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ON-DEMAND FUEL DELIVERY FOR ROAD USERS: A MOBILE APP SOLUTION

[1]**M. Narmadha,** Assistant Professor, [2]**A. Yamuna,** Assistant Professor,
[3]**Shalin Fenla E,** Assistant Professor, [4]**K. Rakesh**, Assistant Professor
[1234]Audisankara College of Engineering & Technology (AUTONOMOUS), Gudur (M), Tirupati (D), A.P, India-524101

ABSTRACT

The Fuel Delivery OnDemand application to develop delivery on demand fuel depends on the user order and request. Due to growth of automobiles in market, fuel consumption became more [1]. In existing system, unfortunately because of some reason if vehicle stops due to lack of petrol, it will be very hard for the owner to push the vehicleto the nearest petrol pump. In some cases, people go to new location and sometimesthey won't be having any idea of the gas stations to refuel their vehicles. Theproposed system to develop application todeliver the fuel to those who need to refuel vehicles at any location and time [2].

Index Terms—On-demand fuel delivery, Roadside assistance, Mobile refueling, Fuel logistics, GPS tracking.

I. INTRODUCTION

In today's fast-paced world, convenience andefficiency are paramount, especially when it comes to essential services like fuel delivery.

The On Road Fuel Demand Delivery App is a revolutionary mobile application designed to cater to the needs of drivers and vehicle owners by providing on-demand fuel delivery services directly to their location [3].This innovative solution aims to eliminatethe inconvenience of searching for fuel stations, waiting in long queues, and dealing with unforeseen fuel shortages, thereby ensuring that users can refuel their vehicles anytime, anywhere.

The app leverages advanced geolocationtechnology to pinpoint the user's exact location, allowing fuel delivery trucks to reach them swiftly and accurately [4]. Users can place an order for fuel with just a few taps ontheir smartphone, selecting the type and amount of fuel required. The app also integrates secure payment gateways, ensuring a hassle-free and safe transactionprocess.

In addition to its core functionality, the On Road Fuel Demand Delivery App offers several value-added features such as real- time tracking of the delivery vehicle, estimated delivery time, and

notifications upon arrival. The app also provides a detailed transaction history and digital receipts for user convenience. By incorporating these features, the app not onlyenhances user experience but also promotes transparency and trust.

The On Road Fuel Demand Delivery App stands out as a game-changer in the fuel industry, bringing unprecedentedconvenience to drivers and vehicle owners [5]. Italigns with the growing trend of on-demand services, reflecting a shift towards more customer-centric solutions in the automotive sector. As urbanization continues to increase and lifestyles become busier, the demand for such innovative services is expected to rise, making the On Road Fuel Demand Delivery App a timely and relevant addition to themarket [6-8].

II. LITERATURE SURVEY

A) Road Transport Elasticity: How Fuel Price Changes Can Affect Traffic Demand on A Toll Motorway

The crisis beginning in late 2008 in Greece, and still in progress, led the GreekGovernment to undertake a particularly harshprogram under the joint auspices of the International Monetary Fund (IMF), the European Union and the European CentralBank, aimed at restoring the primary budget surplus. The implementation of such a financial program has dramatically increased fuel taxes - about 82% for unleaded and 31%for diesel – also producing a serious impact on road traffic demand [9]. Starting from the above framework, this paper describes themain outcomes of a study aimed at identifying, assessing and forecasting the effects of fuel prices and tax changes on traffic flows along a 365 km toll motorway corridor project connecting Athens to Tsakane, in the South-West of the Peloponnese.

B) Demand For Road-Fuel In A Small Developing Economy: The Case Of Sri Lanka

Demand for road-fuel in a small developing economy: The case of Sri Lanka

C) Fuel Demand on UK Roads And Dieselization Of Fuel Economy

Because of high oil prices, and climate change policy, governments are now seeking ways to improve new car fuel economy thus contributing to air quality and energy security. One strategy is to increase dieselizations rates of the vehicle fleet. Recent trends in fuel economy show improvement since 1995, however, efforts need to go further if the EU Voluntary Agreement targets on CO2 (a greenhouse gasemission standard) are to be achieved. Trends show diesel car sales have

accelerated rapidly and that the advantage of new car fuel economy of diesel cars overgasoline ones is narrowing posing a new challenge. We estimate the demand for new car fuel economy in the UK. In the long-run consumers buy fuel economy, but not in the short-run.

We found that long-term income and price changes were the main drivers to achieve improvements particularly for diesel cars andthat there is no break in the trend of fuel economy induced by the agreement adopted in the 1990s. Policy should target more closely both consumer choice of, and use of, diesel cars.

D) The Effect Of Fuel Price On Demands For Road And Rail Travel: An Application To The French Case

This paper analyses the fuel price sensitivity of French traffic. Crucially, it develops the use of innovative econometric models. Partial adjustment models have been selectedto represent traffic between 1990 and 2010. The road traffic model includes explanatory variables such as the fuel price, GDP, the length of the motorway network, and a lagged variable of traffic. Furthermore, a rail demand model including fuel price as an explanatory variable is also processed. In the short term, an increase of 10% in fuel price leads to a fall of 1,4% in the road trafficwhereas in the long term, it leads to a fall of 2,8%.

III. PROPOSED SYSTEM

The overview of our proposed system is shown in the below figure.

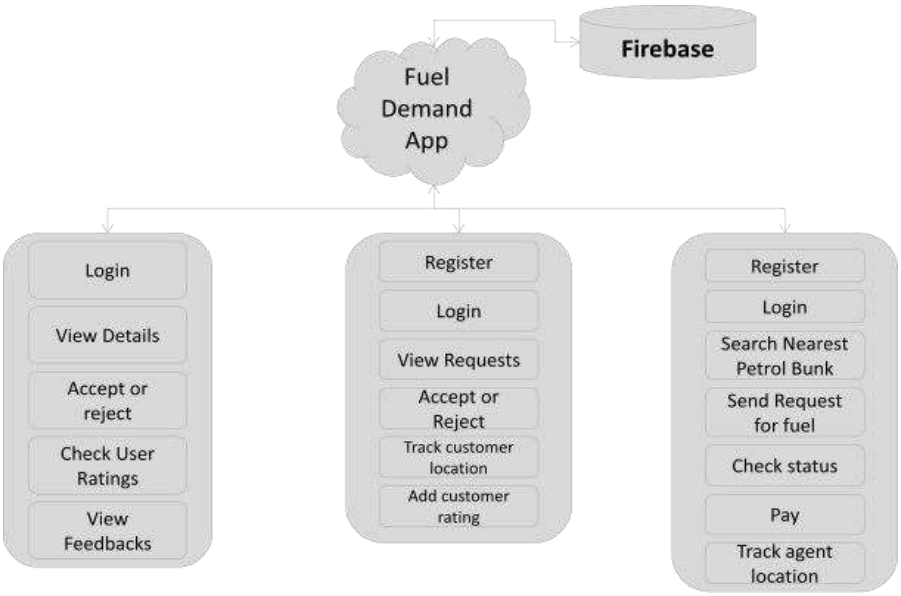

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Fig.1: System Overview

IMPLEMENTATION MODULESADMIN

- In this module admin has to perform the following operations login with valid username and password. Admin to View Petrol Bunk Agent Details and Accept or Reject.

PETROL BUNK AGENT

- In this module the petrol bunk agent performs the operations login with valid user name and password Accept / reject, Track customer location, Check payment information, add customer rating, View Feedbacks.

USER

- In this module user performs the following operations register and login with valid username and password View nearest petrol bunk with showing distance, Request petrol, tracking with map, Payment, Add feedback.

IV. RESULTS

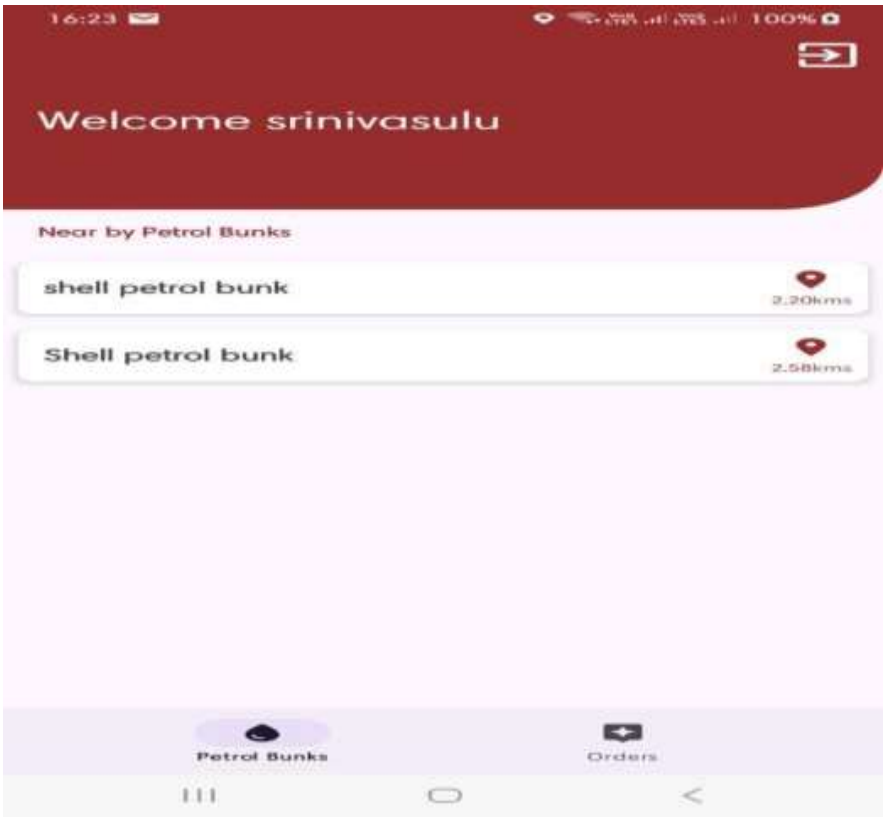

Fig. 2: View Petrol Bunk Details

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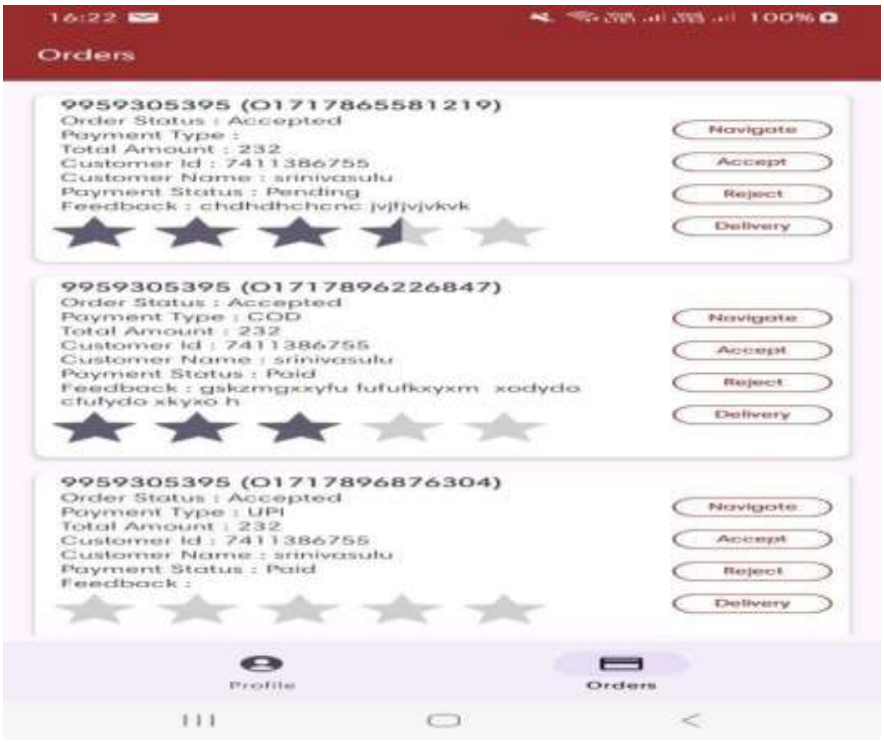

Fig. 3: View Orders Details

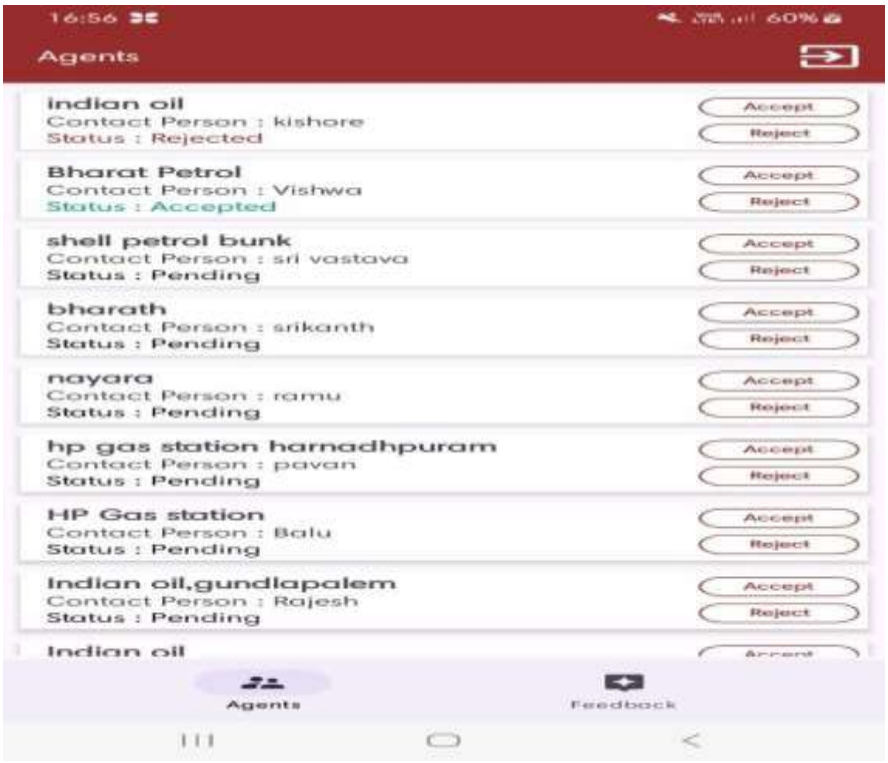

Fig. 4: View Requests

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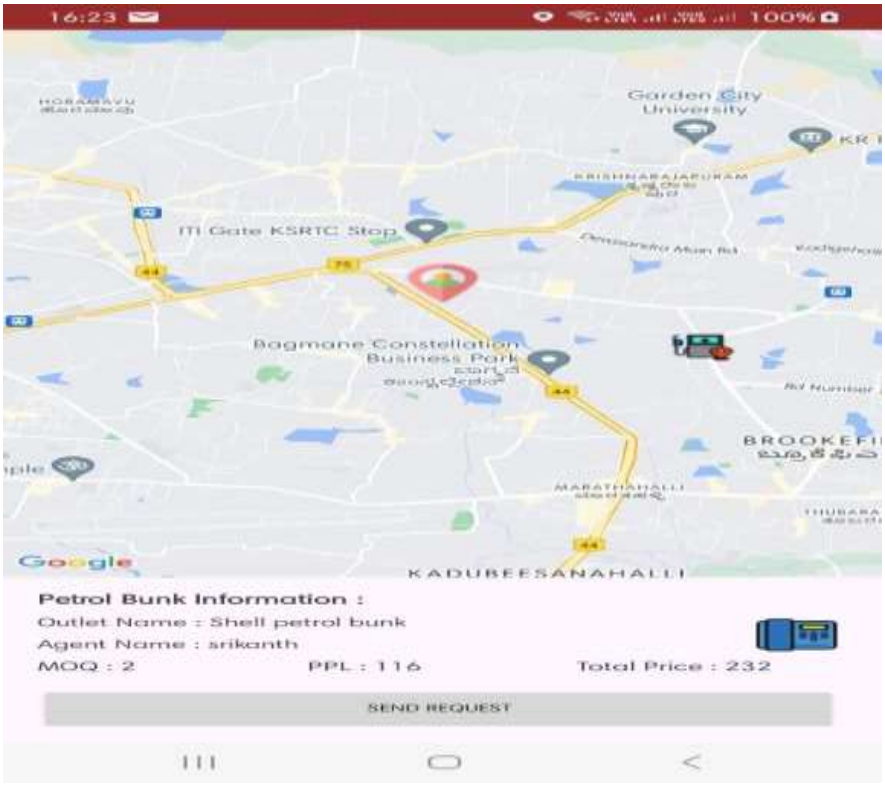

Fig. 5: View Map

V. CONCLUSION

The On Road Fuel Demand Delivery App has revolutionized the way fuel is acquired and delivered, offering a seamless and efficient solution to meet the on-road fueldemands of users and businesses. The implementation of in the app, including GPS tracking, real-time order processing, secure payment systems, and user-friendly interfaces, has significantly enhanced the overall user experience and operational efficiency. The app has had a positive impacton fuel suppliers, delivery fleets, and related businesses by providing new revenue streams, optimizing delivery routes, reducing operational costs, and improving customerengagement and loyalty. User feedback and testimonials have been overwhelmingly positive, highlighting the app's reliability, promptness of service, transparency, and convenience.

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