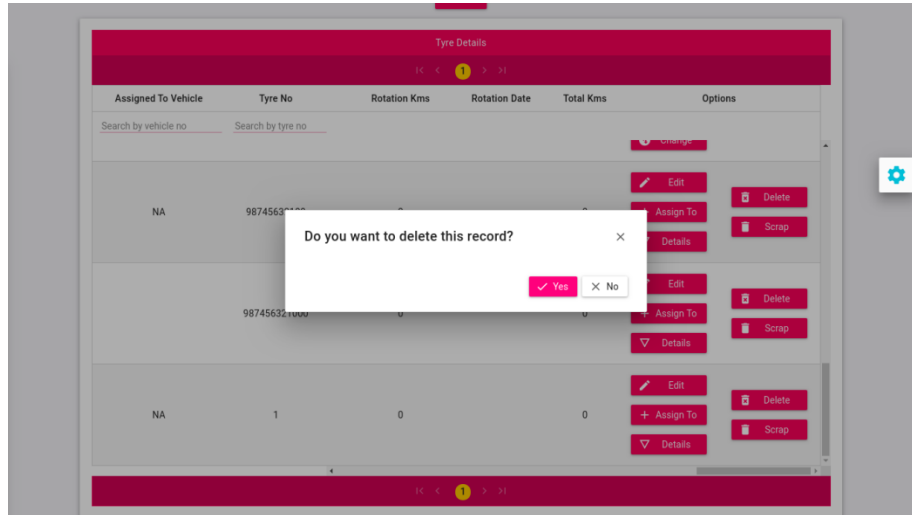
3.7.



3.8.

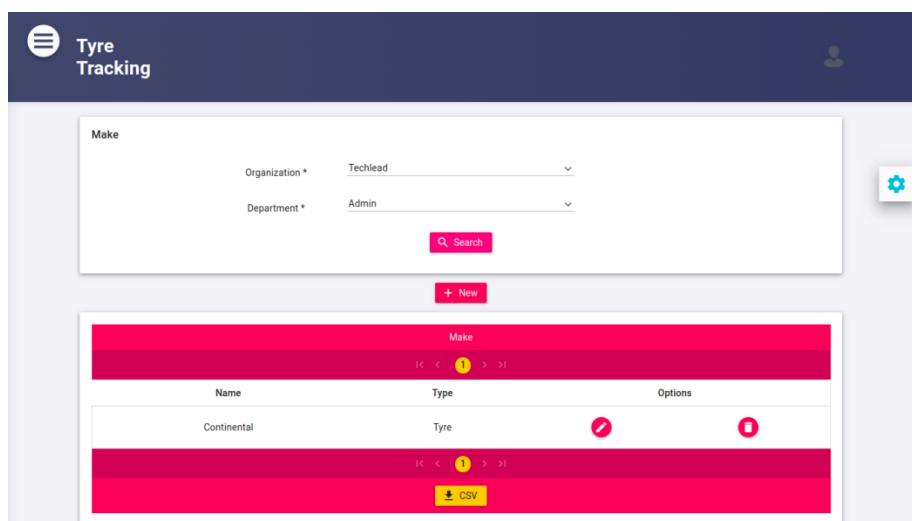


3.9.

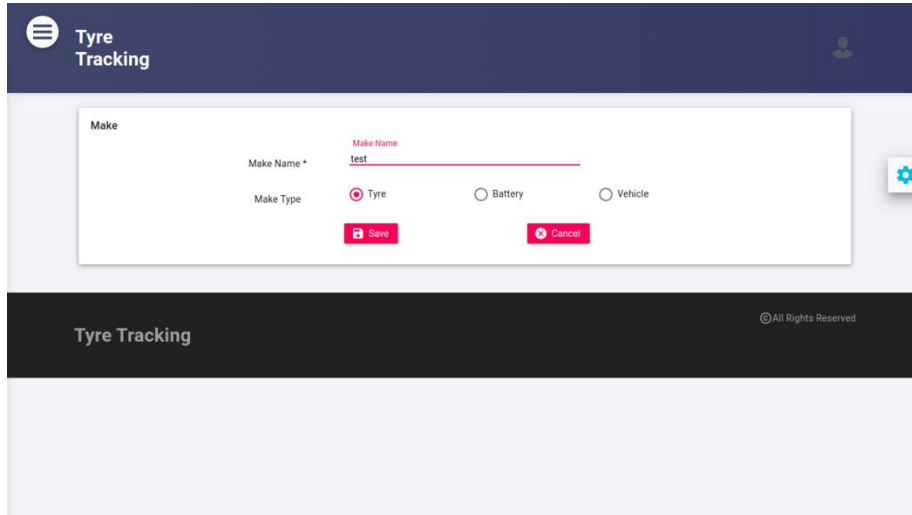


4. Tyre Make

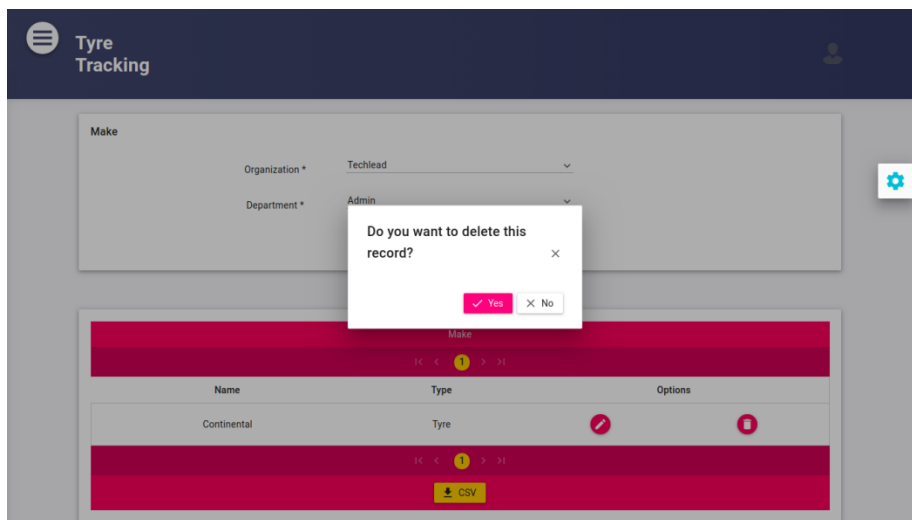
4.1.



4.2.





4.3.



5. Tyre Type

5.1.

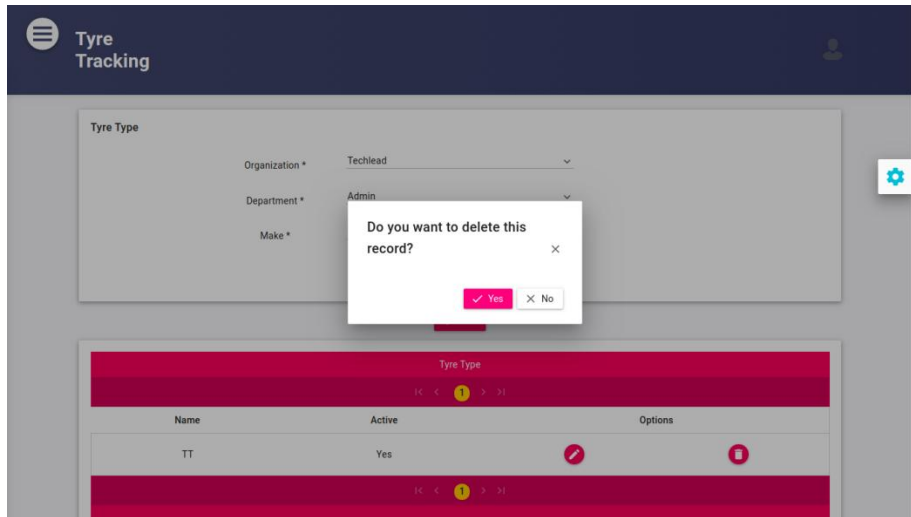
The screenshot shows the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header, there is a search form titled 'Tyre Type'. The form contains three dropdown menus: 'Organization *' with 'Techlead' selected, 'Department *' with 'Admin' selected, and 'Make *' with 'Continental' selected. Below these is a pink 'Search' button and a '+ New' button. Underneath the search form is a table with a pink header and a single row of data. The table has columns for 'Name', 'Active', and 'Options'. The row contains 'TT', 'Yes', and two red circular icons with white symbols. The table has pagination controls at the bottom.

Name	Active	Options
TT	Yes	 

5.2.

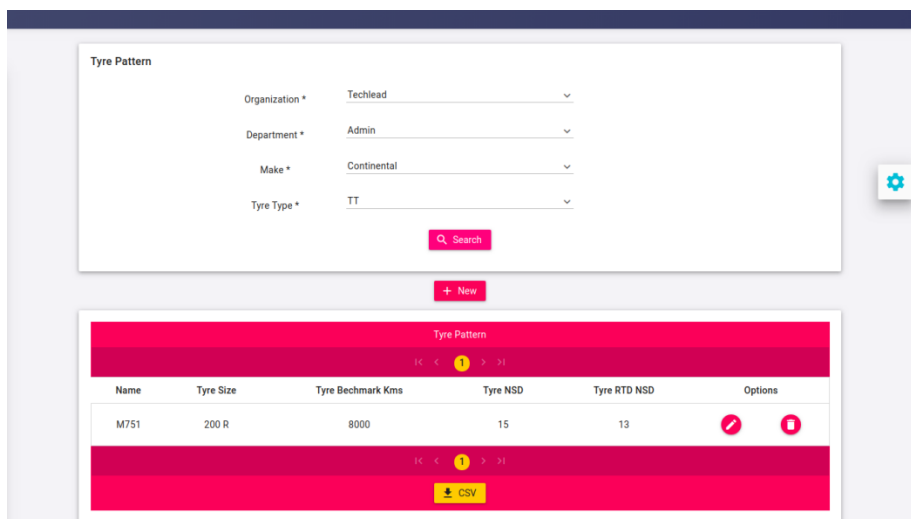
The screenshot shows the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header, there is a form titled 'Tyre Type'. The form contains a text input field for 'Type Name *' with the value 'test' and a red error bar below it. Below this is a radio button group for 'Active' with 'Yes' selected. At the bottom of the form are 'Save' and 'Cancel' buttons. Below the form is a dark blue footer with the text 'Tyre Tracking' and '©All Rights Reserved'.

5.3.



6. Tyre Pattern

6.1.



6.2.

The screenshot shows the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header is a white form titled 'Tyre Pattern'. The form contains the following fields and values:

- Pattern Name *: M751
- Tyre Size *: 200 R
- Tyre NSD *: 15
- Tyre RTD NSD *: 13
- Tyre Benchmark Km *: 8000
- Active: Yes No

At the bottom of the form are two buttons: 'Save' and 'Cancel'. A settings gear icon is visible on the right side of the form area. The footer of the application shows 'Tyre Tracking' and '© All Rights Reserved'.



6.3.

The screenshot shows the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header is a white form titled 'Tyre Pattern' with the following fields and values:

- Organization *: Techlead
- Department *: Admin
- Make *: Continental
- Tyre Type *: TT

A modal dialog box is displayed in the center of the screen with the text: 'Do you want to delete this record?' and two buttons: 'Yes' and 'No'.

Below the form is a table with the following columns: Name, Tyre Size, Tyre Bechmark Kms, Tyre NSD, Tyre RTD NSD, and Options. The table contains one row of data:

Name	Tyre Size	Tyre Bechmark Kms	Tyre NSD	Tyre RTD NSD	Options
M751	200 R	8000	15	13	 

At the bottom of the table is a 'CSV' button. A settings gear icon is visible on the right side of the table area.

Upload Tyre Km

Tyre Tracking

Tyre Upload

Organization * Techlead

Department * Admin

[View Sample Template](#)

+ Choose Upload Cancel

Vehicle.csv 49 B

Tyre Tracking ©All Rights Reserved

Annexure 2 – (Reports)

7. Tyre History

7.1.

Tyre History

Organization * Techlead

Department * Admin

Report Type Assigned To Vehicle Not Assigned To Vehicle

[Search](#)

Tyre History												
Make	Tyre No	Current Vehicle	Current Position	Status	Tyre New Kms	Tyre RTD1 Kms	Tyre RTD2 Kms	Tyre RTD3 Kms	Tyre RTD4 Kms	Total Tyre Kms	Tyre NSD	Event Date
Continental	XYZ	MH 12 AB 1111	3	RTD1	0	0	0	0	0	0	10.0	11-02-2020
Continental	aswasd	MH 12 AB 1111	FR2	RTD3	0	0	0	0	0	0	10.0	11-02-2020
Continental	987456321	123	FRONT LEFT	New	0	0	0	0	0	0	10	23-02-2020

[CSV](#)

7.2.

Report Type Assigned To Vehicle Not Assigned To Vehicle

[Search](#)

Tyre History											
Make	Tyre No	Status	Tyre New Kms	Tyre RTD1 Kms	Tyre RTD2 Kms	Tyre RTD3 Kms	Tyre RTD4 Kms	Total Tyre Kms	Tyre NSD	Event Date	
Continental	abc0	RTD3	0	0	0	0	0	0	5.0	16-03-2020	
Continental	000asdjak	RTD3	0	0	0	0	0	0	10.0	25-02-2020	
Continental	12345	RTD2	0	0	0	0	0	0	10.0	11-02-2020	
Continental	tech1001	New	0	0	0	0	0	0	15	-	
Continental	9874563210	New	0	0	0	0	0	0	5.0	26-02-2020	
Continental	98745632100	New	0	0	0	0	0	0	5.0	26-02-2020	
Continental	987456321000	New	0	0	0	0	0	0	15	-	
Continental	1	New	0	0	0	0	0	0	15	-	

[CSV](#)

8. Tyre Performance

Tyre Performance

Organization * Techlead
 Department * Admin
 From: From
 To: To

[Search](#)

Tyre Performance Report

1

Make	Scrap				RTD				Overall	
	New to scrap avg. kms	New to scrap no of tyres	RTD to scrap avg kms	RTD to scrap no of tyres	New to RTD avg. kms	New to RTD no of tyres	RTD to RTD avg kms	RTD to RTD no of tyres	Avg. new tyre kms	Avg. RTD tyre kms
Continental	0	0	0	0	0	0	0	0	0	0
Weighted Avg.	0	0	0	0	0	0	0	0	0	0

1

9. Position wise Tyre Report

9.1.

Tyre Tracking

Position Wise Tyre Report

Organization * Techlead
 Department * Admin

Status Default New RTD1 RTD2 RTD3

No Of Tyres 6 8 10 12 14 16

With Stepney

[Search](#)

Position Wise Tyre Report

1 2 3 4 5

Vehicle Number	FRONT LEFT	FRONT RIGHT	REAR LEFT INNER	REAR LEFT OUTER	REAR RIGHT INNER	REAR RIGHT OUTER	Grand Total	Options
1462062	0	0	0	0	0	0	0	Details

9.2.

Position Wise Tyre Report								
Vehicle Number	FRONT LEFT	FRONT RIGHT	REAR LEFT INNER	REAR LEFT OUTER	REAR RIGHT INNER	REAR RIGHT OUTER	Grand Total	Options
1462062	0	0	0	0	0	0	0	Details
14620365	0	0	0	0	0	0	0	Details
1438904	0	0	0	0	0	0	0	Details
1428045	0	0	0	0	0	0	0	Details
123A	0	0	0	0	0	0	0	Details
123	0	0	0	0	0	0	0	Details
1213926	0	0	0	0	0	0	0	Details
086696803017116	0	0	0	0	0	0	0	Details
071D6D	0	0	0	0	0	0	0	Details
018965267435	0	0	0	0	0	0	0	Details

10. Action Plan Report

Action Plan Based On Kms						
Organization *	Techlead					
Department *	Admin					
Status	<input checked="" type="radio"/> New	<input type="radio"/> RTD1	<input type="radio"/> RTD2	<input type="radio"/> RTD3		
Search						
Action Plan Based On Kms Wise Analysis						
Tyre No	Make	Current Status	Tyre Kms Run	Current Vehicle	Position	
6854153	MRF	Usable	5000	MH 12 A 11	Front Left	
3873545	MRF	Usable	3000	MH 12 A 12	Front RIGHT	
9877788	MRF	Usable	7000	MH 12 A 13	REAR Left	
1375838	MRF	Usable	4500	MH 12 A 14	REAR Left	
CSV						

11. Tyre Rotation Report

The screenshot displays the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header, the main content area is titled 'Tyre Rotation Action Plan'. It features two dropdown menus: 'Organization *' set to 'Techlead' and 'Department *' set to 'Admin'. A red 'Search' button is positioned below these filters. The report itself is a table with a red header and footer. The table has five columns: 'Vehicle No', 'Tyre No', 'Tyre Position', 'Current Km', and 'Current Due Rotation Km'. The data rows are as follows:

Vehicle No	Tyre No	Tyre Position	Current Km	Current Due Rotation Km
MH 12 A 11	2143	REAR RIGHT OUTER	51887	51887
MH 12 A 12	35542	REAR LEFT OUTER	55557	55557
MH 12 A 13	35355	REAR RIGHT INNER	61109	61109
MH 12 A 14	3535	REAR RIGHT INNER	54236	54236

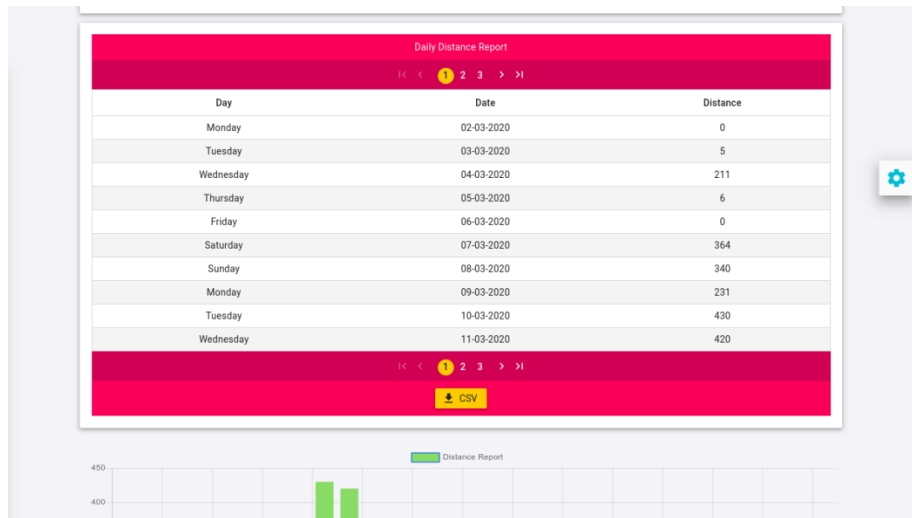
Below the table, there is a red bar with a yellow 'CSV' download button and navigation arrows.

12. Daily Distance Report

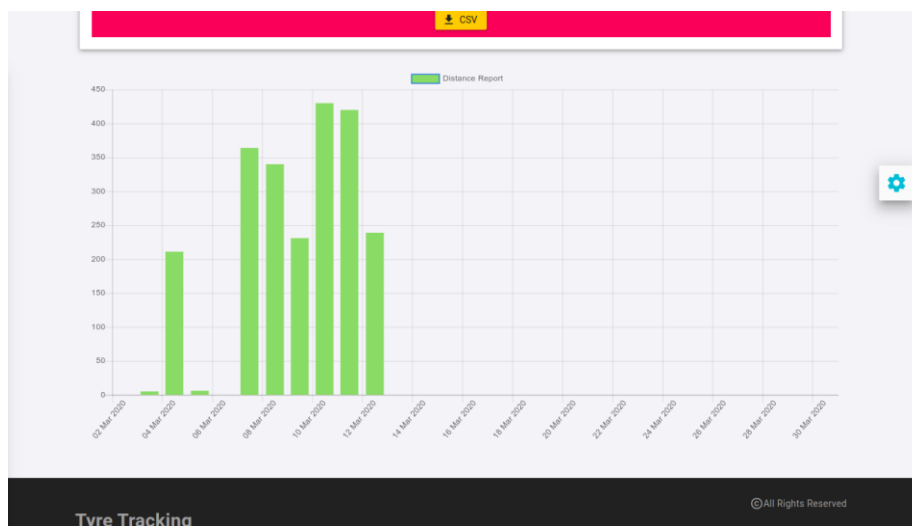
12.1.

The screenshot displays the 'Tyre Tracking' application interface. At the top, there is a dark blue header with a menu icon and the text 'Tyre Tracking'. Below the header, the main content area is titled 'Daily Distance Report'. It features several input fields: 'Organization *' set to 'Techlead', 'Department *' set to 'Admin', 'Vehicle *' set to '123', 'From *' set to '02/03/2020', and 'To *' set to '31/03/2020'. A red 'Search' button is positioned below these fields. The footer of the application is dark blue with the text 'Tyre Tracking' on the left and '©All Rights Reserved' on the right.

12.2.



12.3.



Annexure 3 – (Coding)

13. Action Plan HTML

13.1.

```
src > app > techlead > components > action-plan-based-report > action-plan-based-report.component.html > div-p-col-12-p-sm-12-p-xl-12 > div-card > p-table > ng-template > tr > td
1 <p-blockUI [blocked]="blockedDocument"></p-blockUI>
2 <p-progressBar *ngIf="progressBar" mode="indeterminate" [style]="{height: '6px'}"></p-progressBar>
3 <p-toast [style]="{margin: '5px'}" position="top-right"></p-toast>
4 <div class="dashboard">
5   <div class="p-grid dashboard-grid">
6     <div class="p-col-12 p-sm-12 p-xl-12 overview-box monthly-sales">
7       <div class="card">
8         <div class="card-title">Action Plan Based On Kms</div>
9         <div class="ui-g form-group">
10           <div *ngIf="checkUserGroupForOrg" class="ui-g-12 ui-md-2"></div>
11           <div *ngIf="checkUserGroupForOrg" class="ui-g-12 ui-md-2 ui-lg-2" style="text-align: center;margin-top: 0.8%;">
12             <label style="width: 100%;>Organization </label>
13           </div>
14           <div *ngIf="checkUserGroupForOrg" class="ui-g-12 ui-md-4">
15             <span class="md-inputfield">
16               <p-dropdown [options]="checkUserGroupComponent.organizations" (onChange)="getDepartments(selectedOrganizatio
17             </span>
18           </div>
19           <div *ngIf="checkUserGroupForOrg" class="ui-g-12 ui-md-4"></div>
20           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-2"></div>
21           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-2 ui-lg-2" style="text-align: center;margin-top: 0.8%;">
22             <label style="width: 100%;>Department </label>
23           </div>
24           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-4">
25             <span class="md-inputfield">
26               <p-dropdown [options]="checkUserGroupComponent.departments" [(ngModel)]="selectedDepartment" required name=
27             </span>
28           </div>
29           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-4"></div>
30           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-4"></div>
31           <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-4"></div>
32           <div class="ui-g-12 ui-md-1"></div>
33           <div class="ui-g-12 ui-md-2 ui-lg-2" style="text-align: center;margin-top: 0.8%;">
34             <label style="width: 100%;>Status</label>
35           </div>
36         </div>
37       </div>
38     </div>
39   </div>
40 </div>
41 </div>
42 </div>
43 </div>
44 </div>
45 </div>
46 </div>
47 </div>
48 </div>
49 </div>
50 </div>
51 </div>
52 </div>
53 </div>
54 </div>
55 </div>
56 </div>
57 </div>
58 </div>
59 <div class="p-col-12 p-sm-12 p-xl-12" style="text-align: center;">
60   <button (click)="getActionPlanBasedReport()" type="button" label="Search" pButton icon="ui-icon-search"></button>
61 </div>
62 </div>
63 </div>
64 </div>
65 </div>
```

13.2.

```
src > app > techlead > components > action-plan-based-report > action-plan-based-report.component.html > div-p-col-12-p-sm-12-p-xl-12 > div-card > p-table > ng-template > tr > td
59 <div *ngIf="checkUserGroup" class="ui-g-12 ui-md-4"></div>
60 <div class="ui-g-12 ui-md-1"></div>
61 <div class="ui-g-12 ui-md-2 ui-lg-2" style="text-align: center;margin-top: 0.8%;">
62   <label style="width: 100%;>Status</label>
63 </div>
64 <div class="ui-g-12 ui-md-2">
65   <span class="md-inputfield">
66     <p-radioButton name="status" value="New" label="New {{newKm}} [(ngModel)]="status" ></p-radioButton>
67   </span>
68 </div>
69 <div class="ui-g-12 ui-md-2">
70   <span class="md-inputfield">
71     <p-radioButton name="status" value="RTD1" label="RTD1 {{rtd1Km}} [(ngModel)]="status" ></p-radioButton>
72   </span>
73 </div>
74 <div class="ui-g-12 ui-md-2">
75   <span class="md-inputfield">
76     <p-radioButton name="status" value="RTD2" label="RTD2 {{rtd2Km}} [(ngModel)]="status" ></p-radioButton>
77   </span>
78 </div>
79 <div class="ui-g-12 ui-md-2">
80   <span class="md-inputfield">
81     <p-radioButton name="status" value="RTD3" label="RTD3 {{rtd3Km}} [(ngModel)]="status" ></p-radioButton>
82   </span>
83 </div>
84 <div class="ui-g-12 ui-md-1"></div>
85 </div>
86 <div class="p-col-12 p-sm-12 p-xl-12" style="text-align: center;">
87   <button (click)="getActionPlanBasedReport()" type="button" label="Search" pButton icon="ui-icon-search"></button>
88 </div>
89 </div>
90 </div>
91 </div>
```


13.3.

```
src > app > techlead > components > action-plan-based-report > action-plan-based-report.component.html > div-p-col-12-p-sm-12-p-xl-12 > div-card > p-table > ng-template > tr > td
64 </div>
65 </div>
66
67
68 <div *ngIf="isTableVisible" class="p-col-12 p-sm-12 p-xl-12">
69 <div class="card">
70 <p-table #actionPlan exportFilename="Action Plan" paginatorPosition="both" [paginator]="true" [rows]="10" [resizableColumns]="true"
71 <ng-template pTemplate="caption">
72 Action Plan Based On Kms Wise Analysis
73 </ng-template>
74 <ng-template pTemplate="header" let-columns>
75 <tr>
76 <th *ngFor="let col of columns" style="text-align: center;">
77 {{col.header}}
78 </th>
79 </tr>
80 </ng-template>
81 <ng-template pTemplate="body" let-rowData let-columns="columns">
82 <tr>
83 <td *ngFor="let col of columns" style="text-align: center;">
84 {{rowData[col.field]}}
85 </td>
86 </tr>
87 </ng-template>
88 <ng-template pTemplate="summary">
89 <button type="button" pButton iconPos="left" icon="ui-icon-file-download" label="CSV" (click)="actionPlan.exportCSV()" class
90 </ng-template>
91 </p-table>
92 </div>
93 </div>
```

14. Action Plan component file

14.1.

```
src > app > techlead > components > action-plan-based-report > action-plan-based-report.component.ts > ActionPlanBasedReportComponent
1 import { Component, OnInit } from '@angular/core';
2 import { SelectItem } from 'primeng/api';
3 import { Organization } from 'src/app/techlead/domain/organization';
4 import { Department } from 'src/app/techlead/domain/department';
5 import { ActionPlanBasedReport } from 'src/app/techlead/domain/action-plan-based-report';
6 import { OrganizationService } from 'src/app/techlead/services/organization.service';
7 import { DepartmentService } from 'src/app/techlead/services/department.service';
8 import { ActionPlanBasedReportService } from 'src/app/techlead/services/action-plan-based-report.service';
9 import { MessageService } from 'primeng/api';
10 import { Router } from '@angular/router';
11 import { CheckUserGroupComponent } from '../check-user-group/check-user-group.component';
12
13 @Component({
14 selector: 'app-action-plan-based-report',
15 templateUrl: './action-plan-based-report.component.html',
16 styleUrls: ['./action-plan-based-report.component.css'],
17 providers: [MessageService, CheckUserGroupComponent]
18 })
19 export class ActionPlanBasedReportComponent implements OnInit {
20
21 checkUserGroup : boolean = false;
22 checkUserGroupForOrg : boolean = false;
23
24 status : string = "New";
25 isTableVisible : boolean = false;
26
27 actionPlanbasedColumns : any[];
28 actionPlanList : ActionPlanBasedReport[];
29 exportActionPlanbasedColumns : any[];
30
31 progressBar : boolean = false;
32 blockedDocument : boolean = false;
33
34 public organizations : SelectItem[];
35 public organization : Organization;
36 public selectedOrganization:string="";
```

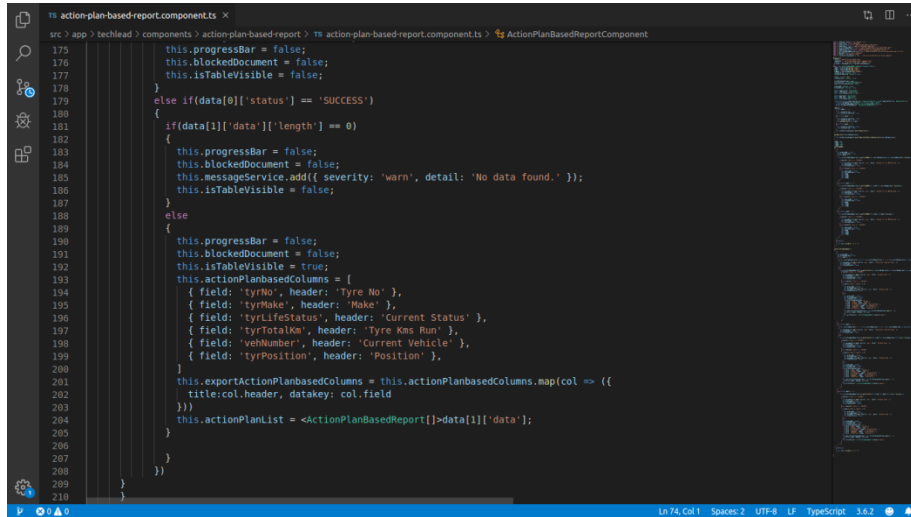
14.2.

```
src > app > techlead > components > action-plan-based-report > TS action-plan-based-report.component.ts > ActionPlanBasedReportComponent > ngOnInit
41 public departments: SelectItem[];
42 public department: Department;
43 public selectedDepartment:string="";
44
45 constructor(private organizationService : OrganizationService , private departmentService : DepartmentService
46 , private messageService: MessageService , private router : Router ,
47 private actionPlanBasedReportService : ActionPlanBasedReportService ,
48 private checkUserGroupComponent : CheckUserGroupComponent) { }
49
50 ngOnInit() {
51   if(this.uappId == '1')
52   {
53     this.checkUserGroup = true;
54     this.checkUserGroupForOrg = true;
55   }
56   else if(this.uappId == '2')
57   {
58     this.checkUserGroupForOrg = false;
59     this.checkUserGroup = true;
60     this.getDepartments(this.orgId)
61   }
62   else if(this.uappId == '3')
63   {
64     this.checkUserGroupForOrg = false;
65     this.checkUserGroup = false;
66   }
67   this.checkUserGroupComponent.getAllOrganization();
68 }
69
70 getDepartments(selectedOrganization)
71 {
72   this.checkUserGroupComponent.getAllDepartmentOnSelectedOrganization(selectedOrganization);
73 }
74
75
76
```

14.3.

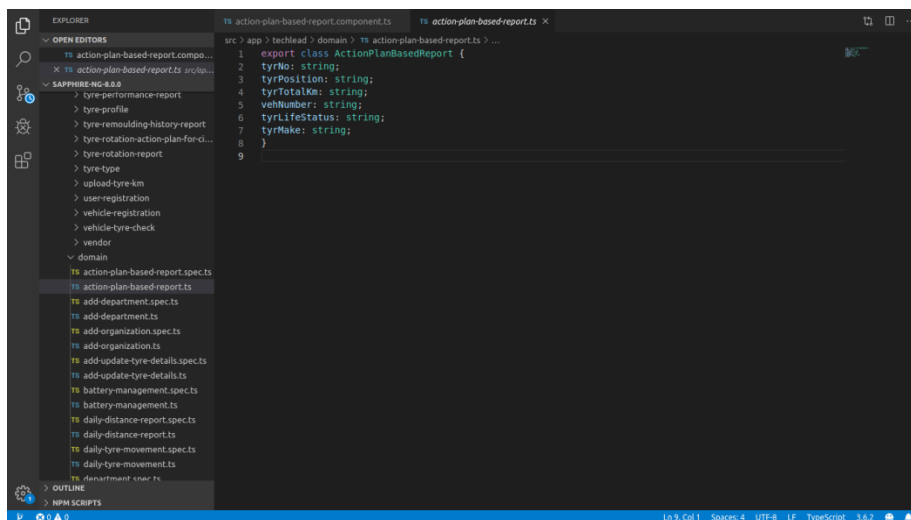
```
src > app > techlead > components > action-plan-based-report > TS action-plan-based-report.component.ts > ActionPlanBasedReportComponent
155 getActionPlanBasedReport()
156 {
157   try
158   {
159     this.progressBar = true;
160     this.blockedDocument = true;
161     if(this.uappId == '1')
162     {
163       if(this.selectedOrganization == null || this.selectedOrganization == "" || this.selectedOrganization == undefined || this.se
164       {
165         this.messageService.add({ severity: 'warn', detail: 'Please enter required fields.' });
166         this.progressBar = false;
167         this.blockedDocument = false;
168       }
169       else
170       {
171         this.actionPlanBasedReportService.getActionPlan(this.selectedOrganization,this.selectedDepartment,this.status).then(data=>
172         if(data[0]['status'] == 'FAILURE')
173         {
174           this.messageService.add({ severity: 'warn', detail: 'No data found.' });
175           this.progressBar = false;
176           this.blockedDocument = false;
177           this.isTableVisible = false;
178         }
179         else if(data[0]['status'] == 'SUCCESS')
180         {
181           if(data[1]['data']['length'] == 0)
182           {
183             this.progressBar = false;
184             this.blockedDocument = false;
185             this.messageService.add({ severity: 'warn', detail: 'No data found.' });
186             this.isTableVisible = false;
187           }
188           else
189           {
190             this.progressBar = false;
191           }
192         }
193       }
194     }
195   }
196   catch (error) {
197     console.log(error);
198   }
199 }
```

14.4.



```
src > app > techlead > components > action-plan-based-report > TS action-plan-based-report.component.ts > ActionPlanBasedReportComponent
175     this.progressBar = false;
176     this.blockedDocument = false;
177     this.isTableVisible = false;
178   }
179   else if(data[0]['status'] === 'SUCCESS')
180   {
181     if(data[1]['data']['length'] === 0)
182     {
183       this.progressBar = false;
184       this.blockedDocument = false;
185       this.messageService.add({ severity: 'warn', detail: 'No data found.' });
186       this.isTableVisible = false;
187     }
188     else
189     {
190       this.progressBar = false;
191       this.blockedDocument = false;
192       this.isTableVisible = true;
193       this.actionPlanbasedColumns = [
194         { field: 'tyrNo', header: 'Tyre No' },
195         { field: 'tyrMake', header: 'Make' },
196         { field: 'tyrLifeStatus', header: 'Current Status' },
197         { field: 'tyrTotalKm', header: 'Tyre kms Run' },
198         { field: 'vehNumber', header: 'Current Vehicle' },
199         { field: 'tyrPosition', header: 'Position' },
200       ]
201       this.exportActionPlanbasedColumns = this.actionPlanbasedColumns.map(col => ({
202         title: col.header, datakey: col.field
203       }))
204       this.actionPlanList = <ActionPlanBasedReport[]>data[1]['data'];
205     }
206   }
207 }
208 }}
209 }
210 }
```

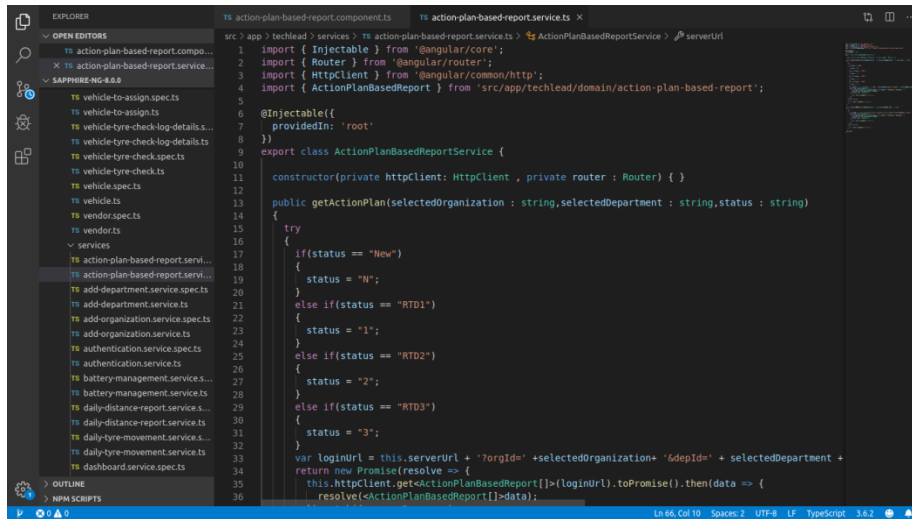
15. Action Plan class file



```
src > app > techlead > domain > TS action-plan-based-report.ts > ...
1 export class ActionPlanBasedReport {
2   tyrNo: string;
3   tyrPosition: string;
4   tyrTotalKm: string;
5   vehNumber: string;
6   tyrLifeStatus: string;
7   tyrMake: string;
8 }
9
```

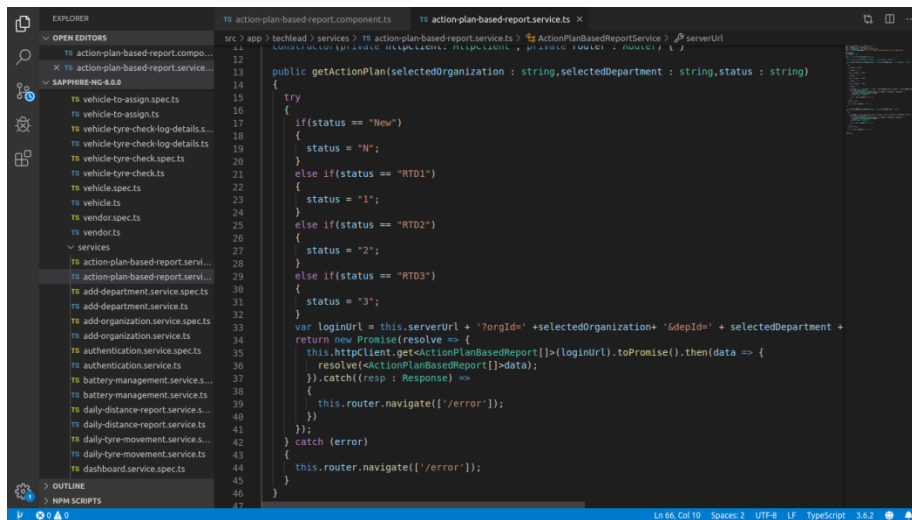
16. Action Plan service file

16.1.



```
1 import { Injectable } from '@angular/core';
2 import { Router } from '@angular/router';
3 import { HttpClient } from '@angular/common/http';
4 import { ActionPlanBasedReport } from 'src/app/techlead/domain/action-plan-based-report';
5
6 @Injectable({
7   providedIn: 'root'
8 })
9 export class ActionPlanBasedReportService {
10
11   constructor(private httpClient: HttpClient, private router : Router) { }
12
13   public getActionPlan(selectedOrganization : string,selectedDepartment : string,status : string)
14   {
15     try
16     {
17       if(status == "New")
18       {
19         status = "N";
20       }
21       else if(status == "RTD1")
22       {
23         status = "1";
24       }
25       else if(status == "RTD2")
26       {
27         status = "2";
28       }
29       else if(status == "RTD3")
30       {
31         status = "3";
32       }
33       var loginUrl = this.serverUrl + "?orgId=" +selectedOrganization+ "&depId=" + selectedDepartment +
34       return new Promise(resolve => {
35         this.httpClient.get<ActionPlanBasedReport[]>(loginUrl).toPromise().then(data => {
36           resolve(<ActionPlanBasedReport[]>data);
37         });
38       });
39     }
40     catch (error)
41     {
42       this.router.navigate(['/error']);
43     }
44   }
45 }
46
```

16.2.



```
13 public getActionPlan(selectedOrganization : string,selectedDepartment : string,status : string)
14 {
15   try
16   {
17     if(status == "New")
18     {
19       status = "N";
20     }
21     else if(status == "RTD1")
22     {
23       status = "1";
24     }
25     else if(status == "RTD2")
26     {
27       status = "2";
28     }
29     else if(status == "RTD3")
30     {
31       status = "3";
32     }
33     var loginUrl = this.serverUrl + "?orgId=" +selectedOrganization+ "&depId=" + selectedDepartment +
34     return new Promise(resolve => {
35       this.httpClient.get<ActionPlanBasedReport[]>(loginUrl).toPromise().then(data => {
36         resolve(<ActionPlanBasedReport[]>data);
37       }).catch((resp : Response) =>
38       {
39         this.router.navigate(['/error']);
40       });
41     });
42   } catch (error)
43   {
44     this.router.navigate(['/error']);
45   }
46 }
47
```