REFILL AUTOMATION SYSTEM FOR BIO FUEL

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Abstract - **The mobile devices are becoming more and more popular and are providing a new notion of communication that only once could imagine. With respect to CNG Cars, one of the major problems faced by the lakhs of people, who use CNG Car is standing in the long queues for maximum time to fill the Gas. This often leads to people not buying the CNG cars. A transport department official said, "Fluctuations in manufacturing of factory-made CNG car models are a probable reason and long queues at CNG gas stations also act as a deterrent for many buyers." This project aims to find a remedy for these lakhs of people by using an online application to book appointment on their mobile phone and feedback system for analysing user experience with different pumps regarding service and safety. Customers provide feedback in quantitative ratings and qualitative comments related to service and safety. Analysing and evaluating this qualitative data helps us to make better sense of customer feedback on service. This paper focus on providing qualitative and quantitative feedback to analyse and provide better service.**
Keywords: PHP , Laravel , Mysql , Bootstarp.

INTRODUCTION

CNG offers better ignition reduced emissions and thus becomes environment friendly. Compressed natural gas is the cleanest burning fuel operating today. This means less vehicle maintenance and longer engine life. CNG vehicles produce the fewest emissions of any motor fuel. Compressed natural gas is the cleanest burning fuel operating today.

Laravel is a free, open-source[3] PHP web framework, created by Taylor Otwell and intended for the development of web applications following the model–view–controller (MVC) architectural pattern and based on Symfony. Some of the features of Laravel are a modular packaging system with a dedicated dependency manager, different ways for accessing relational databases, utilities that aid in application deployment and maintenance, and its orientation toward syntactic.

Laravel 5.4 was released on January 24, 2017, with many new features like Laravel Dusk, Laravel Mix, Blade Components and Slots, Markdown Emails, Automatic Facades, Route Improvements, Higher Order Messaging for Collections, and many others.[13] Laravel 6 was released on September 3, 2019, shift blueprint code generation, introducing semantic versioning, compatibility with Laravel Vapor, improved authorization responses, improved job middleware, lazy collections, and sub-query improvements. The frontend scaffolding was removed from the main package and moved into the laravel/ui package.[14] Laravel 7 was released on March 3, 2020, with new features like Laravel Sanctum, Custom Eloquent Casts, Blade Component Tags, Fluent String Operations and Route Model Binding Improvements. [15] Laravel 8 was released on September 8, 2020, with new features like Laravel Jetstream, model factory classes, migration squashing, Tailwind CSS for pagination views and other usability improvements. [16] The latest Laravel version is version 9, which was released on February 8, 2022.

LITERATURE SURVEY

- **Hamza Patel Online Appointment Booking System for CNG Pumps with feedback Analysis**

The aim of our system is to ease the CNG gas filling system by maintaining virtual queue. In this application all the pump owners will be registering their pumps. While registering we will be taking their location, latitude and longitude which will be used while calculating distance of each pump from the current location of customer. As user install the application which is platform independent first user needs to register will registration necessary details will be taken and once the user is register user can use username and password for login. This actually avoids from wasting large span of time in manual queue.[1]

- **Smart Appointment Reservation System**

The smart appointment reservation system is an electronic paper less application designed with high flexibility and ease of usage for patients to book their appointment within the scheduled appointment slots according to their preference. This system serves in managing appointments and provides patient to cancel or reschedule appointment by integrating distributed clinical systems into a set of consistent and convenient services accessible via a web browser. The administrator checks the patient's requests, manages the appointment schedule, and maintains the patient's information. The patients will receive the scheduled updates regarding confirmation of appointments, delay in appointment schedules and unavailability of doctor .This smart appointment reservation system gives patient a chance to provide feedback about the system to enhance the services. The design of the proposed system provides easy way for the patient to reserve their appointment with their preferences. The implementation of this proposed system is done by developing web forms applications using .NET Framework 4.0 tools and technologies in visual studio 2010. And the SQL Server 2008 to obtain the building of the system.[2]

- **"BOOKAZOR – An Online Appointment booking System" Akshay V, Ansih Kumar.**

Bookazor is an appointment booking and scheduling web-based application which is used for booking appointments in the streams of fuel, hospitals and architects within a defined geographic area. This application is streamlined in an ionic basis. It is an open source SDK for hybrid mobile application development. It uses technologies like CSS, HTML, and JavaScript. Firebase plays a vital role in fetching data for appointment scheduling that helps to enhance application development effectively. It provides functionalities like analytics, database, messaging, and crash reporting which helps in focusing the users [3]

PROBLEM DEFINITION

To design and implement an application using machine learning for generating a token to book the CNG/LPG to end User.

PROJECT SCOPE

Fill CNG Gas in Cars is most challenging now a days, in the current Filling facility we have to fill gas by standing in queue. This is really inconvenient for users as days are passing the queue is getting larger and larger. The existing filling system is causing a considerable increase in the travel time due to a Major drawback "Long Queues", which absorbs a significant portion of the travelling time. On an average, a customer spends around 45 minutes in the queue at the CNG Station.

The main aim of the proposed system is to avoid customer spending time in queue. With help of the existing system we are creating the system in which user will be able to book there cng gas for their vehicle

When the user login into the system then user is able to book the quota/slot as per his requirement. After booking with help of OTP verification the user is verify And then the user get the Token. After that payment method will be in online/offline mode. We are trying to get a live data monitoring for the total Slots.

ADVANTAGES

1) To avoid the crowd during covid-19 pandemic period.
2) Online scheduling systems operate 24/7.
3) To save the time of the people.
4) There will be reserved gas/slot for the Emergency Services
5) User can See the Live Data i.e. availability of stock

LIMITATIONS

1) We need the internet access.
2) The size of database increases day-by-day,increasing the load on the database back up and data maintenance on the system.
3) Training of simple computer operations and mobile phone is necessary for the users working on the system.

APPLICATIONS

1) The Online Bio Fuel Booking System is used at CNG pump station.

2) Automating Pump Station work & manage user request.
3) We can use this system for LPG Booking also.
Able to provide security to user data.
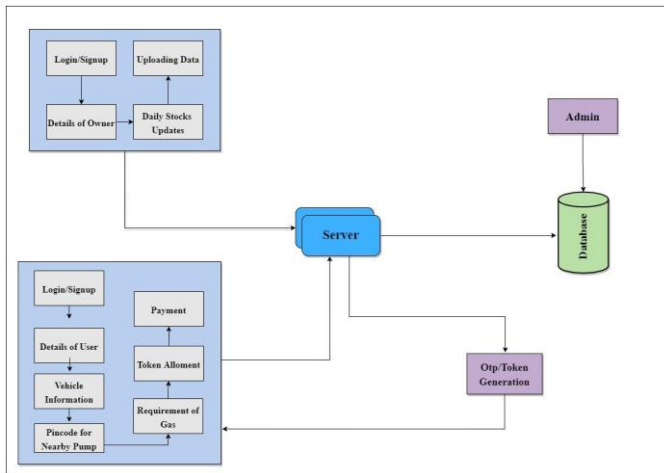Smart Parking.

SYSTEM ARCHITECTURE

Fig. System Architecture

Registration and Login Module: This module allows end-user and pump owner to create his/her account using their Name, Email & Password .After the successful registration process they can login using their email and password .The administrator can manage these account.

Details of Owner/End-user Module: In this module stored all the basic details of owner and end-user.

Booking Module: This module is designed for the end-user only. In which, user can select the pump station according to pin code then put the amount of gas required by him and book the gas.

OTP Verification Module: After booking the slot one OTP is generated for the verification and authentication of the end-user. If the mobile number entered by the end-user is valid then the verification complete successfully.

Token Module: In this module, if the end-user is authenticated then only the token is generated and allotted to that user.

Payment Module: In this module, after booking the CNG & token allocation the end-user can make the payment.

CONCLUSION

In this way, we are going to manage the crowd and queue waiting at CNG Station to refuel their vehicles by reducing there waiting time. And properly following the Covid – 19 Norms.

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[3] BOOKAZOR - an Online Appointment Booking System Akshay V Anish Kumar S Department of Computer Science and Engineering, Department of Computer Science and Engineering, Rajalakshmi Engineering College, Chennai, Tamil Nadu Rajalakshmi Engineering College, Chennai, Tamil Nadu akshaybviswanathan@gmail.com itsanishsrinivasan@gmail.com Alagappan RM Dr.Gnanavel S Department of Computer Science and Engineering Department of Computer Science and Engineering Rajalakshmi Engineering College, Chennai, Tamil
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