Bike Pooling Android Application

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Review Article

ABSTRACT

There is tremendous increase in population, due to this there is increase in number of vehicles. The rise in number of vehicles had led to many problems like traffic congestion, increase in consumption of fuels, rising travel costs. Considering all these problems we have studied different papers. This paper introduces bike sharing application which will help people to travel on one bike and share their expenses and also reduce pollution.

INTRODUCTION

Travelling from one place to another has become the main issue of the society now-a-days. Increased population has given rise to increased number of vehicles for travelling purposes. Due to this, carbon emissions are being released in large amount which is harming the environment. And also because of increasing number of personal vehicles mostly cars, the parking problems are increasing and also pollution is rapidly growing. People are also suffering from high travelling costs and also fuel prices are rising.

In order to overcome these problems, this paper is useful for finding different solutions on it. Bike pooling is an android application in which people will share bikes to travel distances which goes along the same route of the bike user. Bike Pooling is a pick-up and drop-off service provided to the users according to their needs. Hence number of vehicles will be reduced so that traffic congestion problems, air pollution will be reduced. Bike pooling also helps people to share their travel expenses that is fuel costs which will also be useful to save fuel for future use as fuels are getting decreased day by day due to large amount of consumption.

In this application Aadhar card link will be added for getting user's true identity. It also includes Google maps for tracing real time navigation. This application is useful for booking bikes from home also.

RELATED WORK

According to Aditya N. Bharadwaj the system is implemented using Internet of Things (IOT). This paper is the solution for problems like traffic congestion and pollution in Smart Cities. This paper is using RIFD module for unlocking bike and Aadhar Card for registration purpose [1].

According to Amey S. Dodal the system is implemented using Android. In this paper the application is used to share and rent bikes. This paper provides the facility for women safety and also it includes the solution for accident problem [2].

According to Sumit Sardar the system is implemented using Android. This paper is used mainly for Students and Employees for daily transportation. In this paper the application is implemented using integrated Google maps [3].

According to Divyesh Patel the system is implemented using Android. In this paper the application is useful for densely populated area and the area where there is no convenient mode of transportation. In this paper the application uses real time calling and messaging features [4].

According to Arpita Dixit the system is implemented for cars using Android. In this paper the application helps people for sharing expenses and making connections. In this paper the application provides security also [5].

According to Sneha Menon the system is implemented using genetic algorithmic web application. In this paper the system helps users to find optimized journey. This paper is beneficial as it is low cost system which helps in travelling for people from one place to another [6].

According to Nayana M. Nale the application is implemented for carpooling using android application. In this paper car sharing is introduced in which more than one person can share one vehicle for travelling. This paper also provides more security. Also GPS navigation is used to trace out driver's route [7].

According to Kapil Kamble the application is based on android domain in which sharing of cars is done for travelling purpose. In this paper it provides security of travelling in car, more than one person can travel and by sharing vehicle also fuel expenses are shared. Parking problems are solved in this paper [8].

According to Yuvraj Nalawade the system is based on car sharing so that people can share car to travel for going to the same destination. It is an eco-friendly application which consumes less fuel by sharing cars so that number of vehicles is reduced and due to that pollution is kept under control [9].

According to Fu-Shiung Hsieh the system is based on web application. This paper helps to reduce problems like air pollution and traffic congestion as the number of vehicles is reduced due to carpooling application. Fuel costs are shared between the passengers [10].

According to Mohammad Shahriar Rahman this paper is a web application. It is implemented using Internet Of things (IOTs). In this paper sharing of bikes is done for travelling various distances for different purposes. This paper includes solution on issues like parking spaces, traffic congestion and air pollution [11].

According to Avila Antao the system is used for public transportation and it is eco-friendly. In this paper pick up and drop service is provided for people travelling along same distances. It provides security. This paper also reduces traffic related issues and pollution problems [12].

Table 1. Different types of technique used with descriptions.

SR. NO	TECHNIQUE USED	DESCRIPTION	DRAWBACKS
1	In this paper the system is implemented using Internet of things.(IOTs) [1]	In this paper bike sharing is done using GPS tracing and by using radio frequency user authentication is done [1]	This system is very much time consuming and not available for mobile phones and it's used only for bicycles [1]
2	This system is implemented using android application and GPS tracker is used [2]	In this paper the system provide women safety that is she can choose driver of her choice either a male or female [2]	This system is not available for mobile phones and travelling is not done by optimal way [2]
3	This paper is an android application which includes Google maps and GPS tracker for locations and routes [3]	In this paper the system provide optimal way to travel for daily transportation and fuel consumption is also reduced due to sharing of Bikes [3]	Pre-Registration is needed. Cost is very high. Does not identify travel time [3]
4	In this Paper GPS navigation done using android application and web services [4]	In this paper the system is mainly useful in areas where is densely populated and where no mode transportation [4]	The application is useful for car [4]
5	The paper is implemented for car pooling and is based on android platform [5]	In this paper the application helps people for sharing expenses and making connections and also provides security[5]	The application is useful for car [5]
6	This paper is a web based application implemented for car-pooling musing genetic algorithm [6]	In this paper the system is implemented using genetic algorithm in web application and find optimal way to travel [6]	It is web application and it is not used for bikes and does not used for smart phones[6]
7	This paper is implemented for car pooling and is based on android platform and it is includes Google map, GPS and Pickup point [7]	In this paper car sharing is introduced in which more than one person can share one vehicle for travelling. This paper also provides more security [7]	It is not used for bike and traffic problem is not solved [7]
8	This paper is implemented for carpooling and it is based on android platform and it is includes Dijkshtra's algorithm also [8]	In this paper it provides security of travelling in car and traffic problem is solved [8]	It is not used for bike and there is parking problem [8]

| 9	This paper is implemented for carpooling and it is based on android platform and it is includes Browse Ride, Create Ride, Ride Seeker, Ride Creator [9]	It is an eco- friendly application which consumes less fuel by sharing [9]	Security is not provided for true identity and the application is not used for bike [9]
10	This paper is implemented for carpooling and it is based on android platform and it is includes geographic information system [10]	This paper helps to reduce problems like air pollution and traffic congestion as the number of vehicles is reduced due to carpooling application [10]	It is time consuming as the shortest path is not provided [10]
11	In this paper the system is implemented using Internet of things(IOTs) [11]	This paper includes solution on issues like parking spaces, traffic congestion and air pollution [11]	It is a web application. It does not support smart phones [11]
12	This paper is implemented for carpooling and it is based on Android Platform	In this paper pick up and drop service is provided for people travelling along same distances. It provides security. This paper also reduces traffic related issues and pollution problems [12]	GPS is not used so desired path is not obtained [12]
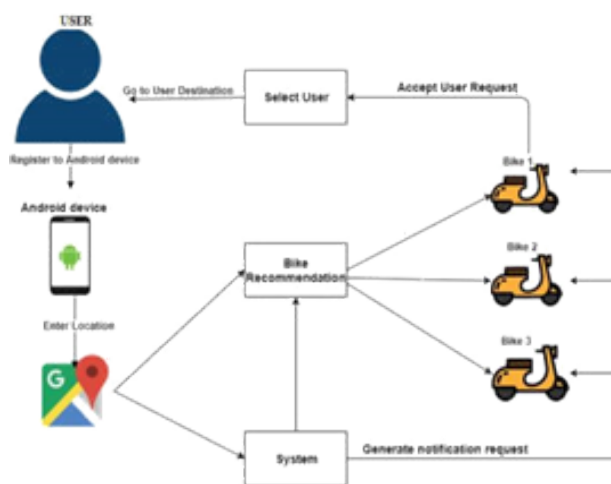
Figure 1. System architecture.

SYSTEM DESCRIPTION

The system in **Figure 1** is implemented for Bike Pooling using Android Application. Bike pooling means sharing of bikes among people for travelling purpose. By sharing travel and fuel costs are reduced and also carbon emissions are decreased due to less number of vehicles and hence pollution is kept under control **(Table 1)**.

CONCLUSION

Bike pooling is an android application which helps in reducing traffic congestion and pollution problem. This application is user friendly and also helpful for maintaining the green environment. The application is used for traveling purpose. Guardian can get real time location of user if accident takes place. This application also provides facility of giving notification when request is cancelled.

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