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FEASIBILITY REPORT OF PETROL STATION PRICE SYSTEM

By Joey Keputa

# Introduction

In an era where inflation has led to escalating prices across various sectors, the financial implications of everyday choices are more pronounced than ever before. Among these choices, the cost of fuel stands out as a significant contributor to household expenditures. The emergence of innovative technologies has revolutionized our ability to access real-time information, empowering us to make informed decisions that can help mitigate the impact of rising prices. In response to this evolving landscape, I present the Petrol Station Pricing System, aimed at enhancing affordability for consumers by showing the live prices of fuel stations nearby. By harnessing the power of location-based services and APIs, the Petrol Station Pricing System seeks to simplify the process of identifying the nearest economical fuel source, offering a practical solution to the challenges posed by inflationary pressures on fuel prices.

# Background

In September 2021, the United Kingdom experienced a petrol crisis characterized by fuel shortages and long queues at petrol stations. The crisis was triggered by a combination of factors, including a shortage of truck drivers needed to transport fuel, a surge in demand for fuel due to panic-buying, and a lack of available fuel due to supply chain disruptions related to the COVID-19 pandemic and Brexit.

The situation led to concerns about the availability of essential goods and services, as fuel shortages could impact transportation and logistics. The UK government took steps to address the crisis by offering temporary visas to foreign truck drivers, relaxing driver working hours, and urging the public to avoid panic-buying. The crisis highlighted vulnerabilities in supply chains and the importance of addressing labour shortages and transportation issues.

We are again seeing the prices increase therefore, having a system that displays up-to-date price information from your device could be crucial for making informed decisions and saving money. This would enable you to track price trends and choose optimal times to refuel, potentially avoiding higher-cost periods and ensuring more cost-effective fuel purchases.

There are two APIs we could use for the prices of petrol stations which are PetrolPrices.com API and Fuel Prices API by Barchart OnDemand. For the map API we can use Bing maps or Google maps. - PetrolPrices.com API offer a free trial account which I can use to get petrol prices by location. They offer complete UK coverage of fuel price data updated daily for the vast majority of UK fuel stations. They are able to offer Petrol and Diesel prices per area including premium grades such as Super unleaded and high cetane content diesel. I can deliver fuel price data in various ways using their petrol and diesel database. Consumers can search by postcode or geolocation; enquire by radius point or town; static list of selected stations; specific brands such as Tesco and Esso; specific verticals like Supermarkets or motorways; various charging models to suit your requirements.

Fuel Prices API by Barchart OnDemand provide refined fuel price data and reference data. Refined fuel data can be requested for fuel selling locations, for geographic coordinates and radius, for zip code and radius, and for a specified county. Refined fuel data can be filtered by product name(s), and by number of locations will be returned .

# Outline of project

The Petrol Station Pricing System is designed to counter the impact of rising fuel costs due to inflation by offering real-time pricing information to consumers. This initiative employs location-based services and APIs to deliver live fuel price data, empowering users to make economically sound refueling decisions. By integrating PetrolPrices.com API or Fuel Prices API by Barchart OnDemand, users can access fuel price details through various search criteria such as geolocation, brand, and radius. The system not only informs users of current prices but also is fostering informed choices and potentially influencing market competition.

# Methodology/Method of Analysis

The project was conducted with the aim of providing consumers with real-time pricing information to mitigate the impact of rising fuel costs due to inflation. This initiative leverages location-based services and APIs to deliver live fuel price data, enabling users to make economically sound refuelling decisions. The integration of the government provided URLs allows users to access fuel price details through various search criteria such as geolocation, brand, and radius. This approach not only informs users of current prices but also promotes informed choices and potentially influences market competition.

# Overview of Alternatives

The first alternative entails the development and implementation of a mobile application focused exclusively on providing real-time fuel prices to consumers. This approach offers a dedicated platform for users to access pricing information conveniently. It allows for a streamlined user experience, potentially enhancing user satisfaction. However, it may require a significant investment in app development and marketing efforts to gain traction.

The second alternative involves establishing partnerships with existing fuel price comparison platforms and integrating their services into the Petrol Station Pricing System. This option leverages the expertise and user base of established platforms, potentially accelerating adoption. However, it may require negotiations and agreements with third-party providers, as well as potential revenue-sharing arrangements.

Lastly, an alternative considers the incorporation of additional features into the Petrol Station Pricing System, such as real-time traffic information, reviews and ratings of fuel stations, and integration with navigation services. This expansion aims to provide users with a more comprehensive tool for making informed refuelling decisions. While this option offers enhanced utility, it may entail increased complexity in development and potential challenges in sourcing and managing additional data feeds.

By juxtaposing these alternatives, this section enriches the decision-making process, offering stakeholders a comprehensive view of the potential paths forward. Each alternative brings its own set of opportunities and challenges, and a thorough evaluation is essential to identify the most suitable solution for achieving the project's objectives

# Conclusion

The Petrol Station Pricing System stands as a beacon of innovation and practicality in the face of mounting fuel costs driven by inflation. With the ability to provide real-time fuel price information through cutting-edge technologies, this project offers a vital tool for consumers seeking to optimize their expenditures in an increasingly price-sensitive landscape. By leveraging the power of location-based services and APIs, the system ensures that users have access to up-to-date data right at their fingertips, empowering them to make informed decisions about fuel.

As the project integrates the PetrolPrices.com API or the Fuel Prices API by Barchart OnDemand, it delivers a comprehensive solution that caters to diverse user preferences and requirements. The capacity to search by location, brand, and radius, combined with historical and predictive pricing insights, not only enables cost-effective fuel purchases but also promotes more strategic consumption habits. By encouraging informed choices, the Petrol Station Pricing System has the potential to influence the broader market, fostering competition and reshaping how consumers and fuel stations interact.

# Recommendation

Based on the outcomes of the feasibility analysis, it is recommended that the Petrol Station Pricing System proceed to implementation. The analysis indicates a clear need for a tool that provides real-time fuel price information to consumers, particularly in the current landscape of rising fuel costs driven by inflation. The integration of location-based services and APIs offers a practical and effective solution to address this challenge.

To ensure the successful implementation of the project, several strategic steps are proposed:

Initiate the development phase, focusing on building a user-friendly interface and robust backend infrastructure. Rigorous testing should be conducted to identify and rectify any potential issues.

Select and integrate either the PetrolPrices.com API or the Fuel Prices API by Barchart OnDemand based on compatibility and specific requirements.

Launch targeted marketing campaigns to raise awareness about the Petrol Station Pricing System. Engage potential users through various channels to promote adoption.

Establish a reliable system for updating and maintaining real-time fuel price data to ensure accuracy and reliability for users.

Collect user feedback and continuously iterate on the system to improve functionality and address any emerging needs or challenges.

Additionally, it is important to note that if this project were to be implemented, incorporating additional features would significantly enhance its viability for users. Features such as real-time traffic information, reviews and ratings of fuel stations, and integration with navigation services would provide users with a more comprehensive tool for making informed refuelling decisions. This expansion would not only enhance utility but also potentially increase user engagement and satisfaction, contributing to the overall success of the Petrol Station Pricing System.