Bike Sharing Android Application

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Abstract— In recent years, bike-sharing has experienced rapid development however, controversies about the externalities of bike-sharing programs have arisen as well. While bike-sharing programs have impacts on traffic, the environment, and the social impacts, the management, and sustainable development of bike-sharing has also been of interest. Vehicle sharing systems are the key to sustainable mobility. Bike sharing need to possess adaptation features to answer the different user needs, and must be automated to avoid intermediaries between users and system the bike sharing application is only for the short term rides like in between the cities. Finally, Bike sharing must be based on a wide variety of vehicles and they based on sharing the rides. Pune is the city which having large number of two wheelers that's why we need to take advantage on them and make it simpler as other cab sharing applications. This application is more convenient to people for small rides between cities.

Key words: Bike Sharing

I. INTRODUCTION

As of April 10, RideScout is launching in the Bay Area, the app's newest addition. Other locations include Austin, Texas and Washington, D.C. Kopser is aiming With the increase of environmental concerns and the congestion of roads, bike sharing has gained a lot of popularity when it comes to environment-friendly and cheap ways of travelling. In bike sharing application two person share a ride in one of their personal bike. This application also have economic advantages because the travel expenses are shared among the riders. Travelling alone may be stressful, so having other persons with you on a trip reduces the stress and is also the occasion to socialize and make the trip funnier. Bike sharing is an emerging urban transportation option. The bike share concept began in Europe and is now being designed, applied, and/or researched in many North American cities. A bike share transportation system is same as OLA and UBER application. In this application bikes rides are available to people with centralized payment and control. Customers who want to use this application customer must need smartphone because this application is based on real time and it required current location of customer. after completing the ride the customer must important to share feedback because its very important for the security purpose. Bike share pricing structures are designed to encourage short trips. For example, most bike share programs feature a thirty minute period within which there is no additional usage fee to ride the bike.

Finding people to share a ride with is the challenge of Bike sharing as it is difficult to find a person going to the same place as you at a given time. Many websites and applications has been developed to help people meet to share rides. Those applications enable users to create and share their trip and find passengers. The downside of those applications is that they are usually location limited: they are available on few languages and for a limited number of countries only. Also, most of them are not socially enabled;

they do not let users to share their trips on social media like Facebook. The purpose of this project is to develop an application that tries to overcome the disadvantages of the other available applications. The application is to be generic, which means that it may work for any bike share in any country in the world. Also, it is socially enabled by its integration to Facebook and possibly to other social media. Our application which is the name chosen for this application, is also a real-time application: any person taking part of a trip can check-in the meeting point to let the other persons now he/she has arrived to the meeting point.

The main objective of the work presented throughout this report is to develop an enterprise-class server that represents the backbone of the application and ensure its compatibility with multiple platforms including web, Android. Moreover, an example of a client Android application is developed for the users to access the services of the application from handheld devices and serve as a companion during travelling.

II. EXISTING SYSTEM

The various other existing system are as follow :

1) BlaBlaCar :-

This application work as our application but it only use for cars and also it used for long rides not for the city rides. And the driver decides the fares they never understand the users issue they ask for more charges as per their own request its not centralized process anyone can create their ride without any verification. That's why we are working on best application for bike sharing.

2) OLA/UBER:-

Another car pooling application is here. We all know about OLA/UBER application we use it for cab sharing but their charges are very high many of people doesn't afford the charges for that reason many of them never use OLA/UBER cab sharing application. And only for those people and who loves bikes we are working on bike sharing application.

3) Carma Pooling:-

Carma differentiates itself as a carpooling app rather than ridesharing app. According to Product Manager Emmett Murphy, the app lets users share commuting costs with neighbors and colleagues headed the same way. Riders pay .20 per mile, standard, which means drivers don't make a profit. "Because Carma drivers simply use it on their way to and from work, they never need to detour to other destinations," Murphy said. Once the trip starts, a timer on the app keeps track of the trip distance and automatically pays the driver when the trip ends.

4) Ride Scout:-

"We bring the entire transportation ecosystem together," said Ride Scout CEO, Joseph Kopser. Instead of focusing just on bike shares, carpools, or bus schedules RideScout offers all available options and allows the user to compare, including some of the other apps on this list, like Carma and Sidecar. "It's an experience everyone faces," Kopser said,

"you may have your set route, but life throws you a curveball." for a total of six cities by June.

III. PROPOSED SYSTEM

Our goal is to develop an application just changing in existing cab sharing applications our aim is develop an android application for bikes for those people who doesn't afford the taxi charges as well as who loves bikes more. The bike sharing process is same as well as OLA/UBER but in place of those we place our application for ride sharing.

Given the relatively short life of bike sharing programs in the United States, data is only starting to emerge on the many benefits of a bike share transportation system. However, the data that has surfaced so far is encouraging. Across both North America and Europe, cities large and small are beginning to not only reap the benefits of a bike share investment, but also to better measure the direct and indirect impact of the system on their communities. Bike share systems impact many different dimensions of quality of life, and thus provide a variety of economic, transportation, and environmental benefits to the cities they serve.

Bike sharing improve public transit connectivity Perceptions about the convenience of local public transit has been identified in research by UpDayton to be a barrier to young talent attraction and retention. Survey data collected for three North American cities with existing bike share systems indicates a bike share could help overcome this barrier. Over 75% of bike share members in Minnesota, Montreal, and Toronto indicate bike sharing has improved the "connectivity" of their public transit. Furthermore, over 40% report using the bike share with another form of local transit to complete a trip that they otherwise would have done by car.10 Bike sharing completes the "last mile" between a transit stop and a user's eventual destination, thus improving the convenience of the entire system.

There are many points are important in Bike sharing application but we focus on the main topics are as follows:-

- Bike sharing help us to reduce the air pollution.
- Its same as the cab sharing apps but the main reason behind this application is fare/charges.
- Each and every people can use it afer successful registration. its centralized process like ola and uber.
- The transport issue in india can reduse while we use our application in real life.
- In our world the maximum number of vehicles are in pune and we take advantage on them
- We were not developing this application for job purpose and we never hire any driver for ride but anyone can registered on it and use it.
- The estimated charges based on bike average, millage and the waiting charges.

Online Payment: - As the security purpose we use the CC-Avenue payment gateway for make payment. online payment need more security that's why we chooses the CC-Avenue gateway which is 100% secure. We can easily make our payment using Credit/Debit cards on CC-Avenue without any extra charges.

IV. LITERATURE REVIEW

1) Nicolas Gast Inria,Guilaume Massonnet Inria,Daniel Reijsbergen LFC'S International Journal of Innovative Science,Engineering Technology [IJISET 2015] which presented an approach to make forecast of availability in bike Sharing system using probability based approach.
2) Scott murphy, Aaron Buckley Amy Forsthoefel,Matt Lindsay,Grant neeley, Emily wilk, Andy Williamson International Journal of Advanced Research in Computer Science Technology [IJARCST 2013].Dayton bike share feasibility study which has strong support for a bike share in the Miami valley.
3) Transnational Transdisciplinory Journal which is published by Elliton Fishman, Simon Washington, Narelle Haworth [11 March 2013]. In which the potential for bike share to act as a catalyst for private bike riding received little attention after existing of bicycle sharing.
4) Smart Bike Sharing System to make the city even smarter which was published by Monika Rani and O.P. Vyas department of Information Technology, Allahbad[2010].In this paper implementation of plan and evaluation of smart bike sharing system along with Sensor Networking Technology.
5) International Transport Forum the safety of bike share system is associated with decreased risk of both fatal and non- fatal bicycle injuries when compared to genral bike riding. Shaheen et al.'s[2013] North American, Multi-system study included questions to bike share operators regarding safty data. Bike share schemas[flengenherirrer,2013] North with standing the importance of creating cities that support safety riding[Jacobsen and Rutter 2012].
6) Bicycle sharing has numerous perceived benefits, including improved health, enhance economic development, better urban environment and an enhanced quality of life (Shaheen, 2010). Despite these advantages, scholarly literature on why, when and how cities integrate bikeshare programs (or as part of a comprehensive transport and land use system) has remained scant (Ahillen et al., 2015; Faghih-Imani et al., 2014).
7) World Conference on Transport Research WCTR 2016 Shanghai.[10-15 july 2016]. Iderlina Mateo-babiano, Sameera Kumar and Alvin Mejia bike sharing in Asia: a stake holder perception and possible future in this paper aims to advance understanding of bike sharing schemes in Asia by examining motivators, constraints and opportunities, and their contribution towards achieving sustainable urban mobility outcomes. Using a survey-based research design approach, this study examines the perception of various individuals on the perceived benefits, and identifies factors which have facilitated or constrained the implementation of PBSP.

V. CONCLUSION

The idea of adapting bike sharing application to make public transportation cheaper, faster and easier. This application also have economic advantages because the travel expenses are shared among the riders. In this paper, we introduce a ride share based on the GPS system that help us to locate exact

location of bike which is available for the customer and based on that location we will find the best ride. For implementation purpose FCFS, Dikjshtras algorithm and Shortest path finding algorithm are used and using this algorithm we will find the best route as well as correct timing for ride.

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