Dynamic distance optionality based on GPS locator for optimization of resources while travelling

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Abstract— The buzz word mobile phone keeps everyone awake, and yes why not, even on being a small hand device, it is having adaptability to exhibit numerous functionalities .Talking about present day scenario, the use of mobile phones is not just restricted as being a fastest mode of communication but way beyond it, one of its efficient use for the optimization of resources is being presented here. Making it compatible for the every day on going tourists,pedestrians is being look forward here ,in order to have an optimized usage of their resources. This handy application calculates the fare for the customers on the basis of the distance travelled by them, it protects them against the malfeasance by taxi drivers thus, they can no longer be cheated, it can be deployed in the Android phones or any other android supporting device, thereby this application makes use of Android technology version 2.3.3, and thus helps to eradicate the fraud being done on the customers.

Index Terms— GPS, Global Positioning System, Android Application, Resource Optimization, Time vs Cost Balancing, Dynamic Distances

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1 INTRODUCTION

TO talk about the present day world, where nobody is having time to know about their whereabouts, it becomes equally difficult to manage resources, travelling is what I can say is being included in every employee's schedule, but employee remains largely unaware about the extent of him/her being cheated on the fare calculations by cab drivers in different regions of the country. The concept of GPS is not new to anyone, if we talk about present then we can see a lot of GPS enabled equipments are sprouting in the market, take example of cars, nowadays every new car in the market is equipped with a GPS on board in order to calculate distance in cities or country side to find roads.

The concept of this application is a bit different here the focus is not on "where are we" rather it is on "how much distance is being travelled" ,for this the idea is to use a mobile phone which accepts GPS to receive coordinates and sends them to a server, which will store them and calculates the distance travelled. Now-a-days the mobile technology is blooming; its reachability is expanding to the every corner of the society. Android operating system is the latest technology in the market for mobile software development and hence android as a platform was selected for implementation of this application. Cabs are the most commonly used means of transport in our daily Indian market.

Calculation of fare for the customers and distance travelled by these cabss were done manually. Manual calculations may lead to errors, that is the fare or distance calculated can be wrong. Cab drivers may try to beguile innocent customers

lacking knowledge about the actual distance and fare. So to abrogate this malfeasance by cabs drivers and to make customers more aware this idea is being brought forward, now customers are not fettered to believe the cabs drivers as they can also have this mobile application installed in their mobile phones and can see to it that they are not being cheated. Hence to upgrade this manual calculation into a well defined software solution and to make Indian market technologically sound the idea of this application is conceived.

2 PURPOSE OF THE APPLICATION

Location based services and map view we are able to find location and mark it on map of that location. Using this location we calculate the actual distance travelled and accordingly the fare is calculated that is incurred by the passenger.GPS locator requires internet access for transmission of GPS data unless which the application will not give the location output. The proposed solution also contains a module for tracking, retrieving and storing information about the taxi. It also stores customer's records and the distance travelled for future use. This module uses the help of sqlite manager for maintaining and creating light weight database specially used for mobile application There is less possibility of data loss as the distance, cost, start location and end locations calculated are directly entered into the database and this field is read only therefore after data is entered no change can be made in it. The problem solution majorly consists of providing a user friendly interface to the users to work upon so that they feel comfortable operating the application.

The major purpose for the implementation of this application is just for making every person equipped with their own handy application, which would easily compute fare for them without any other external manipulation being done in calculation,as it is done mostly .

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3 WORKING METHODOLOGY

To talk about this application, the pre-requisite is Android as we know it is the latest upcoming technology, which is bringing a revolution in the present day market due to its functionalities. Here in this application the basic structure of the map is being formulated on the basis of four directional view that is east, west, north and south. According to these directions a location is being traced that whether it lies in North-East, North-West, South-East, South-West, on the basis of this, it is determined that our user is in which location. Say for example: if our user is somewhere in south east part of India, then our map would get to know about the probation of that particular part in the country map, in which the user could be. After taking the input of location from the user, our SQLite Database would govern the fare for that particular region, like example:

- If the person is in Indore(somewhere in central zone of north) then per km fare would be 7Rs
- If the person is Mumbai(somewhere in south-west) then per km fare would be 13Rs

Thereby such manipulations would be done according to the location of the user.

The governess of fare is being done according to the different regions in India. And the Optimality is being brought here through the different multiple routes available, this would get more clear by understanding the following scenario, if we talk about the present day world,"Time is Money "is what everyone says, therefore the optimality is being brought here by taking care of time, as being told earlier distances between two locations is being calculated also a list of detailed routes are provided as per the user's convenience.

Considering the situation in which an outsider in New Delhi wants to go from Hauz Khas to Connaught Place. Then he would be guided as:

- Going By Vinay Marg ,Panchsheel Marg,Mother Teresa Crescent then finally going by Baba Kharak Singh Marg.This route would be presented as being the most suitable ,if in case that person has priority for time.

But as we can see the person is an outsider, then he must be interested in little bit of site seeing. Therefore, a second option would be also provided, if that person has no time boundation.

- Thus, going by Lodhi road would make catching a glimpse of National Zoological Park,then taking the Mathura road turn would take you to the famous markets of Chandni Chowk,from there heading straight towards paharganj route,would lead you to Connaught Place.

Hence different flexibilities like this can be provided keeping in mind the priority of the user.

Accordingly to the state of interest and the distance covered, the user would be able to determine the fare calculation as per the choice placed.

The determination of fare is so important here due to one of the most prime reason and that is the malfeasance done by Cab Drivers. There has been tremendous increase in this, and every now and then every person falls in experiencing it.

That is why it is essential to make avail this application, since:

- It is extremely portable
- Can be made easily available
- Very less error rate

4 WORKING MODEL

The implementation of this application would require Android 2.3.3 version, which would incorporate Google APIs. The use of Google APIs is so much encouraged here ,so that the application does not lacks anywhere in terms of exhibiting maps.

The launching of this application will be done through Android, and as it involves certain stages thereby, it will get executed by the following steps

Step1: It will require maintenance of the accounts for the new user and as well as the existing user. Then it will ask you for logging in every time you want to use that application, now here the check would be done that whether the user already exists in the database or it is a different user. If it is a new user, the user will be required to get registered and then carry on further proceedings, If the user already exists in the database, then the user can simply sign in.

Step2: It will provide you with the option for using the GPS facility, and then as soon as you will place your choice, it will take you to the next page which will be showing the map.

Step3: The pointer would initially show the by default settings of latitude and longitude, which are being initially set by the application developer.

Step4: The user would be asked for placing the region in which they are, and simultaneously would be asked for entering the location of source and destination.

Step5: Now the locations parameters would be compared with the different parameters of distances being set. According to the source and destination, the computation of fare would be done.

This application is largely governed by implementing entire business logic in an IDE and also keeping the backend support by using SQLite, so as to have an appropriate database management for the entire application; it would be able to store all the required data being required in this application. Thus with the help of this the user would get to know about the optimal cost for a particular distance , no matter the user is using this application from whichever part of the country.

5 FUTURE ADVANCEMENTS

The future Advancements in this application can be if we can increase its range, like from just being nationally it should be able to go internationally as well, ex: if a person goes to some other country then that person can be made avail about the different routes, and the per kilometer fare. With the help of this that person would be no longer helpless in a totally dsifferent country.

For this the SQLite manager should keep the record of different countries being mostly visited and should keep the related information about them, which can be of help to our user. The procedure for execution in international level

would be same as it is being done nationally.Some changes will be required, that is regions which were traced according to the national divisions, will have to be broadened and will be traced as per their positioning in the globe, from here execution will be similar to what being exhibited before in national level implementation.

6 CONCLUSION

This application is entirely designed to benefit ongoing passengers nationally and after sometime internationally as well. It does not require much of resources, it is easily portable and functionable, by having the only pre-requisite and that is an android mobile phone.
In more appropriate words it can be said if a person is wiser enough and does not want to fall victim to any

REFERENCES

No Reference Used.