



SMART CITY

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Abstract: This is an android application which helps user to search nearby hospital, restaurant by showing the route map for your current location. This application has the ability to find your location through GPS system. This application used to find out the tourist spot between the source and destination location and also able to find out the bus number from one place to another place. User need to give the details of sources and destination. Accordingly it will display the details of the bus number and tourist spot details of particular route. In this way user will be free of confusion about the buses. It will also be very helpful for those people who are new to the city. The Location-based applications to reduce the energy consumption of mobile devices for data reception. We model the problem of data fetch scheduling, with the objective of minimizing the energy required to obtain position-based data without impacting the application's semantics adversely. To solve the fundamental problem, we propose a dynamic-programming algorithm and prove its optimality in terms of energy savings.

Keywords Location Based Service(LBS), Global Positioning System(GPS) ,Google Map, Dynamic Programming Algorithm

I. INTRODUCTION

A **local positioning system (LPS)** is a direction-finding system that provides position information in all weather, anywhere within the coverage of the network, where there is an unhindered row of moan to three or more signaling beacons of which the exact position on globe is known. A unique type of locating is the real-time locating system; which also allows real-time tracking of an object or person in a confined area such as a building.

Real-time locating systems (RTLS) are used to automatically identify and follow the position of objects or people in real time, usually within a building or other contained area. Wireless RTLS tags are fond of to objects or worn by people, and in most RTLS, fixed reference points receive wireless signals from tags to determine their location.^[1] Examples of real-time locating systems include tracking automobiles through an assembly line, locating pallets of merchandise in a warehouse, or finding medical equipment in a hospital.

II. LITERATURE SURVEY

The problem definition is that it don't give all the hospital and restaurant information in one place. If somebody desires to get all the information then client has to search on internet, even though he can able to get information's of any particular hospital and restaurant then you have to search again to get the location and route to the hospital, restaurant separately. To search all these information it will take a lot of time, also this process is hectic and complicated. If user want to know about the tourist spot between the source and destination and finding the Bus number in particular route search on internet its take time consuming and then the process of finding the busses and tourist spot will also be difficult. It have disadvantages like Time consumption: To search all these information it will take a lot of time and also this process is complicated. Accuracy: you have to search to get the location and route in internet but it doesn't give accurate location Difficulty: Bus number in particular route search on internet its take time consuming and then the process of finding the busses and tourist spot will also be difficult.

III. PROPOSED SYSTEM

The project is an Android based mobile application. This project was designed using Android as front end, Php and MYSQL as Back end. The software is developed with module approach. The admin can stores hospital, restaurant location information in server. This application has ability to find out your current location through GPS system and calculate the distances of latitude and longitude with stored locations and display the nearby hospital and restaurant.

The Global positioning System (GPS) is a space-based satellite direction-finding system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. The system provides critical capabilities to military, civil and commercial users around the world. It is maintained by the United States government and is freely accessible to anyone with a GPS receiver. It has ability to find out the tourist spot between the source and destination places and also find out the bus number of the particular route and route path. It have advantages like Accurate: using GPS it can easily able to find out your current location and get nearby hospital and restaurant places accurately. Time saving: All the information is stored in database so, it can fetch and display the location and route.

IV. MODULE DESCRIPTION

The software is developed with modular approach. The admin can stores hospital, restaurant location information in server. This application has ability to find out your current location through GPS system and calculate the distances of latitude and longitude with stored locations and display the nearby hospital and restaurant. The Global positioning System (GPS) is a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. The system provides critical capabilities to military, civil and commercial users around the world. It is maintained by the United States government and is freely accessible to anyone with a GPS receiver. It has ability to find out the tourist spot between the source and destination places and also find out the bus number of the particular route and route path.

4.1 Admin Login

The location information is uploaded by the server admin and the bus number in the particular area can be added with the location and each routes also. They user is the queries who searches for the place as a query from his/her mobile application.



Fig:4.1 Login

4.2 Tourist Spot

Tourist spot is an entertainment place for the people, who want to know the tourist places for particular area/nearby place the need to search on internet its take a lot of time consuming, In this module the user will specify the source and destination to get the between location tourist spot easily.

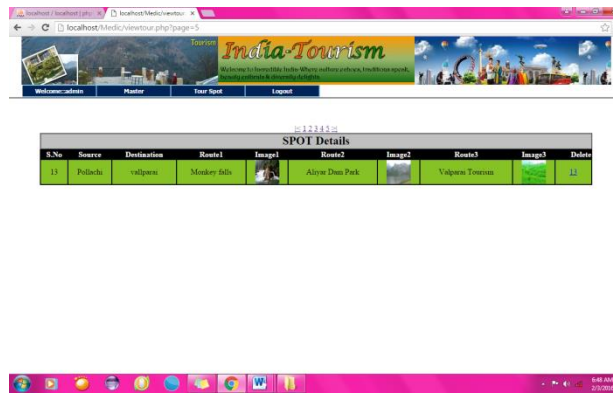


Fig:4.2 Tourist Spot

4.3 Hospital

User travel the new place if any emergency occur/need the user does not know where the hospital nearby so the user current location get by GPS and its view the nearest hospital.



Fig:4.3 Hospital

4.4 Restaurant

Food is one of essential thing to person if the person is new to city then they need to know where the restaurant place nearby in this module we view the nearby restaurant.



Fig:4.4 Restaurant

4.5 Bus Number

Finally, in this module the user will specify the source and destination to get the route and bus number so the user will be easy to know the particular route bus number.



Fig:4.5 Bus Number

V. ALGORITHM

To Calculate The User's Current Location

The aim of our application is to find the users latitude and longitude of the current location. This application automatically finds the current latitude and longitude using GPS. After finding, it needs to show the nearest hospital and restaurant details. In order to do this the calculation of distance is important so we are using a formula for calculating a distance. The function will get the latitude and longitude as input. Trigonometric functions are used in this formula to get the accurate details of user. The below formula calculates using some mathematical terms. Finally it returns the distance and this helps to calculate the nearby hospital and restaurants.

```
function distance($lat1, $lon1, $lat2, $lon2)
{
$distance = (3958*3.1415926*sqrt((($lat2-$lat1)*($lat2-$lat1) +
cos($lat2/57.29578)*cos($lat1/57.29578)*($lon2-$lon1)*($lon2-$lon1))/180);

return round($distance);
}
```

VI. ADVANTAGE OF SMART CITY

Accurate: using GPS it can easily be able to find out your current location and get nearby hospital and restaurant places accurately.

Time saving: All the information is stored in database so, it can fetch and display the location and route.

VII. FUTURE WORK

The software has been developed in such a way that it can admit modifications and auxiliary changes. The software is very user friendly and future any changes can be done easily.

Software reformation is carried out. Software reformation modifies source code in an effort to make it agreeable to future changes. In general, restructuring does not adjust the overall program architecture. It tends to focus on the design details of individual modules and on local structure defined within modules.

Every system should allow scope for further development or enhancement. The system can be adapted for any further development. The future expansion can be done in a concise manner. The entire processing of the system can be enhancing in future.

VIII. CONCLUSION

The mobile based application of the smart city has been developed successfully in Android with Php and MYSQL to fully satisfy the objectives. Here now admin can add all the information in server so the mobile application user can get the information easily without putting extra effort. It much reduces time consumption for search information about location and route of particular area.

The objective of this project was using the GPS on mobile application to get the user current location and nearby hospital and restaurant location. User need to give the details of source and destination. Accordingly it will display the details of the bus number which is going in that route. It is a time saving application to user.

The system developed is able to meet all the basic requirements. The important thing is that the system should be flexible enough for future modifications. Every effort has been made to cover all user requirements and make it user friendly.

The design and implementation of the Android based smart travel. The system is based on web service technology. The system provide information of hospital, restaurant, tourist spot, bus number. The system is a combination of smart phone and internet services and will help user travel.

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