Water Tanker Distribution Process Management with Tanker Geo- Moment Tracking

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Abstract– Abstract:

The project *"**Water Tanker Distribution Process Management with Tanker Geo- Moment Tracking***" is an initiative of a Corporation This project was designed and implemented in order to have total control over the water tanker distribution at various locations in city. The implementation of project involved computerization of water tanker trip pass distribution along with monitoring of assigned trip authenticity. The project needs to be implementing at various hydrant locations in the city with centralized connectivity using internet connection. Centralization of all the system is to monitor and report generation on daily, weekly and monthly basis. All the trips are assigned to pre-defined location where system having geographical details of every location for cross verification of the trip. Before assigning any trip to tanker, system will check for completion of previous trip.

INTRODUCTION: The Nagpur Municipal Corporation's 24X7 water supply scheme completed six years on March 1. As per data available with the civic body, only 15% houses are getting water round the clock and water losses are pegged at a whopping 60%.When launched in 2012, the 24X7 scheme was to bring water to 3.20 lakh houses and bring down losses to 15%. The 387.86 crore project sanctioned by the central government under the JNNURM scheme is being implemented by private operatorNMC started water supply to 250 areas that were not getting water before March 2012 and it benefited around 1.80 lakh people. Water supply changed from alternate days to daily

in 108 outer areas taking total beneficiaries to 1.70 lakh people. 217 low water pressure areas were converted into pressurized supply areas benefiting 6.30 lakh people. Measures like plugging leakages and repairing pipe lines along with laying new ones have solved these problems. The water losses do not mean it is not reaching the houses. “Water reaches the consumers taps but remains unaccounted for various reasons like illegal connections, un-metered connections, meter not on site, average meter reading connections etc,

The Nagpur Municipal Corporation (NMC) has engaged 40% of all water tankers in areas having water supply network. The situation is same for many years indicating either something seriously wrong with supply or a vested interest in keeping tankers in business.

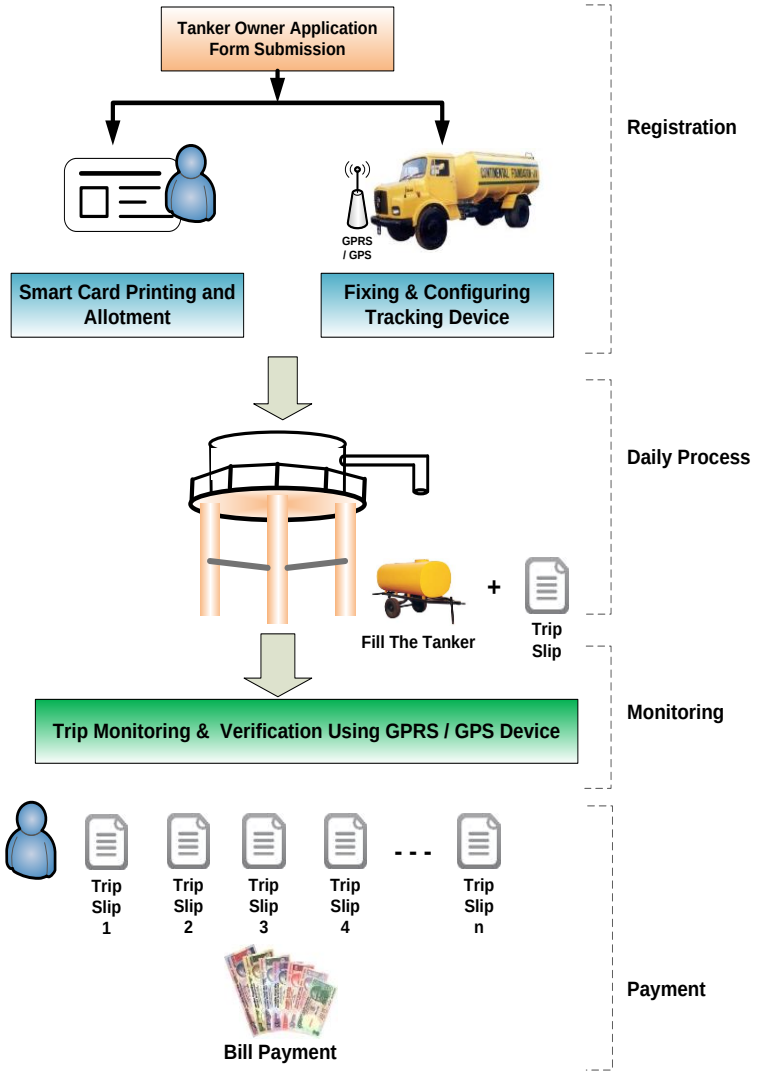
However, 239 water tankers are operating at present in almost all parts of the city. “NMC has made available 284 tankers and planned to increase the number with rise in temperature. Around 60% of water tankers are engaged in non-network areas, mostly unauthorized layouts under NIT jurisdiction. The NMC bears the expenses for these. The remaining 40% supply to network areas under NMC jurisdiction and for this private operator Orange City Water Ltd (OCWL) will bear the expenses,” senior NMC official said.

Previous Work: The startling facts that emerged from the ground reality of 24×7 water supply scheme in Nagpur have pointed to serious scam in the offing. The much hyped round the clock water supply scheme is fetching undue favors to the NMC officials even before its implementation. The supply through water tanks has been the usual business in the city especially when the summer sets in to dry up the taps. But an unusual practice came to light

that almost half of water tankers have been continuing supply in networked areas – the areas where proper water pipelines are in place and functioning.

An estimate puts around 40% of the total water tankers being operated in the city are engaged in supplying water in networked areas – the figures that expose the claims of NMC officials to shortly implement 24×7 water supply scheme. More recently, Orange City Waters pvt ltd has been entrusted with the task of supplying water to networked areas along with ensuring the speedy implementation of 24×7 water supply scheme.

Proposed System: Overall project is divided in different process to provide flawless system and support with ease of operations. The process starts with the filling application form for tanker operation and allotment.



Following is the proposed module

Form Submission:

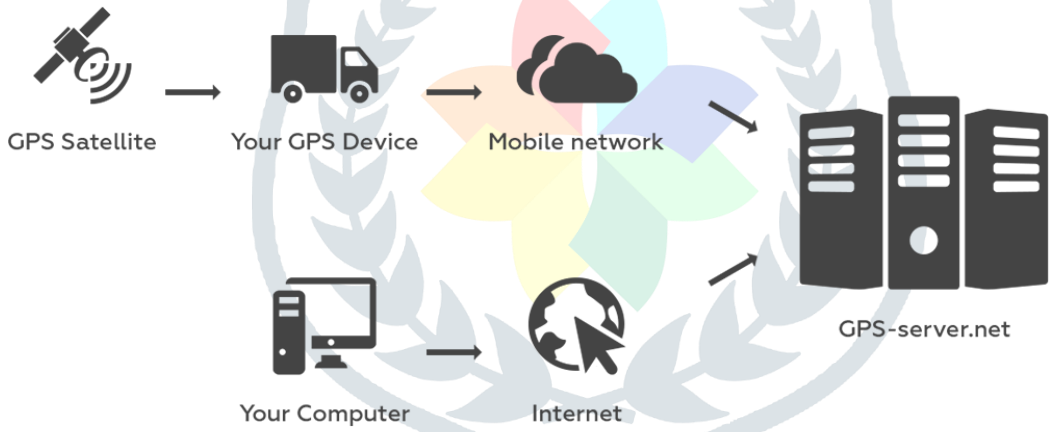
Very first Applicant need to fill the application form to have water supply facility from allotted water hydrant points. Authorized department will allow and sanction the work order to tanker to work at defined hydrant. Allocation of tanker is completely depending on water demand at particular location or area. This application form is processed by water works department.

Card Printing and Allotment:

Every tanker is allotted with contact less smart card with driver photo and personal information printed on it, which will use at every hydrant to identify the tanker and tanker owner identity. The allotted smart card will process using smart card reader by software modules.

Fixing GPS :

Once the card allotted to the tanker owner next step is to fixing GPS /GPRS device to every tanker for vehicle tracking system. These devices get fixed by hardware engineers and then software engineers will configure the device with GSM service provider and test the remote connectivity and the tracking of the tanker.



Daily Process:

As a daily process from morning hours all the tanker owner gathers at hydrant point and waits for a number in queue. Trip assigning person will allot a trip to every tanker on first come first serve basis. Every tanker owner comes to hydrant with person name who requested for water supply and the location of the person. System operator will check the illegibility of the tanker on the basis of completion of last trip and allot the trip. Once the trip is allotted tanker will allowed filling the water from water tank. The time tanker left the hydrant monitoring of tanker using vehicle tracking system will starts automatically where the system will trace the route and stoppage of tanker and log it in to centralized DB.

Monitoring:

As the physical cross checking for every tanker trip is not possible for computer system, here team developed and web-based vehicle tracking system where GPS / GPRS device will communicate with the web service after defined time interval and provide and geographical details of the tanker. Using Great circle algorithm system will cross check the trip completion in order to allow next trip. User can access the trip report, stoppage report, online / offline report, etc. using web platform.

Implementation Detail

Very first applicant need to call to have water supply facility from allotted water hydrant points. authorized department will allow and sanction the work order to tanker to work at defined hydrant. Allocation of tanker is completely depending on water demand at particular location or area. This application form is processed by water works department.

1. Login to tanker distribution system.
2. Select tanker to allot trip.
3. Fill the trip parameter to generate slip.
4. Slip generated.
5. Get feedback

RESULT

- Speed up the tanker slip generation process.
- Keep record of daily assigned trips.
- Keep track of every tanker using web-based tracking software.
- Real time position and running status monitoring.
- Trip Complete / in-Complete status monitoring.
- Save time and money by reducing cross checking of every slip.

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References

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