Fuel Delivery on Demand Application

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ABSTRACT

The Fuel Delivery on Demand is a Java based project designed to automate users order and request. The system aims to enhance the efficiency and accuracy of fuel delivery operations, leading to improved customer services. Due to growth of automobiles in market, fuel consumptions become more. In existing system, unfortunately because of some reasons if vehicle stops due to lack of petrol pump. In some cases, people go to new locations and sometimes they won't be having any idea of the gas stations to refuel their vehicles. The proposed system to develop applications to deliver the fuel to those who need to refuel vehicle at any location and time. The project utilizes Java programming language and incorporates various modules to handle different aspects of the fuel delivery process. This application can be useful when the people get stranded and aren't able to find a nearby fuel pump. The application consists of the following three modules using User, Fuel Station and Admin. Admin can verify Fuel Station details, then it will see user modules manages customer information, including their contact details, deliver preferences and fuel requirements. It allows customers to place fuel orders and track the status of their deliveries. Fuel Station can add their branch information like address and Google map geo location and kind of fuel provide. The system maintains an inventory of available fuel products, including their quantities and types. It helps in monitoring and managing fuel stock levels, ensuring timely replenishment when needed. User can search by locality or station name and book the fuel on online app. The system automates the process of scheduling fuel deliveries based on customer orders and optimized routes for fuel trucks based on factors such as customer locations, fuel demand and delivery speed. This application enables real time tracking of fuel trucks during delivery. It utilizes GPS technology to monitor location for accurate estimated arrival times to customers and allowing mangers to track delivery progress. It maintains a record of payment transactions and generates for accounting purposes. The Fuel Delivery on Demand improves operational efficiency by automating manual process, reducing errors and optimizing resource utilization. By providing real time tracking and efficient scheduling, it enhances customer satisfaction and strengthens the overall delivery process of fuel delivery. Objective develops using Angular Java Script and MySQL as our backend database with responsive application.

Key Terms : FUEL DELIVERY MONITORING ACCURANCY GPS TECHNOLOGY

I. INTRODUCTION

The fuel delivery services should comply with enough safety and security measures and should have extensive control in processing the services. For this, you need to set up a system that helps you with data reporting and analysis and do the assessment of different numbers and details that are important in business. In an ondemand fuel delivery service, you may need to measure and control things like temperature and pressure from a security perspective. Further, it also helps in managing inventory and supply and aids in planning marketing activities.

On-demand fuel delivery apps help users to get fuel for their vehicles right at their doorsteps or anywhere they want. Users can simply register on the app, share their location, and request fuel. Once done, the fuel truck will be there at the user's location within a few minutes. Therefore, with on-demand fuel delivery apps, there will not anymore be frequent stops at the gas station, and rather more of productive time. In this application designed with detailing to reflect high quality, shorter delivery cycle, value for money, and expert level understanding of the user's need.

II. LITERATURE SURVEY

Centralized automation of petrol bunk management and safety using RFID and GSM technology

The Petro-card is swiped on the Petrocard reader provided. On swiping, the information is prompted at each step, like password and quantity of petrol in litters. The authentication of the password and checking for sufficiency of balance available for payment is done. If both are fine, the fuel filling gets initiated automatically through the fuel pipe connected to the pump. After the exact quantity of fuel that is entered by the customer is reached, the pumping of fuel gets stopped. In case of wrong password, error message is thrown. Petrocard is recharged with money just like SIM card. In case of low balance amount in the card, online recharge facility is provided to customer, through his smart phone, by just sending SMS to the recharge centre GSM module at the bunk. In addition to automated fuel filling, level and smoke detection are also done in this proposed project. A level senor is used to detect the fuel level in the petrol tank and "Low Fuel Level" message is sent to the bunk owner's cell phone. A smoke senor along with buzzer alarm is installed at the bunk, to detect accidental fire. A "smoke detected" alert message is sent to bunk owner's smart phone.

Computerized filling station management system

By following this mechanism, we can avoid all the errors that a human does and also avoid the cheating activities that a culprit laborer performs in his work. Our project idea is to make the entire process performed by human laborer in a Filling Station into automated digitalized mechanism to avoid small errors and cheats that can be performed by the laborer to their owners. Our system consists of RFID READER to be placed in the Filling Station and all the vehicles must be provided with RFID TAGS. When the RFID READER senses the RFID TAG that holds the customer id, it sends the id to the centralized server, verifies the ID and opens the gate, the database in the centralized server consist of all banking details of the customer that can be fetched automatically after the confirmation of the user for the cost of the fuel.

At present using RFID technology in automating the filling station including the transaction process have created the idea that it is not secure, so we use advanced cryptographic techniques like Secure Socket Layer (SSL) cryptography. AES - Advanced Encryption Standard Symmetric Cryptography to make sure that the process is secured and efficient. All the customer's ID details and total amount of fuel dispensed from the filling station will also be stored in a separate database for the filling station owner's view and also sent to user's registered mobile number using GSM technology.

Multi-Atomized Fuel Pump with User Security

In current days fuel stations are operated manually. These fuel pumps are time consuming and require more manpower. To place fuel stations in distant area it very costly to provide excellent facility to the consumers all these problem are sorted out by the use of unmanned petrol pump which requires less time to operate and it is effective and can be installed anywhere the customer self-going to avail the services the payment is done by electronic clearing system. The simple and proper use of microcontroller and GSM technology provides a total security and atomization in distribution of fuel. It has easy operated mobile phone system and graphics user interface (GUI). It is interface with high speed fuel dispenser which is convenient for consumer to operate. In our system the password will be provided to the user via his mobile phone by the petrol pump GSM customer has to enter this password on the LCD provided by the fuel station which will help the petrol company to create authentication for user also the distribution of the fuel is not possible until it gets verified by the database. In short we provide secure system for fuel distribution. The advancement of this project can help industry financially.

III. PROPOSED SYSTEM

We bring a new solution for refueling automobiles and power backup supply. To develop an application to deliver fuel on demand. To make sure that quality and quantity is good. In this application provides a door-to-door supply.

In this system the end user will have advantage to select type of fuel required, order and get the fuel in the place they are standing, which makes the process easier for the user.

System Modules

1. User
2. Fuel Station
3. Admin

Module Description

1. USER

- **Register** – User has to register their basic details to get access with this application service.
- **Login** – Once they have registered they need to login to avail the service at the needy time.
- **Search Fuel Station** – to search verified fuel station details based on user need.
- **Place order** – the application will provide you the lists of information user can order the fuel.
- **Make Payment** – An application is that of Payment Integration. The user to pay via different platforms.
- **Get Delivery** –This feature also leaves a lasting impact when it comes to the delivery schedule. Users can request to for a specific time and this allows users to do their other tasks while their fuel tank is being filled.

2. FUEL STATION

- **Register** – User has to register their basic details to get access with this application service.
- **Login** – Once they have registered they need to login to avail the service at the needy time.
- **Create Fuel Station** – To create the fuel station enters all the details of a station category. All these information will be stored in the database.

- **Update/Delete Fuel Station –** To update the verified fuel station enters all the details of they like to station category. All these information will be stored in the database. It can delete the fuel station.

- **Receive order –** To all the area of including the user details they like to station category. All these information will be stored in the database.

- **Approve Status –** To send administrator for verification.

3. ADMIN

- **Login** – Enter username & password into the login page.

- **Approve/Reject Fuel Station –**Admin only accept whether it is verified fuel station or not fuel station.

IV. SYSTEM REQUIREMENTS SOFEWARE REQUIRMENTS

Processor   : Intel(R) 2.10GHz

RAM   : 4 GB

Hard Disk   : 160 GB

Operating System   :   Windows (7)

SOFTWARE REQUIREMENTS

Front End	:	HTML5, CSS3, Bootstrap
Back End	:	PHP 7.4, MYSQL
Control End	:	Angular Java Script
Tools	:	xampp-win64-7.4

TOOLS

Xamp-win32-5.5.19-0-VC11
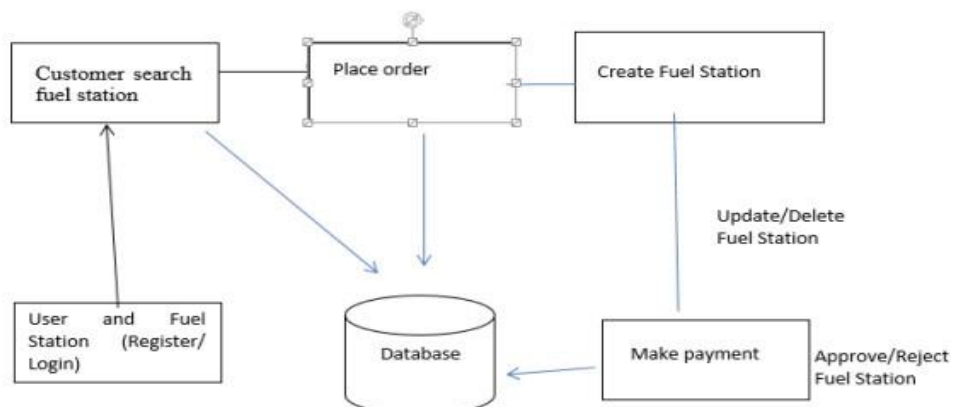
IDE: Eclipse Mars

Jdk-8u66-windows-i586

VI. ARCHITECTURE DIAGRAM

4.2 SYSTEM ARCHITECTURE

VII.CONCLUSION

In this web application forms provided to the users should not be complicated as customers want simple solutions. These forms should include details like Fuel type, quantity, additional add-ons and many more. Once, the key features have been covered, next let's find out the additional features that can be integrated into the app to give it a competitive edge.

To distribution our system looks for the control on product thefts which is the most serious problem for the manufacturing industries and reduction in manpower required. It is also possible to implement the same system for milk processing industries while distributing the milk and its products to the market. In day-to-day life we can see that water distribution in summer is also one of the problems in front of India. So, it is possible to keep control on water distribution in particular area. Also, it is possible to keep record of the distributed products in market which is commercially most important for industries.

VIII.REFERENCES

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