BIKE POOLING IN PICT

A REPORT ON PROJECT BASED LEARNING

(SEMESTER -II)

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ABSTRACT

The bike pooling idea gives us a virtual environment to interact with like-minded people, expand our social network and most importantly minimize our cost of travelling in our day-to-day life. We have designed 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 the number of vehicles will be reduced so that traffic congestion problems, air pollution will be minimized.

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INTRODUCTION

❖ Problem Statement

To devise a favourable means of travel for college students so as to overcome the various issues faced by them.

Entering a college is a monumental phase in all our lives. College life could be stressful, daunting and expensive at the same time. In recent times, the number of students moving to cities for college has rapidly increased. Travel becomes one of the key challenges for students staying far away. We live in a connected world today and bikepool services solve a lot of these problems by connecting people who are going somewhere with people who need to get somewhere.

There's no doubt that higher education is a powerful road to success. But what happens when the road is filled with potholes, impossible distance, broken-down vehicles, a lack of public transportation and other roadblocks. Many students have no problem getting into universities but they do have problems with getting there – literally. That's why it's so important to make sure each student has some reliable way of getting to where they need to be.

The bike pooling idea gives us a virtual environment to interact with like-minded people,expand our social network and most importantly minimize our cost of travelling in our day to day life.

BikeP is an android application in which people will share bikes to travel distances which go 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 the number of vehicles will be reduced so that traffic congestion problems, air pollution will be reduced.

Chapter 2

LITERATURE REVIEW

Authors: Aditya N. Bharadwaj,Amey S. Dodal,Sumit Sardar,Divyesh Patel,Arpita Dixit , Sneha Menon,Nayana M. Nale,Kapil Kamble,Yuvraj Nalawade

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 an RFID module for unlocking bikes and Aadhar Card for registration purposes [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 the 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 areas 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 journeys. This paper is beneficial as it is a 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 an 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 the 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 the security of travelling in a car, more than one person can travel and by sharing a 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 cars to travel to the same destination. It is an eco-friendly application which consumes less fuel by sharing cars so that the 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 solutions 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].

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]

SYSTEM REQUIREMENTS

3.1 Recommended System Requirements

- Processors:
  - Intel® Core™ i5 processor 4300M at 2.60 GHz or 2.59 GHz (1 socket, 2 cores, 2 threads per core), 8 GB of DRAM
  - Intel® Xeon® processor E5-2698 v3 at 2.30 GHz (2 sockets, 16 cores each, 1 thread per core), 64 GB of DRAM
  - Intel® Xeon Phi™ processor 7210 at 1.30 GHz (1 socket, 64 cores, 4 threads per core), 32 GB of DRAM, 16 GB of MCDRAM (flat mode enabled)
- Disk space: 2 to 3 GB
- Operating systems: Windows® 10, macOS*, and Linux*

3.2 Minimum System Requirements

- Processors: Intel Atom® processor or Intel® Core™ i3 processor
- Disk space: 1 GB
- RAM 512 MB
- Operating systems: Windows* 7 or later, macOS, and Linux
- Java* version: 8

Chapter 4

SALIENT FEATURES

Interactive Java Application that prompts for choices by displaying a portal that allows new users to register and others to login,create rides,view ride maps and carbon footprint emissions. The app prompts the user to confirm created ride choices from the desired location, thus allowing the user to re-enter if he doesn't want to confirm previous selection or change this choice for reconsideration.

JAVA:-

JAVA is a **High Level language(HLL).**The Program written in Java is compiled for conversion to an intermediate code called ByteCode which is independent of the machine on which the program is to run.This makes Java program **highly portable** as its Byte Code can easily be transferred from one system to another.When this Byte code is to be run on any system, an interpreter known as **Java Virtual Machine(JVM)** is needed which translates the byte code to machine code instructions for various platforms.
Thus,the Java program uses a **compiler** as well as an **interpreter**.

Chapter 5

SYSTEM DESIGN AND METHODOLOGY

Talking about system design, we have designed

our basic system will work on request generation and follow up by other end user whether to accept or reject and other part of it will work on query generations for a particular database system

1. a person will generate a request let say he wants a bike pooling partner who will go to same area as he wants or rather on same route.a request will be generated by server on demand to proper instruction by first user .this request will be forwarded in form of notification to other user who lives in same area and then it will be up to them weather to accept it or not ,the same goes the other way around .
2. query based system : where a person can retrieve info about a person who lives in a particular area , whether he or she has a bike , whether he comes to college by bike or other ways etc.

Chapter 6

PRACTICAL IMPLEMENTATION

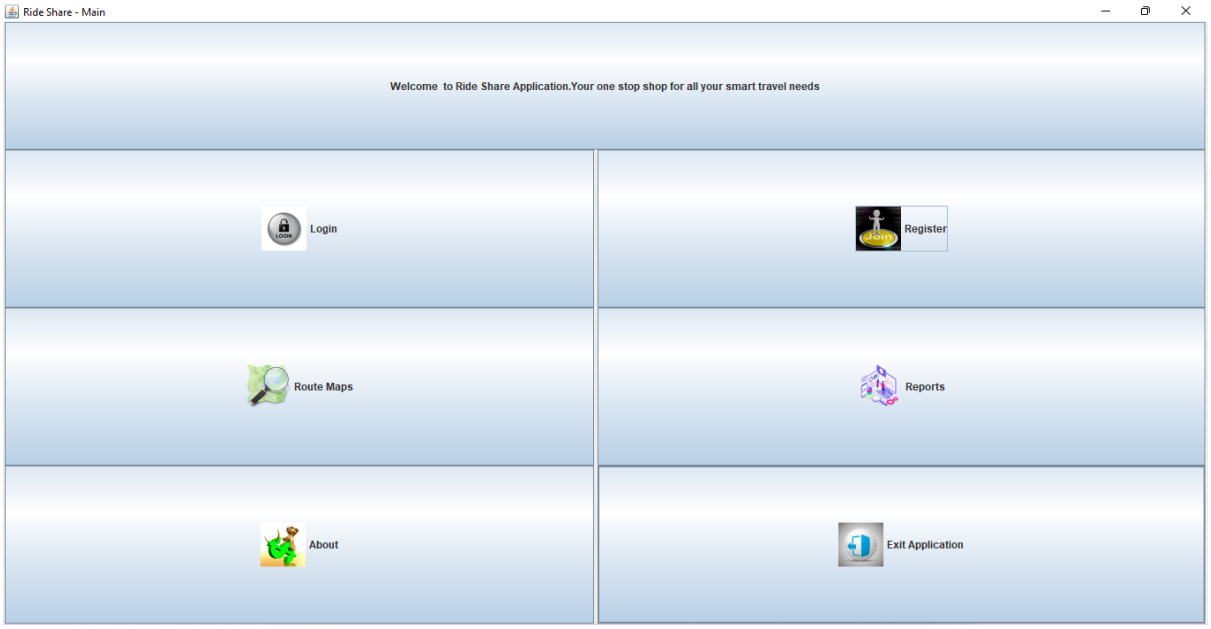

Fig 6.1 **INTERFACE**

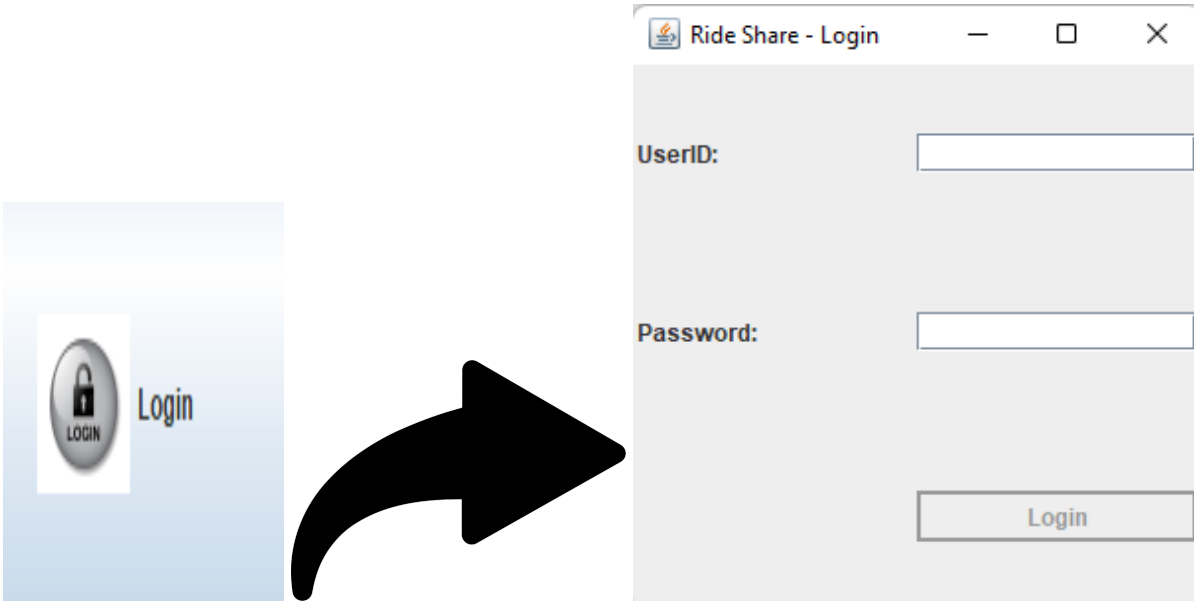

Fig 6.2 : **LOGIN PAGE**

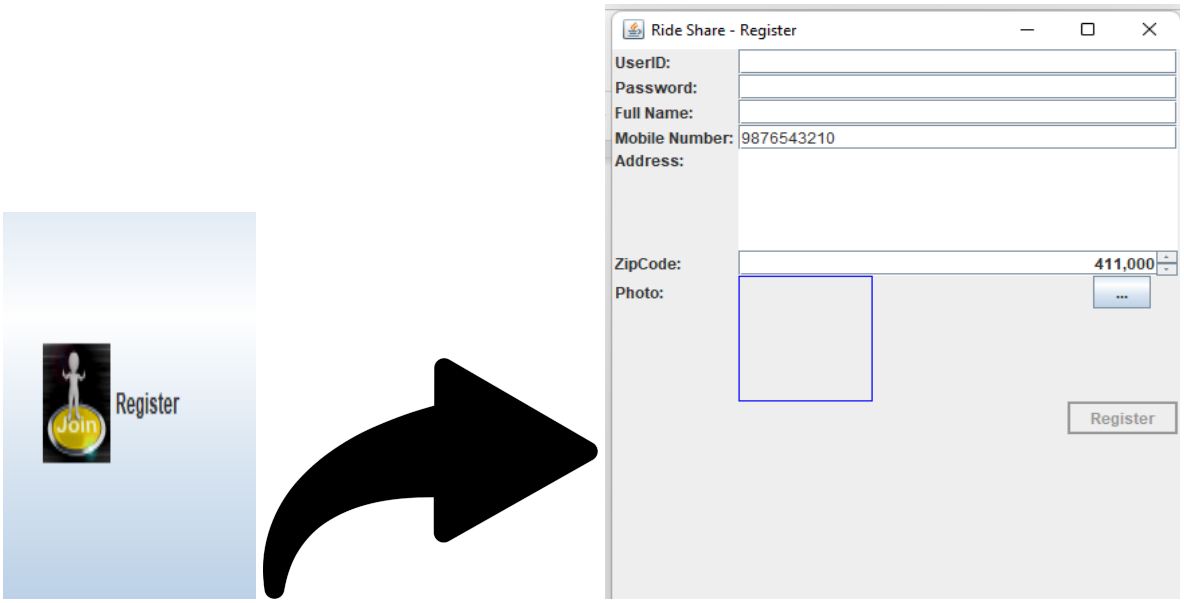

Fig 6.3 : **NEW USER REGISTRATION**

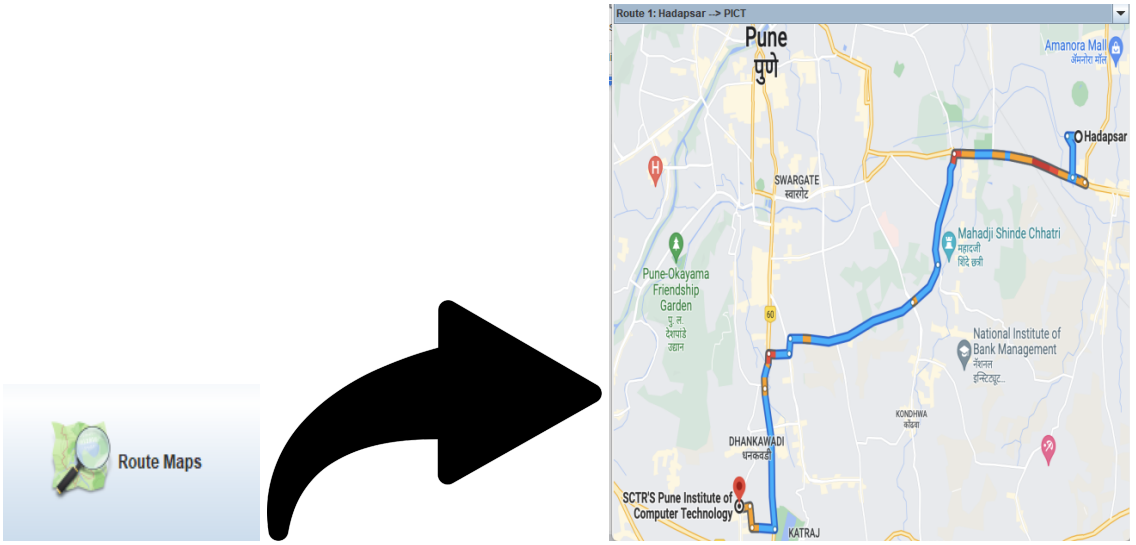

Fig 6.4 : **SAMPLE ROUTE MAP**

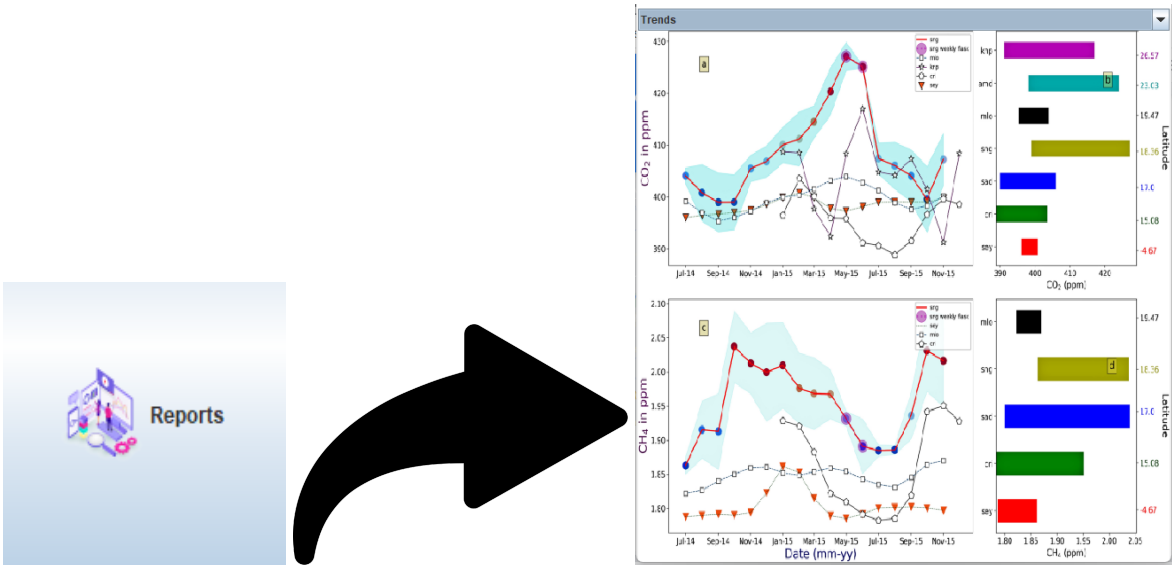

Fig 6.5 : **CARBON FOOTPRINT STATISTICS:-**

Fig 6.6 : **ABOUT RIDE-SHARING APP:-**

Chapter 7

RESULTS AND ANALYSIS

Consider the following situation: a bikeshare customer routinely travels from home to a destination such as their workplace, and back home. That is, each customer goes from home to their origin station using a shared bike, returns the bike to the pool located there, takes public transport to their destination station, rents another bike from a pool at this location, and rides from the destination station to their final destination, e.g., workplace. The customer keeps ownership of the bikes during the working day, then uses the same bike to return to the destination station, drops it off there, takes public transport to their home station, and picks up a different bike there to travel home, retaining ownership of the bike overnight.

A naive solution is to allocate two bikes per customer: one at their origin station, which will be taken home at the end of the workday (or returned to a bikeshare stand at the customer's home if one exists), and one at their destination station, which will be parked at the workplace throughout the workday (or returned to a bikeshare stand at the customer's workplace if one exists). While this solution is easy to implement, it is expensive. We present two probabilistic techniques that guarantee bikes availability, with high probability, but using a smaller bicycle pool: i) a transient-state analysis based on the difference of random variables and ii) a steady-state analysis based on the Engset model

Chapter 8

CONCLUSION

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

In this paper, the Bike Pooling system is an effort to reduce consumption of fuel, our most important nonrenewable resource and traffic congestion on roads by encouraging people to use bike sharing. So it is an environment-friendly social application and also helps people to reduce their journey time. This paper elaborates the literature survey of the different researchers on the bike pooling system. BikeBike pooling is done in many different techniques like bike pooling by SMS alert, carpooling by GPS tracking and so on.

It will also provide security to citizens.
It will give the accurate pick-up time.

8.1 Future Scope

It will be user-friendly for blind & lack of knowledge people.
Bikes can also be used in the future for pooling.
Pooling system can be for transportation
Goods in sharing manner (Truck Pooling).

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