GPS Fencing based Secured Transportation for Liquid Material

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Abstract

Nowadays, Transportation of Liquid materials such as oil and petrochemical products is very prone to theft and tampering. So in this paper, system for secured transportation of liquid materials is introduced. In this project, GPS and GSM are used as a core technology with hardware control by Arduino. A liquid transportation tank is equipped with GPS tracking module. GPS will continuously monitor the location of system. As soon as tanker comes in geo-fencing area it then only it allow to do authentication through password, if in between any person has access lock, it send security alert to owner. Once the target location is matched it allows operating the lid lock and dispensary valve box lock. In addition Accelerometer is used for monitoring speed of the vehicle and gives alert to the driver if speed is increased beyond predefined speed limit. Through GSM module, the location of tanker, speed and lock status is sent to the owner at regular interval which helps in monitoring the tanker. In emergency cases like damage of lock or accident, when driver press push button, emergency message along with latitude and longitude information is sent to the owner and client. So owner and client can take necessity actions.
References


Index Terms

Computer Science  Security

Keywords

Arduino Mega, GPS, GSM, Accelerometer, Numeric Keypad.