



FLEET MONITORING

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ABSTRACT

Due to globalisation, liberalisation of markets, deregulation in the transport sector, and the increasing commitment to the just-in-time philosophy, competition between vehicle carriers and expectations on reliability, flexibility, punctuality and quality of transportation services have increased significantly. Rapid development of mobile communication and information technology allows the use of telematics to cope with those challenges and to increase the efficiency of commercial vehicle operations.

The major potentials of fleet monitoring systems arise in the field's exchange of information between dispatchers and drivers, fleet management, tracking & tracing, and planning of handling activities. It is required to identify any disturbances in the transportation processes and to identify data such as exact location of the vehicle and departure times at customer locations. These data can automatically be stored in the logistics system without the need to manually transfer it. As a result, the information flow is improved and the risk of typing errors is avoided.

Keywords: FMS(Fleet monitoring System), LPS(Logistics Service Provider's), GPS(Global positioning System), GLONASS(Global Navigation Satellite System), GSM(Global System for Mobile).

I. INTRODUCTION

Shipping represents more than just a way to get your goods from your door to your customers. It's a calling card that demonstrates your commitment to quality and your dedication to customer service.

Avoiding a few all-too-common shipping pitfalls can give you a competitive edge by helping you

save time and money, getting your products to their destination in the best condition and telling your valued customers that you understand their needs. The purpose of the fleet Monitoring System is to provide transportation companies with a unified solution to fleet monitoring, route planning and vehicle monitoring.

The Fleet Monitoring System can analyse messages sent from the vehicles in order to identify discrepancies between actual and planned data. Furthermore, it can be used to revise the planned data and to update the database of the logistics system. The Fleet Monitoring System supports the dispatchers in reacting quickly to possible disturbances in the transportation processes. Although the Fleet Monitoring System was developed to build the bridge between a commercial off-the-shelf fleet telematics system and a proprietary logistics system, the conceptual framework is generic and can be applied to different system architectures if the required interfaces are provided.

This section presents the FMS which is used to monitor transportation processes. It monitors whether all planned events occur as expected.

In order to calculate total travel times, considering regulations regarding drivers' working hours, it is necessary to know what activities a driver has been conducting for how long. Each of these activities can be categorised as DRIVING, WORK, BREAK, or REST. Each incoming message is analysed by the FMS. Besides of the vehicle and the time, the message may contain the location of the vehicle and a set of details.

In nearly all cases the product will be abandoned because paying for return shipping will be cost-prohibitive. It will cost more than the value of the product to return it. There will

sometimes be disposal charges for the product, which are generally less than the cost of shipping the product back. Proper packaging is the key to a safe delivery of your products. As we're sending our merchandise out to customers, we obviously want to make sure they all arrive safely. No matter who the customer is, he or she will only be happy if the product arrives intact and functional. While careful handling is important to prevent damaged items, shipping problems can still occur if packaging is done incorrectly.

We want to make sure that any packaging service for your products knows the safest practices to avoid shipping problems like damaged items. If there is any discrepancy in the delivery and if this leads to production line stoppage, a huge amount of penalty is imposed to Production Company.

II. LITERATURE SURVEY

Tracking of shipments and conveying the tracking information to customers are perceived to be important customer service components and they are often considered industry norms rather than a potential competitive advantage for logistics service providers. Traditional tracking approaches do not suit multi-company networks. Contemporary tracking systems are only useful when goods are handled by one company. Such systems utilize service provider-specific coding for consignments and thus increase the complexity of retrieving, tracking information for customers using multiple providers. Generally, the service providers make tracking information available via a Web page, resulting in manual interrogation for customers. The automated alternative is the integrating of the tracking systems to the operating systems of the customer company. However, this is time-consuming and often cumbersome. Moreover, integrating with the tracking systems of the logistics service providers, potentially ties the customers to the providers.

A key failing is also in the lack of LSPs or independent tracking service providers to offer checkpoint networks that are truly global in their span of monitoring. Thus, comprehensive tracking is not available for many international businesses. The aim of this paper is twofold: first, to analyse and present the shortcomings of traditional tracking systems in short-term multi-company networks and, second, to present a new

approach for constructing solutions for tracking in multi-company networks.

III. OBJECTIVES

Modern Fleet monitoring systems commonly use GPS or GLONASS technology for locating the vehicle, but other types of automatic vehicle location technology can also be used. Vehicle information can be viewed on electronic maps via the Internet or specialized software.

The admin controls the transportation of goods. There must be a perfect management of trucks used and drivers recruited for that transportation. Admin have a lot to handle and deal with lot of numbers, keep track of number of trucks and drivers available for the transportation of goods, and pick the specific truck and driver needed for particular transportation. This makes the need of information available not only in the desktop system; data should be cross platform so that the information about those trucks and drivers are always with hand.

It should help the Admin for transportation in following ways:

- 1. Keep track of trucks and drivers
- 2. Keep track of assigned truck and drivers
- 3. Information about each truck and driver
- 4. Upcoming tasks
- 5. Ease of navigation between all those details

The truck transports the goods from source to destination. Admin selects the particular route in which the truck has to travel. The driver will be handed with a GPS device to detect the movement of the truck. Geo fence will be created by the admin, a message will be sent to the admin as and when the truck enters and exits the geo fence. Aside from theft-prevention the most common use of vehicle tracking is in logistics and transport. These systems make use of GPS and GSM technology to provide precise and constant location telematics to an individual fleet manager. These systems are typically equipped with features to monitor statistics such as; fuel consumption, average speed, current driver time and location.

IV. IMPLEMENTATION

This software is developed to override the problems prevailing in the practicing manual system. The project implements Oracle Jet and MySQL. The project will be capable of running on standard internet web browsers, although the project is designed primarily around MS internet

Explorer. The implementation that has been done to project is that any number of geofences can be created on the route and when a vehicle enters the virtual geofence, notifications will be send to the admin. This software is developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The new system should be cost effective

- To improve productivity and service.
- To enhance user interface.
- To improve information presentation and durability.
- To upgrade systems reliability, availability and flexibility.
- To address human factors for better and uses acceptance.

V. SYSTEM MODEL



Fig. 1

Fig.1 gives the overall view of FMS. Registration module will handle the registration of admin and vehicles in the system. Admin is the super user, he can do entire process in the application for example he can add routes, Re-Assign trips in case of vehicle breakdown, create virtual geo fence, view trips add vehicle etc., once he logs in. Once the admin logs in and he can track the ongoing trips. The driver has an only option to start and stop the trip. Admin can view the status of the vehicle, its location, the speed in which the vehicle is moving and can have a track of fuel consumption. Fig.2 describes the creation of virtual geo fence. When a vehicle enters a particular geo fence a notification will be send to the admin saying whether the vehicle has entered or exited the particular location.

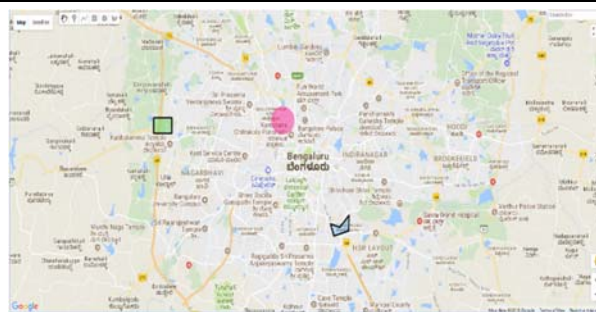


Fig.2

VI. CONCLUSION

In this paper we have presented a Fleet Monitoring System which can identify data, such as exact arrival and departure times, as well as discrepancies between actual and planned data.

Transport carriers benefit as the automatic monitoring of events and analysing of messages improve the information flow as well as the reliability and usability of the information available. As a result, countermeasures can be initiated faster and, in some cases, even before irregularities have resulted in unnecessary costs. Dispatchers benefit as they are supported in monitoring transportation processes. They can concentrate on work which cannot be automatized and which requires human decisions. Drivers benefit as the information gap between dispatchers and drivers is reduced. The decisions of dispatchers, therefore, are less likely to be in conflict with practical or legal requirements, e.g. regarding drivers' working hours. Shippers benefit as they can be informed about the progress of transportation processes and estimated arrival times and thus, can better plan handling activities and optimise succeeding processes.

An interesting question for future research is to analyse the monetary effects of using the FMS. This, however, requires to be able to distinguish between internal effects caused by using the FMS, and external effects due to seasonal and cyclical changes.

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