SOLUTION FOR SOLID WASTE MANAGEMENT THROUGH TRUCK TRACKING & BIN LOCATING SYSTEM

InfoTrack Solutions has a number of applications that streamline Vehicle fleet operations, Logistic operations and Transportation Operations. One such application is the GIS based Truck Tracking & BIN Locating System, a fully interactive and easy-to-use web-based solution that uses GPRS as its wireless communication backbone.

An automated process of Truck tracking & BIN locating systems, RFID Interface for BIN tracking, weight sensors interface for BIN weight measurement, Vehicle location and its traverse speed are remotely monitored using the feature rich Vehicle mounted hardware unit which has an in-built accurate satellite based GPS tracking system and RFID readers.

The solution is designed to work under various communication technologies, and in this case it is specially designed to work under GSM-GPRS environment. It is a two way GPRS based communication system.

The system is highly scalar and modular in design to adopt any working environments and business requirements with little customization efforts. This system is combination of Client/Server, Web based system designed to address the security and ease of use requirement.

This is developed under Microsoft .NET environment.

Solution Description

The truck tracking & BIN locating system goes beyond the purview of just tracking to capture wide array of information which includes bin identification, it's weight, it's location, time spent at the customers place, frequency of visits and many more..

Our solution is widely targeted for Solid waste management companies for automating the process of solid waste management. This system is highly scalable in nature thus providing total solid waste collection & disposal management system for the enterprises by integrating with the third party solutions or In-house developed solutions.

The system shall provide the dispatcher with important information about available driver, vehicles in a given shift, location of Bins ensuring quicker and more efficient truck dispatching. The system gives management and dispatchers better control over dispatching and up-to-the minute truck status information about operations. This also provides two way messaging interface to the Drivers and call centre operations for quick and efficient Text communication. The whole design is modular in approach with the scalability to provide support for huge no. of trucks and flexibility to adapt to any other network or infrastructure environment.

Censor supported Solid Waste Weight Detection

The system automatically records the weight of the truck, new weight after loading the solid waste into the truck, time spent at various locations, vehicle stoppage reports that tells where the truck has stopped and how long it has stopped. The provision of weight sensor interface helps to remotely acquire data on weight of solid waste dumped into the truck.

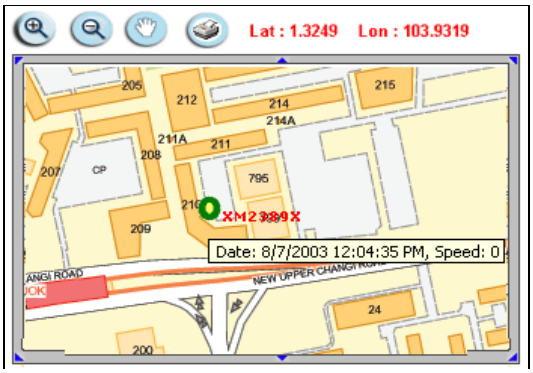
Censor supported detection of sweeper activation

The Solid waste management companies undertake the cleanliness of roads by using special vehicles which comes with automated sweeping facilities. The users sitting in the control room wishes to see a report which shows when the sweeper lever was activated, how long was it activated & where it was activated. This helps the operations team to exactly understand the progress of cleanliness activities. We facilitate this with the help of special censors that can detect when this sweeping mechanism was activated.

BIN Identification & Details

The system is capable of remotely identifying the BINS using the technology of RFID. Here, the RFID readers that are installed onto the trucks, identifies every BIN attached to it for solid waste collection through the Active RFID tags. These active RFID tags have a battery life of upto 5 Yrs.

There is a provision to prepare the profile of all the BINS which will contain information like the BIN No., Road name where the BIN is placed, Size of the BIN etc.



Hardware Details

communication method-GSM,GSM-PRS

- IDA Approved for use in Singapore.
- Supports communication services like
  SMS, Voice (Basic), Data
- Number of receiving channels is 12
- Position accuracy is upto 5 meters
- General controls like 10 parallel inputs, pulled up for connecting vehicle censors

Features

- Vehicle positions graphically updated in real-time and plotted on detailed digital maps using customizable icons & labels.
- Detects locations where the sweeping mechanism was activated
- Generates reports showing where the trucks stopped, time spent etc.
- Stores daily vehicle activity files for playback or archiving.
- User friendly multiple level access control Admin functions
- Reports for easy Analysis of the Vehicle Usage
- Allows user to pan, zoom, set map scales.
- Multiple country Maps Data sets made available.
- Single login screen for multiple module access.
- Logging options for the accountability.
- User options to indicate the period of tracking.
- **Geo-Fencing:** Geo Fencing allows defining or zoning designations where users can define areas of high interest on a map that cause the system to generate events when monitored assets move in and out of the zone.
- Displays status information on an unlimited number of vehicles and incidents on multiple windows.
- Pin points and displays exact location of each vehicle using real-time GPS data
- Easy Integration with existing systems
- Automated alerts via e-mail/ SMS when a vehicle halts for more than 15 minutes
- Exception reports on stoppage, speeding & any route violation
- It's a GUI based interactive messaging system
- Remote control through over the air programming (OTA)

Optional Features

- Multiple Vehicle Tracking (Real-time)
- Customized Reports.
- Enhanced Reporting & Ad-hoc Report Builder
- BIN tracking system.
- Quick Identification of BIN which is connected to the truck & its details
- Weight of the solid waste collected can be seen remotely
- Interface with RFID system