

# Fleet Management System (FMS)

T.R. Lekhaa<sup>1</sup>, G.Aarthi<sup>2</sup>, S.Sathish kumar<sup>3</sup>, R.Pavithra<sup>4</sup>

<sup>1</sup>Assistant Professor, Dept of Information Technology

<sup>2,3,4</sup>Dept of Information Technology

<sup>1,2,3,4</sup>SNS College of Engineering Coimbatore, India.

**Abstract-** *Vehicle Management System is developed and customized for commercial fleet owners and organizations. This modules support most type of vehicles (passenger, Truck, construction and other commercial vehicles) details and maintenance details. It really reduces your vehicles cost while increasing performance and dependability. It tracks your vehicle Insurance, FC Details, Loan Details and tax-deductible, Travel expenses .Provides you alert based on schedule. Eliminate costly unscheduled maintenance. Keep accurate records for any type of vehicle and records for the vehicle services to be done. Help you to plan annual vehicle budgets faster, easier and more accurately. The cost of vehicles maintenance is seen as a major contributor towards operating cost increment. Hence, the study found variables that contributed to the decrease in operating costs. Such variables are fuel, maintenance, tires, repairs, depreciation: battery and tire replacement. This software present an overview of literature studies concerned in operating and maintenance cost and further narrowing down to the variables which strengthens the main purpose of this study. In conclusion, in measuring and estimating the maintenance and operation costs, the vehicle life and efficiency can be increased.*

**Keywords-** commercial fleet owners, maintenance details, alert, accurate records, annual budget.

## I. INTRODUCTION

A Web Based Fleet Management software is developed in this paper for fleet management and vehicle remote diagnoses. This system can be used for many purposes such as off-line vehicle tracking, maintenance scheduling, vehicle problem remote diagnosing, and driver and vehicle status reporting. This system is developed to automate fleet management and decision making. The web based fleet management software is able to measure the mismatch between the trip track that is determined by the operator and the actual track that is recorded by the system to monitor the driver performance. This requires the operator to determine the source and destination of the trip. This system enables the organizations that have different branches to optimize vehicles and drivers distribution. It also reports the mileage, fuel

consumption, degree of mismatch, driver assignment, vehicle maintenance problem, and driver status.

This system is designed to be cheap to be used by organizations that have big fleet. Big fleet can't be managed using the online tracking system. The proposed system collects data in a database which will be useful in statistical analysis for fleet management optimization.

The main goal of this web based software is to store and analyze collected data from vehicles. It also enables users to access the system from anywhere through internet.

## II. EXISTING SYSTEM

Existing system is a manual one in which user are maintaining books to store information like product details, Distributors details, Purchase sales details and accounts for every month. It is very difficult to maintain historical data. For a very small business with limited income, the manual method might be effective.

## III. PROPOSED SYSTEM

The FLEET MANAGEMENT TOOL is a software application which avoids more manual hours that need to spend in record keeping and generating reports. This application keeps the data in a centralized way which is available to all the users simultaneously. It is very easy to manage historical data in database. No specific training is required for the distributors to use this application. They can easily use the tool that decreases manual hours spending for normal things and hence increases the performance. It is very easy to record the information of online sales and purchases in the databases.

Benefits: Less human power, accurate solution and time saving.

## IV. LANGUAGE PACKAGE USED

**Language Used** : PHP  
**Database** : MySQL

**User Interface Design:** HTML,AJAX, JQUERY, JAVASCRIPT

**Web Browser** : Mozilla, Google Chrome, IE8, OPERA

**Software** : XAMPP / Wamp / Mamp/ Lamp (anyone)

**PHP**

PHP is a server side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages.

PHP scripts can only be interpreted on a server that has PHP installed.The client computers accessing the PHP scripts require a web browser only.A PHP file contains PHP tags and ends with the extension ".php".

**MySQL**

MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming.

**HTML**

Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript

**JAVASCRIPT**

Javascript (JS) is a scripting languages, primarily used on the Web. It is used to enhance HTML pages and is commonly found embedded in HTML code. **JavaScript** is an interpreted language. Thus, it doesn't need to be compiled.

**XAMPP**

XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes.

**V. SYSTEM DESIGN**

In FMS we use PHP and Mysql database. In this project we have two different users like user and admin.

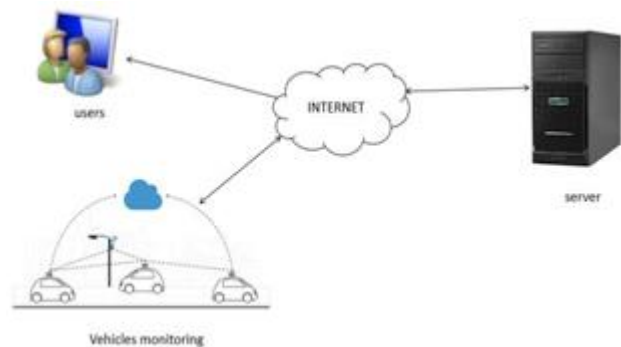
**Admin**

In this application admin can view the current activity of the vehicles and admin can also view the annual budget for overall vehicles the organization and particular vehicle in the organization till date.

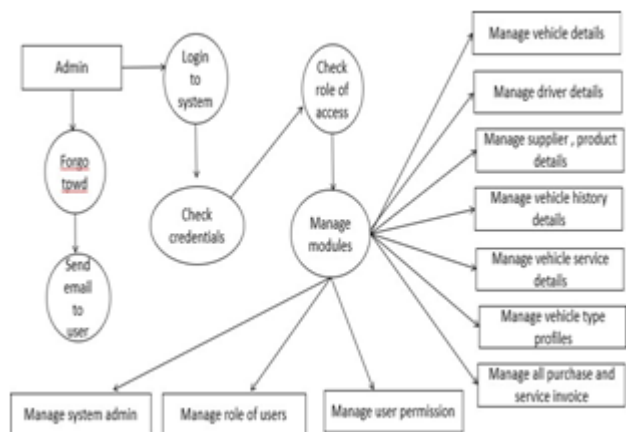
**User**

The user in the organization will be updating the details about the vehicles simultaneously.

**VI. SYSTEM ARCHITECTURE**



**A. DataFlow diagram**



**VII. MODULES DESCRIPTION**

**MASTER MODULE :**Master module is an important module as it maintains all the important details. It consists of dropdown list so that you can select the data from the list given in the dropdown list. This module consists of following menu items.

- Brand
- Vehicle
- Site
- Transportation material
- Equipment work type
- Spare
- Oil
- Supplier
- Employee
- Labours

In this module you can add the brand, vehicle type and their details by using add option. Transportation material consists of the master details of all the vehicles. Spare, oil consists of for which vehicle they are supplying their materials. Supplier is the person from whom they are buying the materials. Employee and labour option consists of details of them.

**TRIP ENTRIES MODULE :** This module is to store the details of the trip made by their vehicle. Transportation vehicle consists

- Transportation vehicle
- Equipment vehicle

Transportation vehicle and Equipement vehicle consists of vehicle number, driver, time of closing the shift. These details can be added by using add option in the edit.

**PURCHASE MODULE :** The purchase Module was designed to store the goods bought like diesel,oil,etc.

- Diesel invoice
- Oil invoice
- Spare invoice
- Tyre invoice

This module deals with the purchases made for their vehicles. The invoice consists of attributes like date, supplier name, invoice amount, litres.

**INTERNAL SERVICE MODULE:**This module stores the data about the services made for their vehicle within their organization.

- Diesel
- Spare

This module have details about the goods bought for the vehicles inside their organization.

**OUTSIDE SERVICE MODULE:**This module is used to store the data about the services made out of their organization.

- Workshop
- Oil service
- Tyre change
- Renewals

These are the services made for their vehicles out of their organization. The reminder will be set for providing the alert for renewals and services to be done for their vehicles.

**REPORT MODULE:** The required reports can be taken from this module based on our requirement.

- Trip transport
- Trip equipment
- Internal diesel
- Purchase invoice
- Workshop
- Accounts
- Spare out
- Vehicle
- Trip driver
- Stock spare
- Stock oil

## VIII. RESULTS

**LOGIN MODULE:**

### Sree Ganesh Blue Metals

UserName	<input type="text" value="Username"/>
Password	<input type="password" value="Password"/>
<input type="button" value="Login"/>	

**MASTER MODULE:**

The screenshot shows the 'Brand Master' interface. At the top, there is a navigation bar with 'JK Blue Metals' and various menu items like 'Master', 'Trip Entries', 'Purchase', 'Internal Service', 'OutSide Service', 'Accounts', 'Report', 'User Permission', and 'Logout'. A dropdown menu is open, listing options: Brand, Vehicle, Site, Transportation Material, Equipment Work Type, Spare, Oil, Supplier, Employee, and Labours. Below this is a table with columns 'ID' and 'Brand Name'. The table contains the following data:

ID	Brand Name
72	AQUASUB ENGINEERING
71	stark motors
70	MRF TYERS
69	CATERPILLAR
68	CONVEYOR DRUM
67	CATERPALATE

**OUTSIDE SERVICE MODULE:**

The screenshot shows the 'Internal Spare Service' interface. The navigation bar is similar to the Master Module. A dropdown menu is open, listing options: WorkShop, Oil Service, Tyre Change, and Renewals. Below this is a table with columns 'ID', 'Date', 'Vehicle No', and 'Given By'. The table contains the following data:

ID	Date	Vehicle No	Given By
143	01-08-2019	0000000000	kalmuthu
142	01-08-2019	0000000000	kalmuthu
141	30-07-2019	0000000000	KALIMUTHU
140	29-07-2019	0000000000	kalmuthu
139	26-07-2019	0000000000	kalmuthu
138	26-07-2019	0000000000	kalmuthu

**TRIP ENTRIES MODULE:**

The screenshot shows the 'Trip Transportation Vehicle' interface. The navigation bar is similar to the Master Module. Below this is a table with columns 'ID', 'Date', 'Vehicle', 'Driver', 'Closing KM', 'Closing Hours', 'Engine Closing Hours', 'Shift', and 'Action'. The table contains the following data:

ID	Date	Vehicle	Driver	Closing KM	Closing Hours	Engine Closing Hours	Shift	Action
794	02-08-2019	TN65AA8239	ramar	8588	18:30	625	day	Edit
783	02-08-2019	TN66Z2527	RAJAN	17735	18:30	1230	day	Edit
782	01-08-2019	TN65AA8239	ramar	8519	18:00	620	night	Edit
761	01-08-2019	TN65AA8239	ramar	8512	18:30	618	day	Edit
760	01-08-2019	TN66Z2527	KANAGU	17655	18:00	1226	day	Edit

**ACCOUNTS MODULE:**

The screenshot shows the 'Over All Purchase Invoice' interface. The navigation bar is similar to the Master Module. A dropdown menu is open, listing options: Over Purchase Payment, WorkShop Payment, Labour Attendance, and Employee Advance. Below this is a table with columns 'Supplier Code', 'Supplier Name', 'Mobile', and 'Purchase Amount'. The table contains the following data:

Supplier Code	Supplier Name	Mobile	Purchase Amount
SUPP-27	capitel Equipments karur	9944540968	68291.000
SUPP-26	BHARATBENZ	000000000000	1349.000
SUPP-24	venkatanga jee plate	7373072690	168555.000
SUPP-23	RAMA KRISHNA CRUSHER IND	9655817107	228479.000
SUPP-22	HAILSTONE	000000000000	59416.000
SUPP-21	AVG WIRE SCREENS PVT.LTD COMBATORRE	965544002	102034.000
SUPP-20	mangalamman	9965505223	20000.000
SUPP-19	jaldar munigesh	9965975769	168360.000

**PURCHASE MODULE:**

The screenshot shows the 'Transportation Vehicle' interface. The navigation bar is similar to the Master Module. A dropdown menu is open, listing options: Diesel Invoice, Spare Invoice, Oil Invoice, and Tyre Invoice. Below this is a table with columns 'ID', 'Date', 'Vehicle', 'Driver', 'Closing KM', and 'Closing'. The table contains the following data:

ID	Date	Vehicle	Driver	Closing KM	Closing
794	02-08-2019	TN65AA8239	ramar	8588	18:30
783	02-08-2019	TN66Z2527	RAJAN	17735	18:30
782	01-08-2019	TN65AA8239	ramar	8519	18:00
761	01-08-2019	TN65AA8239	ramar	8512	18:30
760	01-08-2019	TN66Z2527	KANAGU	17655	18:00
759	01-08-2019	TN37CU4538	SAKTHIVEL	52719	18:30

**REPORT MODULE:**

The screenshot shows the 'Transportation Vehicle Trip Report' interface. The navigation bar is similar to the Master Module. A dropdown menu is open, listing options: Trip Transport, Trip Equipment, Internal Diesel, Purchase Invoice, WorkShop, Accounts, Spare Out, Vehicle, Trip Driver, Stock Spare, and Stock Oil. Below this is a table with columns 'Date', 'Vehicle', 'Driver Name', 'Sheet No', 'materialname', 'From', 'To', and 'No of Logs'. The table contains the following data:

Date	Vehicle	Driver Name	Sheet No	materialname	From	To	No of Logs
02-08-2019	TN66Z2527	RAJAN	00	boulder	UNIT 1	JK SITE	8
02-08-2019	TN65AA8239	ramar	00	boulder	UNIT 1	JK SITE	8
01-08-2019	TN37CU4538	SAKTHIVEL	00	boulder	UNIT 1	JK SITE	8
01-08-2019	TN66Z2527	KANAGU	00	boulder	UNIT 1	JK SITE	8
01-08-2019	TN65AA8239	ramar	00	boulder	UNIT 1	JK SITE	8
01-08-2019	TN65AA8239	ramar	00	soiling	JK SITE	JK SITE	16

**INTERNAL SERVICE MODULE:**

The screenshot shows the 'Tyre Invoice' interface. The navigation bar is similar to the Master Module. A dropdown menu is open, listing options: Diesel, Spare, and Tyre Invoice. Below this is a table with columns 'ID', 'Date', 'Supplier Name', and 'Supplier Invoice'. The table contains the following data:

ID	Date	Supplier Name	Supplier Invoice
28	25-07-2019	Select Tyres (OLD)	19-2012602
27	08-07-2019	Select Tyres (OLD)	19-202425
26	29-06-2019	Select Tyres (OLD)	19-202126
25	10-06-2019	Select Tyres (NEW)	19-202649
24	30-05-2019	Select Tyres (OLD)	19-201284
23	18-05-2019	Select Tyres (OLD)	19-201939

**IX. CONCLUSION**

The proposed web based fleet management system is an intelligent software that can take many decisions that related to vehicles and drivers. This system enables the organizations that have many branches to optimize vehicles and drivers distribution. It also reports the mileage, fuel consumption, driver performance, driver assignment, vehicle maintenance problem, and driver status. This system is

designed to be used by organizations that have big fleet. This software is able to do statistical analysis for fleet management optimization.

Conference on ITS; Digital Object Identifier: 10.1109/ITST.2007.4295849; Publication Year: 2007 , pp. 1-6. \*

## REFERENCES

- [1] R. Zantout, M. Jrab, L. Hamandi, and F. Sibai, "Fleet management automation using the global positioning system," in *Innovations in Information Technology, 2009. IIT '09. International Conference on, 2009*, pp. 30–34.
- [2] S. Thong, C. T. Han, and T. Rahman, "Intelligent fleet management system with concurrent gps gsm real-time positioning technology," in *Telecommunications, 2007. ITST '07. 7th International Conference on ITS, 2007*, pp. 1–6.
- [3] J. Lin, S.-C. Chen, Y.-T. Shih, and S.-H. Chen, "A study on remote online diagnostic system for vehicles by integrating the technology of obd, gps, and 3g," *World Academy of Science, Engineering and Technology* 56 2009, vol. 56, pp. 435–441, 2009.
- [4] S. Kim, K. Wilson-Remmer, A. Kun, and I. Miller, W.T., "Remote fleet management for police cruisers," in *Intelligent Vehicles Symposium, 2005. Proceedings. IEEE, 2005*, pp. 30–35.
- [5] C.-M. Chou, C.-Y. Li, W.-M. Chien, and K. chan Lan, "A feasibility study on vehicle-to-infrastructure communication: Wifi vs. wimax," in *Mobile Data Management: Systems, Services and Middleware, 2009. MDM '09. Tenth International Conference on, May 2009*, pp. 397–398.
- [6] D. Stojanovic, B. Predic, I. Antolovic, and S. Dordevic-Kajan, "Web information system for transport telematics and fleet management," *Telecommunication in Modern Satellite, Cable, and Broadcasting Services, 2009. TELSIKS '09. 9th International Conference on, 2009*, pp.
- [7] Fleet Management System from <http://gpsintegrated.com/services/fleet-managementssystem>
- [8] M. Saravanan, S. Aishwarya, L. N. Aravindan, *Sci & Inf. Conf.*, Tracking anomalies in vehicle movements using mobile GIS, (2013).
- [9] W. J. Horrey, M. F. Lesch, M. J. Dainoff, M. M. Robertson, and Y. I. Noy, "On-board safety monitoring systems for driving: Review, knowledge gaps, and framework," *Journal of Safety Research*, vol. 43, no. 1, pp. 49–58, 2012. (Online). Available: <http://www.sciencedirect.com/science/article/pii/S0022437511001575>.
- [10] Intelligent Fleet Management System with Concurrent GPS & GSM Real-Time Positioning Technology; Thong, S.T.S.; Chua Tien Han; Rahman, T.A.; *Telecommunications, 2007. ITST '07. 7th International*