Project Phase II Report

On

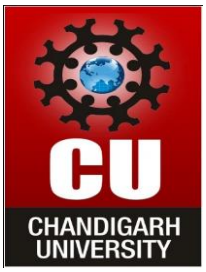
Transport Optimization Program

Submitted for the requirement of

Project course

BACHELOR OF ENGINEERING

COMPUTER SCIENCE & ENGINEERING



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ABSTRACT

TOP [Transport optimization program]'s main purpose is to optimize the transportation system. Optimization includes the method to use resources efficiently like transportation system so that it saves time and even makes it available on time for passengers and also to reduce pollution, and conserve energy. Sharing of the vehicle is Vehicle pooling so that multiple numbers of people can travel in a single-vehicle. the use of vehicle pooling reduces single individuals Travelling costs, reduces the fuel cost, and reduces the number of vehicles. Due to the growth in the population, there is inadequate transportation through their vehicle. Rather than using a different mode of Transportation. It results in an increasing number of traffic on roads also increases pollution and increases the time to travel to their destination. So by Smart transportation using a vehicle pooling system the individual can travel and share their rides with different people of the same destination. In this paper, we have carried out a survey. Reviewing various Literature papers on carpooling it aims to reduce the number of vehicles by sharing the rides. Electric taxis have the potential to improve urban air quality and save drivers' energy expenditure. Consequently, the running cost of EVs comes to Rs 1 per km, Rs 9 for petrol, Rs 6 for diesel, and about Rs 2.5 per km for vehicles being run on CNG. Although 3 battery electric vehicles (BEVs) have drawbacks such as the limited range and charging inconvenience, 4 technological progress has been presenting the promising potential for electric taxis Its website and mobile apps connect drivers and passengers willing to travel together between cities and share the cost of the journey. The company does not own any vehicles; it is a broker and receives a commission (between 18% and 21%) from every booking. In this era of technology, everything is getting combined with technology to perform or transform for the better so we will be using technology to make an effort to solve this problem. We will be building a website that will be a platform that will connect the passengers with the traveling mode

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INTRODUCTION

Due to the increasing amount of peoples, every single people travel to their Destination alone in their own car. Traveling alone leads to increases individual fuel costs. The carpooling system merges multiple new people in a car which leads to meeting new people in a car, reducing air pollution and noise pollution. The carpooling system saves the economy of every people as they share their rides and also share the cost with the other member in the car. It will stop endless Spending money on travel. Rather than using public transportation such as local trains, buses, and metros. People can conveniently travel to their destination comfortably by giving the same cost. Carpooling is the best idea to reduce traffic jams as it reduces the car on road. Safety is an important aspect in every means, so traveling with different people is also a prior thing not all people are comfortable traveling with unknown people. For example, women are not feeling safe traveling with unknown people. So the carpooling system also provides rides for only women.

The economic development of cities depends on the development of primary, secondary, and tertiary sectors, and these sectors depend on the city's transportation infrastructure in order to cater to the demand for goods and services and to provide access to the required activities. Moreover, an inefficient transportation system may lead to a decrease in the expected output of the country. Cities with a lack of efficient public transport infrastructure result in users depending on alternative modes of transport. This includes an increase in the use of private vehicles, which could lead to reduced traffic safety, further deterioration of air quality, and an increase in road congestion. In addition, dial-a-cab services, which involve short-term advance booking of cabs through call or application, have been on rising in India since 2007. From the consumers' side too, there has been a tremendous increase in cab bookings through mobile applications. These Application Based Cab Aggregators (ABCA), based on the broader concepts of sharing economy have quickly acquired a high share in the market in the past few years (Jaiswal, 2018). India witnessed entries of many private companies in tier-1 cities of the country and Mumbai was the first city where players like Meru Cabs and Ola Cabs were established in 2007 and 2010 respectively (Jaiswal, 2018). Uber, another Transportation Network Company (TNC) headquartered in San Francisco, started operating in India in 2013. These TNCs cater to real-time demand by aggregating cabs for customers.

Trade growth of goods and services and the upsurge in activities are generally high in cities of developing countries. Every city needs to enhance its transport infrastructure to cope with the

increase in transportation demand. In addition, these transportation infrastructures need to be efficiently used in order to minimize costs and maximize output. Adopting sharing-based business models can help in increasing the trade of goods and services and can increase the number of activities.

LITERATURE REVIEW

Carpooling system provides the benefits of sharing rides with different people. By surveying different papers, it is found that it uses heuristic searching techniques for searching the cars. By using Euclidean distance techniques, it finds the nearest car that has to be assigned to the passenger. It usually uses Global Positioning System(GPS) for finding the locations of cars. In the study it is found that Route matching techniques are used in order to match drivers' and passengers' locations by using Google maps API, and then based on their route, the driver is allocated to the passenger. In most carpooling systems, it is observed that the Dijkstra algorithm is used for detecting the shortest route to the destination of passengers. Dijkstra algorithm is usually used for detecting the optimal minimum path. It is found that it checks for maximum possibilities and then chooses the minimum route for the journey.

(Sagar, 2016)1 had stated that there was a demand for the Call-a-Cab service offered by Meru Cab. The cab services are proving security through a global positioning system (GPS) and women taxi drivers for women passengers, especially at night times. According to Harding et al (2016), the auto-rickshaws (three-wheelers) are more popular in urban transport before the advent of cars and cabs. (Yeboah, 2015)[2] had argued that driver behavior has a negative impact on customer satisfaction in Ghana. The variables like continuous service, comfort, reliability, and affordability have an impact on customer satisfaction with regard to minicab taxis.

Problem Definition

When we plan to go on a long trip if we book a full car on rental it costs us too much. Also, if we book a car individually there would not be any significant difference in the cost, also normal cabs services focus mainly on small vehicles like cars not on buses

Booking cars individually increase the road traffic and accident day by day and there is a gradual increase in the accidental graph per year.

Some major environmental problems such as air pollution and degradation of life in our ecosystem are a major concern nowadays due to the excessive increase in the number of vehicles. Some tourist places have their own natural beauty and the quality of air present there is rich in oxygen. But as per the reports per year number of tourists increases there and so the number of vehicles and these vehicles polluted the pure air and reduce the beauty of these places.

Normal cab system takes a lot of time while pick up the customers and sometimes the customers have to reach these cabs just because the exact location of the user is not accurate.

Objectives

The main objective of this project is to create a platform to solve major environmental issues and to provide customers with optimized facilities. This is going to prove a good approach to resolving the issues related to costly cab booking and also save the time of the customers.
This will also have several good effects like a better use of resources and a reduction in time incompatibility.

REFERENCES

[1]Hanif and Sagar (2016). The cab services are proving security through a global positioning system (GPS) and women taxi drivers for women passengers, especially during night times

[2]Horsu and Yeboah (2015), have argued that driver behavior has a negative impact on cab services at Ghana