

# Vendorfy

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**Abstract—** This paper introduces a web app based service “VENDORFY” specially designed for street vendors. This paper highlights various obstacles that hinder the progress of street vendors and limit their income significantly. As the world is getting connected via Internet and web-based services, we have limitless opportunities ahead of us. VENDORFY uses latest technologies while considering modern problems to improve the ease of doing business significantly for street vendors both (static and mobile vendors). This paper includes existing challenges faced by vendors on a daily basis and how an Android app can be used to address them.

**Keywords:** VENDORFY, Street vendors, Android studio, kotlin, Google maps api, google cloud.

## I. INTRODUCTION

Street vendors, also known as sidewalk or street-side vendors, are individuals who sell goods or services on the street or in other public areas. Many of these vendors are small business owners who rely on this type of work to support themselves and their families. In recent years, there has been a rise in the use of app-based services to support and empower street vendors. These services can help vendors to manage their businesses more efficiently, connect with customers, and access a wider range of services and support. Vendorfy is a platform that connects vendors with potential customers. This service helps vendors to promote their products or services, and make it easier for customers to find them. The app can also provide useful information, such as the location of the vendor, the types of goods or services they offer, and their prices. Vendorfy will help in things like financial planning and management, and training on how to run a successful street vending business. By providing vendors with access to these services, the app can help them to grow their businesses and become more successful. This would make it easier for customers to discover and support local street vendors, and would also provide vendors with a

convenient way to manage and grow their businesses. Additionally, an app-based service could include features such as scheduling and route planning to help vendors optimize their time and maximize their earnings. Overall, app-based services for street vendors can provide a valuable resource for these individuals, and help to support and empower them as they work to build and grow their businesses.

## II. LITERATURE REVIEW

[1]. Real-time traffic conditions are useful information based on which many adaptive traffic solutions work. In this study, the authors present a new approach for real-time monitoring of urban traffic with global positioning system (GPS)-equipped vehicles, which provides estimation of urban traffic conditions in real time. The approach first real-time collects GPS trace data from GPS-equipped vehicles on the urban road network. Then, it periodically clusters the collected data of several minutes, calculates estimated space mean speed (eSMS) and translates eSMS to smooth indexes (denoting traffic conditions). Compared with existing work, the presented one: (i) applies an effective map matching method to cluster GPS trace data; (ii) excludes traffic signal's misleading influences on traffic condition estimation and (iii) judges traffic conditions based on an estimated critical traffic flow characteristic. Some experiments based on GPS taxi scheduling data of Shanghai, China are provided to demonstrate the performance of this work.

[2]. We demonstrate a system that monitors taxi availability at taxi stands by mining real-time taxi trajectory data streams. The system includes a server-side trajectory data stream processing and mining program and a client-side mobile application for Android smartphones. The server program continuously monitors for each taxi stand the numbers of taxis queuing at the taxi stand, the numbers of taxis that will pass the taxi stand, as well as the traffic conditions in the area around the stand. It delivers real

time taxi and traffic information to mobile users via Restful web services. The client-side location-based mobile application consumes these services to help mobile users make informed transportation choices. For example the availability of taxis might yet be a deterrent when traffic is congested. Real world taxi trajectory data from more than 14000 taxis are used in the demo.

[3]. Traditional transportation systems in metropolitan areas often suffer from inefficiencies due to uncoordinated actions as system capacity and traffic demand change. With the pervasive deployment of networked sensors in modern vehicles, large amounts of information regarding traffic demand and system status can be collected in real-time. This information provides opportunities to perform various types of control and coordination for large scale intelligent transportation systems. In this paper, we present a novel receding horizon control (RHC) framework to dispatch taxis, which combines highly spatiotemporally correlated demand/supply models and real-time GPS location and occupancy information. The objectives include reducing taxi idle driving distance and matching spatiotemporal ratio between demand and supply for service quality. Moreover, our RHC framework is compatible with different predictive models and optimization problem formulations. This compatibility property allows us to model disruptive passenger demands and traffic conditions into a robust optimization problem. Extensive trace driven analysis with a real taxi data set from San Francisco shows that our solution reduces the average total idle distance by 52%, and reduces the total supply demand ratio error across the city by up to 45%.

[4]. As an emerging platform based on ITS, SIOV is promising for applications of traffic management and road safety in smart cities. However, the end-to-end delay is large in store-carry-and-forward-based vehicular networks, which has become the main obstacle for the implementation of large-scale SIOV. With the extensive applications of mobile devices, crowdsensing is promising to enable realtime content dissemination in a city-wide traffic management system. This article first provides an overview of several promising research areas for traffic management in SIOV. Given the significance of traffic

management in urban areas, we investigate a crowdsensing-based framework to provide timely response for traffic management in heterogeneous SIOV. The participant vehicles based on D2D communications integrate trajectory and topology information to dynamically regulate their social behaviors according to network conditions. A real-world taxi trajectory analysis-based performance evaluation is provided to demonstrate the effectiveness of the designed framework. Furthermore, we discuss several future.

[5]. Fog computing has been merged with Internet of Vehicle (IoV) systems to provide computational resources for end users, by which low latency can be guaranteed. In this paper, we put forward a feasible solution that enables offloading for real-time traffic management in fog-based IoV systems, aiming to minimize the average response time for events reported by vehicles. First, we construct a distributed city-wide traffic management system, in which vehicles close to road side units can be utilized as fog nodes. Then, we model parked and moving vehicle-based fog nodes according to a queueing theory, and draw the conclusion that moving vehicle-based fog nodes can be modeled as an M/M/1 queue. An approximate approach is developed to solve the offloading optimization problem by decomposing it into two subproblems and scheduling traffic flows among different fog nodes. Performance analyses based on a real-world taxi-trajectory datasets are conducted to illustrate the superiority of our method.

[6]. As taxi service is supervised by certain electronic equipment (e.g., global positioning system (GPS) equipment) and network technique (e.g., cab reservation through Uber in USA or DIDI in China), taxi business is a typical electronic commerce mode. For a long time, taxi service is facing a typical challenge, that is, passengers may be detoured and overcharged by some unethical taxi drivers, especially when traveling in unfamiliar cities. As a result, it is important to detect taxi drivers' misbehavior through taxi's GPS big data analysis in a real-time manner for enhancing the quality of taxi services. In view of this challenge, an online anomalous trajectory detection method, named OnATrade (pronounced "on a trade," which means activities in a taxi trade on the fly), is investigated in this paper for improving taxi service

using GPS big data. The method mainly consists of two steps: route recommendation and online detection. In the first step, route candidates are generated by using a route recommendation algorithm. In the second step, an online anomalous trajectory detection approach is presented to find taxis that have driving anomalies. Experiments evaluate the validity of our method on large-scale, real-world taxi GPS trajectories. Finally, several value-added applications benefiting from big data analysis over taxi's GPS data sets are discussed for potential commercial applications.

[7]. Hailing a taxi in Singapore now employs the latest positioning technology for matching passengers with the nearest available cabs, thus achieving greater productivity and customer satisfaction.

[8]. First, they usually recommend the same route for all users and cannot help control traffic jam. Second, they do not take full advantage of real-time traffic to recommend the best routes. To address these two problems, we develop a real-time route recommendation system, called R3, aiming to provide users with the real-time-traffic-aware routes. R3 recommends diverse routes for different users to alleviate the traffic pressure. R3 utilizes historical taxi driving data and real-time traffic data and integrates them together to provide users with real-time route recommendation.

[9]. Geocoders are needed for transforming a textual location into latitude and longitude coordinates. There are many popular, publicly available, geocoding APIs for this task. As a case study, we use Google's geocoding API for geocoding Twitter users' self-declared locations. Our research shows how additional parameters from the geocoder can be used to identify improperly geocoded locations. Our research helps identify 35% of locations that are improperly geocoded mostly due to noisy locations being matched to a street level address. Removing improperly geocoded locations can significantly improve research that is analyzing population demographics and user's spatial proximity

[10]. In the current competitive market, offering a relatively cheaper price for the commodity plays an important role in obtaining a greater share of the market for a corporate entity as it encourages more

customers to purchase from its product. Convenience stores are becoming indispensable for the Japanese society, there are presently 54,008 retail stores throughout Japan and their number continues to increase. The reasons behind such popularity are convenient locations, attractive products and long trading hours. Their price, however, are more expensive than regular supermarkets and groceries stores mainly due to their numerous overhead cost, the major of which is their requirement for refurbishment of goods several times per day. In this study, a practical approach that utilizes computer techniques to find an optimal vehicle routing scheme for goods and service delivery to multiple convenience stores is investigated. Although many scholars have already investigated the location problem of supply chain facilities and centers under different conditions, this study takes a programming approach using Web Scraping and Excel VBA and hope to turn it into a cheap but powerful Excel Add-in module or real-time navigation function. A mathematical 'network flow model' is initially developed to examine the problem. Geographical data of convenience stores, their associated warehouses, garbage dumpsites and gas stations are subsequently retrieved through programming with the 'web scraping' technique. A computer program that utilizes Google API service is then developed to solve the optimal networking problem. Validity of obtained results is also examined by other known method to justify its optimality and fast performance.

### III.THEORETICAL DISCUSSION

Java Script :

- Java Script is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It was introduced in the year 1995 for adding programs to the webpages in the Netscape Navigator browser. Since then, it has been adopted by all other graphical web browsers. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

- In 1993, Mosaic, the first popular web browser, came into existence. In the year 1994, Netscape was founded by Marc Andreessen. He realized that the web needed to become more dynamic. Thus, a 'glue language' was believed to be provided to HTML to make web designing easy for designers and part-time programmers. Consequently, in 1995, the company recruited Brendan Eich intending to implement and embed Scheme programming language to the browser.
- The features of Java script include: Client side scripting, Object-oriented programming, cross platform compatibility, Dynamic typing.

## II. RESULTS

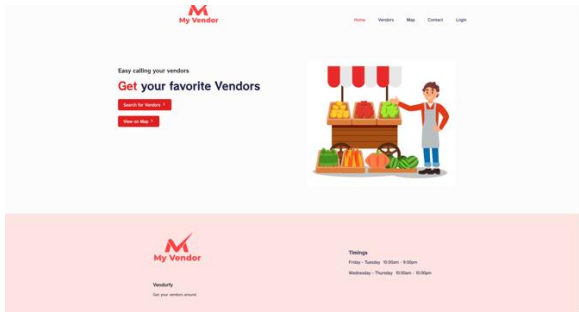


Fig. 1

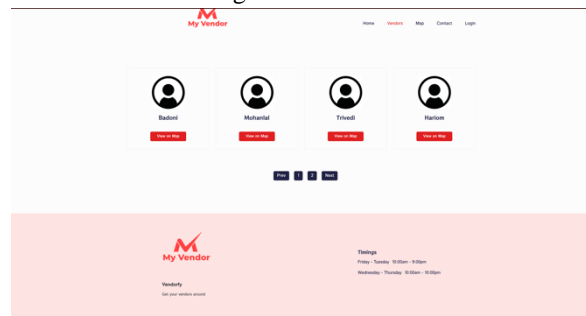


Fig. 2

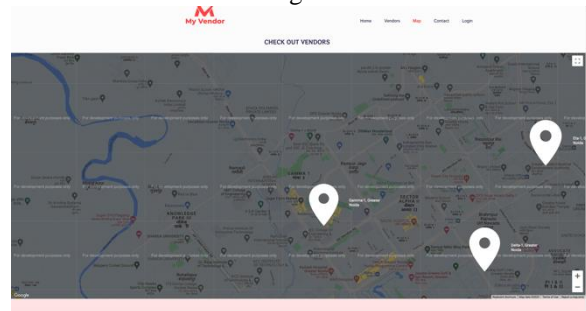


Fig.3

## IV.CONCLUSION

The Vendorfy app presents a promising solution to the challenges faced by street vendors and customers in the street vending industry. By leveraging mobile technology, geolocation services, and secure payment gateways, Vendorfy aims to create a userfriendly platform that connects vendors with customers, enhances visibility, streamlines transactions, and bridges the gap between the two parties. One of the key advantages of Vendorfy is its focus on prioritizing street vendors, both permanent and mobile. By providing a gateway for vendors to reach a wider customer base, the app can significantly boost their sales and revenue. The app's seamless and continuous data flow benefits customers as well, improving accessibility and facilitating product discovery. With Vendorfy, customers can easily explore the diverse range of offerings from street vendors and make informed purchasing decisions.

Furthermore, Vendorfy addresses the challenges of recognition and limited knowledge about vendors in a given area. By utilizing geolocation services, the app helps customers discover nearby street vendors and navigate to their locations. This feature enhances the user experience and increases footfall for vendors, leading to improved sales and visibility. Additionally, the integration of secure and efficient payment gateways in the app ensures convenient and safe transactions for both vendors and customers. While the Vendorfy app shows great potential, it is important to acknowledge its limitations. One potential limitation is the requirement for vendors and customers to have access to smartphones and reliable internet connectivity. This may exclude some vendors who lack the necessary resources or technological know-how to fully utilize the app. Additionally, the success of the app relies on the active participation and engagement of vendors and customers, necessitating effective marketing and awareness campaigns.

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