Online Ride sharing/Carpooling System

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ABSTRACT
Carpooling which is also known as car-sharing, ride-sharing and lift-sharing is the sharing of car journeys so that more than one person travels in a car, and prevents the need for others to have to drive to a location themselves. Carpooling is the modern day approach to tackle the problem of transportation, so that more than one person can travel in a car from one place to another. By having more people using one vehicle, carpooling reduces each person's travel costs such as: fuel costs, tolls, and the stress of driving. Carpooling is also a more environmentally friendly and sustainable way to travel as sharing journeys reduces air pollution, carbon emissions, traffic congestion on the roads, and the need for parking spaces. Due to the enormous increase in the number of vehicles running on the road people have started facing problems in transportation due to heavy traffic on roads. Apart from that the increase in number of private vehicles have also done a major impact on our environment. It also adds to the fact that if carpooling is done by people rather than using private vehicles to travel alone, It can also contribute towards a better environmental condition. Carpool commuting is more popular for people who work in places with more jobs nearby, and who live in places with higher residential densities. This paper will describe about a Carpooling system which is a collective transport system based on sharing of private cars to travel, whose objective is to reduce number of cars on road by making use of the seats that would otherwise be empty. Carpooling is a really affordable means of travelling for an individual traveler.

Keywords:- Carpooling, Car sharing, Lift sharing, Ride sharing.

I. INTRODUCTION
With the everyday increase in population, there is also a rapid demand in increase of their transportation needs. Transportation has become a major issue these days as most of the people consider travelling with their own vehicle rather than using public transport even if they are travelling individually which further add to the increasing air pollution and heavy congestion on roads. Carpooling can be a solution to this problem as the person who is willing to travel through his/her own vehicle can do this as well as the people who are willing to travel through public transport can accommodate with vehicle owner to travel together. In this way the car owner can travel through his personal vehicle as well as the people who do not have their personal vehicles cab travel at cheaper rates can with the ease of a car which is better than public transport.

One such advantage of carpooling over other public transports can be that carpooling can cover the areas where public transport is limited. Government should encourage the people towards the idea of carpooling as it would be a great idea towards the betterment of environmental conditions as well as it would be an economical way of travelling for people. This will also help in reducing the number of vehicles running on road that would eventually save our time which is wasted due to heavy traffic on roads.

II. RELATED WORK
A number of really serious problems are arising due to high number of vehicles running on roads which is also due to the fact that people prefer travelling through their own vehicle due to the comfort it offers rather than using public transports. The population is increasing daily and so is the number of vehicles they would need for travelling. Some serious problems are global warming, traffic congestion, fuel depletion and problem of parking space for vehicles. To overcome these problems a community system for carpooling is proposed for both the car owner and the passenger or you can say rider and the passenger.

Both fuel cost and fuel consumption can be reduced with the help of carpooling. The system discusses about the major advantages that

carpooling provides and elaborate about the usage of carpooling in everyday life.

This is a really flexible kind of ridesharing as this platform provides regular as well as the occasional ridesharing for both the drivers and the passengers

III.   PROPOSED SYSTEM

The online carpooling/ridesharing platform acts as a platform which links the supply and demand creating a new mobility service. It connects the passengers to car owners near their area so that they can easily communicate with each other. The ride fare is fixed by the car owner within the range of kilometers travelled and will even take care of all administrative issues.

Modules
Vehicle owner:
To connect with the server owner must give their username and password then only they will be able to connect to the server.
   i.   Start
   ii.   Owner login
   iii.   Searching for the server
   iv.   Connect to the server
   v.   Viewing the admin details
   vi.   Confirmed the ride
   vii.   Stop

Admin:
Owner accepting nearby user is going to get the request from the user considering his starting point.
   i.   Start
   ii.   Admin login
   iii.   We need to register by giving all the details
   iv.   Start the ride
   v.   User searches for the ride related post
   vi.   Selecting the ride
   vii.   Viewing user detail and ride detail
   viii.   Stop

User:
After getting the registration request to the admin, he personally verifies whether the user is genuine or not. If genuine, then there request is accepted.
   i.   Start
   ii.   Admin will make a post of his ride
   iii.   User login
   iv.   User needs to register the details
   v.   Admin accepts the user details
   vi.   Viewing user details
   vii.   If the admin does not accept the request user needs to choose another driver
   viii.   Stop
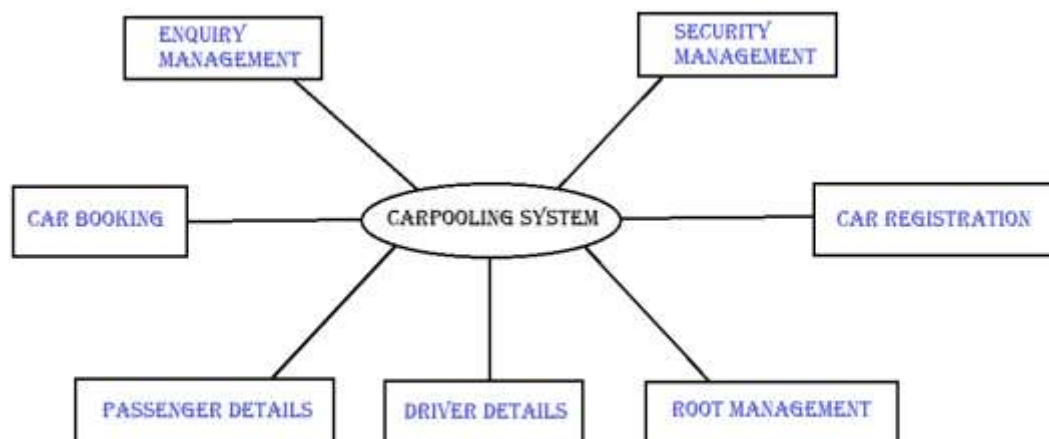
proposed system data flow diagram

IV.   SYSTEM ARCHITECTURE
Carpooling system basically depends on two things:
1.   The driver who is going to make his vehicle available to get pooled as well as his route
2.   Second is the passenger who is willing to get a ride from the available cars.

In carpooling system, the user has to be logged in to use the services provided by us. The user can either create a pool or can get a ride or both according to his needs. The passenger also has to fill the information asked by the tool like his route information. The driver has to create a post first and fill all the necessary details. Every detail these users mention will be stored in our database.

The user will use GUI provided by the system to fill in the details which is connected to our database. All the entries will be saved in particular columns. Now, after getting details from both the users, whenever a user (passenger) will click on find a ride option, the user will be diverted to the Activity page of the application where user will be shown drivers according to his source and destination details.

Now that the passengers have seen all the drivers using that route as per their requirement, passenger can

send a "Request" to the preferred driver for the ride. The driver on the other hand can accept or decline request if he sense something wrong and can only start communication with passenger if he accepts request. Passenger can send request but will only be able to communicate with driver if he accepts the request. After all this necessary and important steps, both driver and passenger can decide on common meeting points and time to meet to start their journey together.
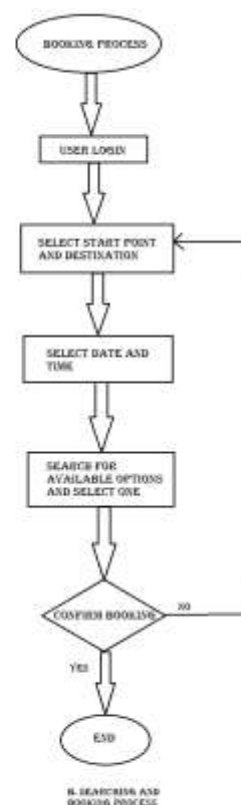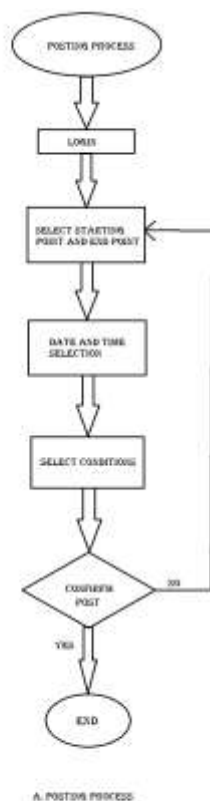
System Architecture Diagram

V. CONCLUSION AND FUTURE SCOPE

Carpooling system is an effort to reduce consumption of fuel, our most important non-renewable resource and traffic congestion on roads by encouraging people to use car sharing. So it is environment-friendly and also helps people to reduce their journey time. This can also solve the problem of transportation in less developed areas of the country where possession of a car is not very common. The benefits of the system are enormous with reduction in traffic, fuel economy, reduction in pollution etc. By using such an efficient

carpooling system user can saves money on gas, car care, parking permit fee. By sharing the commuter expense, everyone in car pool saves money. User can book and share the ride anywhere with anyone and certain amount of capacity and with fare price. To further promote pooling, payment system or redeemable points system can be implemented in the future.

There are many advantages of using Carpooling. Carpooling is user friendly and reliable. It also has a great advantage to our environment as by carpooling the emission of gases and pollution is reduced thereby creating a better

environment. Carpooling can be done by Website, Mobile Phone, call /SMS. There will be a 24*7 support for the users to resolve any kind of issues faced by them. Decreasing the fuel emission will also lead to reduction in global warming.

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