INTERNATIONAL JOURNAL
FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

A Novel Online Orchestration Mechanism to Fully Automate the Liquefied Petroleum Gas Utilization System

R. Sabarika[1], Prof. K. Chandra Prabha [2]

[1]PG student [2]Professor Department of Computer Application Alagappa Chettair Government College of Engineering and Technology

Abstract: Nowadays LPG is becoming the primary source for cooking all over the world. In order to automate the process of managing the LPG process from registration to process utilization many solutions has been devised in existing. Although those systems provide some primary importance still it lags in much aspect in terms as processing time. In order to overcome that issue, in this paper, we propose a novel mechanism entitled as Online Orchestration Mechanism to fully automate the liquefied Petroleum Gas Utilization as online system. This mechanism includes data mining model to gather user information for registration, it helps the user to update this information through login access facilities and it tracks the usage consumption. It is considered as new initiative. Additionally with help of usage information or usage history and booking frequency, it possible to recommends and notify the user regarding the cylinder refill booking and delivery shortages due to logistics and other reasons. The evaluation of the proposed model demonstrates that proposed model outperforms in terms of processing time, ease of use, fault tolerant, Reliable and scalable to any large scale of user compared with state of art approaches.
Keyword: Liquefied Petroleum Gas, Data Mining, Prediction & Recommendation System.

I.   INTRODUCTION

LPG (Liquefied Petroleum Gas) is a combination of propane and butane which is considered as highly flammable gases. LPG is used widely for home appliances for cooking and also in vehicles instead of petrol and diesel for engine combustion. There exists much solution to manage the LPG Cylinder booking and refilling in the existing. One of the biggest concerns for LPG customers is registering their requests for refill cylinders with the distributors. While analyzing the data on the complaints being received by the oil marketing companies (OMCs), it has been observed that a major chunk of them pertain to refill booking and non-receipt of acknowledgement for bookings made. Cylinder booking and Delivery date Notification for challenging problem in LPG based online application. In order to overcome that issue, we model a fully automated solution from booking of the gas to the refill of cylinders. Proposed model utilizes the data mining principles to organize the data in effective way during the registration of user for LPG gas. The solution provides various features such as notification to refill cylinder based on usage history and booking frequency. Prediction of the data will be carried out on the user profile. Acknowledgement for each process will be message and mailed frequently. This process also helps the user with convenient delivery timing options. It is fully automated initiative with scalable and flexible process against time saving processing. The remainder of the paper is organized as follows: Section 2 discusses the related works in LPG cylinder booking and its impacts against the performing timely delivery under multi user environment, Section 3 briefly discusses the proposed technique in terms of proposing a novel booking and refill notification system and Section 4 presents the experimental results on a huge number of user of LPG gas. Section 5 discusses conclusions.

II.   RELATED WORK

There exist many techniques to automate the LPG booking and refill process in the online are designed and implemented efficiently. Each of these techniques follows some sort of principles, among few performs nearly equivalent to the proposed model is described as follows

A.   Online based LPG Booking and Refilling System

Online based methods are available for booking a LPG gas through gas agency. Methods include online booking, telephonic booking etc. But sometimes we may forget to do the booking due to the various reasons. It will be difficult situation for the one who uses LPG gas for cooking regularly. So we have proposed a new system which automatically book a cylinder based on time slot defined by users. Based on time slot cylindered will automatically book for refill and it will be delivered to user.

This method is developed based on the concept of servicing to customer through query answering platform. The process help the customer to post their request for booking, address change, additional cylinder inclusion and many more. The post customer queries will be resolve with support team for queries posted by customer. The Query answering is flexible and scalable to many working professional.

B. Proposed Model

In this section, we describe the proposed model is detail using functional elements and processing steps

1) *User registration:* In this module, user input his information to the system for gas booking with name, address, email id, Aadhar details, mobile no, Family member detail and requirement of cylinders. Obtaining all these information, login access details will be provided to the user. This module is enabled with user redundancy elimination mechanism in order to avoid the creating more profile.

2) *Gas booking:* In this module, user will be enabled with booking process for gas cylinder. The booking module contains some information such as convenient time of delivery and cash handling process for online payment transactions.
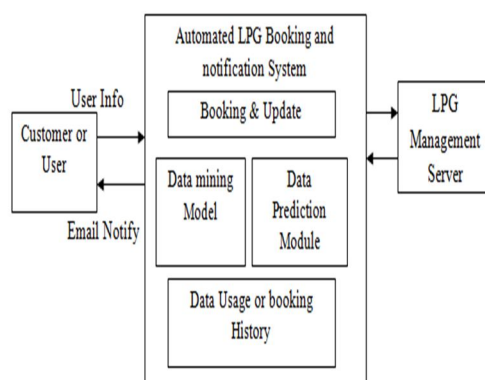

Figure 1: Process Flow Diagram of the proposed Model

3) *Automated Notification for Refilling:* In this module, system analyses with data prediction model against the booking frequency and transaction history for cylinder booking. Based on that information, data prediction model notifies the user with suggestion for booking with previous date of booking carried out as an alert. Through this user can be benefit to much extend from unwanted shortages.

4) *Data Updating Module:* In this module, User can update this information such as address changes and no of cylinder requirement. The figure 1 describes the process flow diagram of the proposed model.

C. Experimental Results

In this section, we analyse the performance of the proposed model against the various features. The model is computed against the various models in the existing. The figure 2 describes the performance analysis of the models against the processing time.
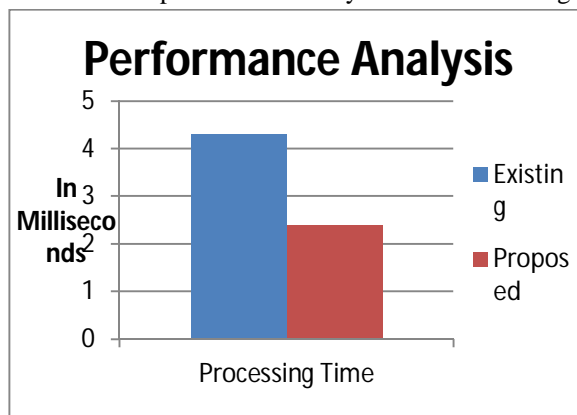

Figure 2: Performance Analysis in terms of Processing Time

The evaluation of the proposed model has been demonstrated ms in terms of processing time, ease of use, fault tolerant, Reliable and scalability to any large scale of user sizes.

III. CONCLUSION

We designed and implemented Online Orchestration Mechanism to fully automate the liquefied Petroleum Gas Utilization as online system through inclusion of data mining model to gather user information on registration process and it further computed to track the usage consumption. By Utilization of usage information or usage history and booking frequency, system recommends and notifies the user regarding the cylinder refill booking and delivery shortages due to logistics.

REFERENCES

[1] Fraiwan L, Lweesy K, Bani-Salma, A Mani N (2011), "A Wireless Home Safety Gas Leakage Detection System", Proc. of 1st Middle East, Conference on Biomedical Engineering, pp.11-14.

[2] PMinakshiVidya, S A Binaya , G GeethaRajeshwari, N Guna , "Automatic LPG leakage detection and Hazard prevention for home security", proceeding of 5th National conference on VLSI , Embedded and communication & Networks on April 7, 2014.

[3] Yogesh A C, AshwiniP ,Shruti B P, "Automated unified system for LPG refill booking and leakage detection : A pervasive approach" , International journal of Advanced Technology and Engineering Research, May 2013.

[4] S Shyamaladevi , V G Rajaramya, P Rajshekhar, P Sebastin Ashok, "ARM 7 based automated high performance system for LPG refill booking & Leakage detection", International journal of Engineering research and science &Technology,volume 3 , No 2 , May 2014.

[5] MissSnehal Kumar Patil, Prof Mrs A S Patil, "Automated LPG billing and security system using wireless sensor Networks" ,International journal of Engineering sciences & Research Technology, June 2014 . [10] RakeshM ,ShivrajDagadi , "Implementation of wireless gas leakage detecting system", 2012sixth international conference on sensing technology.

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)