Local Service Finder With Geo-Fence Capability

Vishal Parkar[1], Namita Paradkar[2], Bhakti Sohoni[3], Yogita Thamake[4]
Dept of Computer Engineering
Rajendra Mane College of Engineering and Technology, Ambav

Abstract- *This paper involves Android application development for connecting people with local service providers. This involves a GPS based location tracker, in which with the help of any mobile device (app installed); any other GPS enabled handset (app installed) could be located which helps service provider to get nearby requestor. Google Maps API is used to visualize users of application. Though target user may be located anywhere in the world, (s)he must have network connectivity and GPS enabled. Proposed system is based on geo-fence which gives location accuracy. QR code integration will popularize application free of cost and for quick access.*

Keywords- geo-fence, Google map, local service provider, service request

I. INTRODUCTION

This paper illustrate a GPS based application which will help us in locating the approximate geo-position of people depending upon their current location. Geo-position will be displayed on the map view on our android device and display functioning can analogue to the current usage of Google Maps.[7] Customer request is forwarded to all service provider as per the category within geo-fence. If required service provider not present in geo-fence then it can be extended. According to distance, service provider will decide which request to be process. Service provider and customer can interact with each other through chat or call. System has google map visualization to service provider which help to reach destination(Customer).Customer can give rating and feedback to service provider from which service seek. Proposed system is time saving for both customer as well as service provider. Customer have block list facility so they can restrict particular service provider. Proposed system generates QR code for service provider which contains basic information. It gives quick access to application and reduces advertisement cost.

A geo-fence is a virtual perimeter for a real-world geographic area.[1] A geo-fence could be dynamically generated—as in a radius around a store or point location, or a geo-fence can be a predefined set of boundaries, like school attendance zones or neighborhood boundaries.

This paper mainly focuses on providing local services to people using location based android application; with help of any android device (app installed); any other GPS enabled handset (app installed) could be located, which helps service provider to get nearby requestor. Ensures availability of local services spread across geographical region to the customers.

II. LITERATURE SURVEY

The paper presented by Vinayak Hegde gives idea about how distance is calculated by using the Haversine formula and how the clustering algorithm k-means is used to cluster the locations to get more accurate results. Google maps API is used to find out the latitude and longitude of each student residential address and visualized, which gives the minimum, maximum and average distance. This paper mainly focuses on the location wise distance analysis. The main purpose of this paper is to identify the distance in the kilometer of the student residential location from the Institute.[1]

Pratiksha Mittra's paper primarily deals with the generation of QR codes for Question Paper they have proposed encryption of Question Paper data using AES Encryption algorithm. The working of the QR codes is based on encrypting it to QR code and scanning to decrypt it. This paper propose the application of QR code which is a developed application that helps in secure transfer of question papers via websites and interfaced among various universities.[2]

Mfundo Masango's paper proposed an application which is based on Google timeline and auto save location. Safe zone is set for particular application with help of geo-fence. Whenever user move outside that geo-fence then security mechanism activated so only authorized user can access the application .Security provided based on location of user.[3]

Dijana Jagodic's paper gives basic idea of QR code and its use in android applications. QR code supports android version 2.3 and above. Implementation cost of QR code is less as it require only mobile phone with camera. Various applications of QR code are well mention in this research

paper. Security from unauthorized access to sensitive data is possible by QR code.[4]

Huiguang Liang's paper is based on Global Positioning System (GPS) and Network Location Provider (NLP) for localization. Accuracy of location is more in GPS+NLP than GPS only. Users of this system would get multiple path to reach their destination with exact distance. Effect of mobility and network delay on localization is represented in this paper. Location management is properly explain and the facts that affect localization is listed properly. [5]

Paper by Patricia Ortal states about real time location of moving objects on Google maps. Every move of object is captured and its location is stored in database then the location is shown on map.[6]

'Beginning Android 4 Application Development' book is helpful for location based service application, using Google Maps. It demonstrate way to obtain geographical location data and display that location on map. Also gives use of XML and JSON web service in android application. This book covers many topic with appropriate example, so learning is easy and efficient.[7]

III. EXISTING SYSTEM

There are many applications that provide local services like UrbanClab, Sulekha.com, HouseJoy, Babajobs, etc. We analyze the working of these existing system. There are some limitations such as no any map visualization, no blocking facility.

When any request submitted, current system broadcast user request to all corresponding registered service providers. System doesn't provide list of corresponding providers from similar request history. If any service provider accepts any request and if (s)he wants to cancel it due to certain reasons then it is not possible. After request get accepted, existing system doesn't provide any map visualization facility. There is no such way to view where exactly the requestor located. For any instance of time if user want to check for route to reach any location then there is no any direct route provider. From customers point of view any service provider is not helpful or does not satisfy customer expectation for particular service then customer doesn't have facility to block that service provider.

IV. PROPOSED SYSTEM

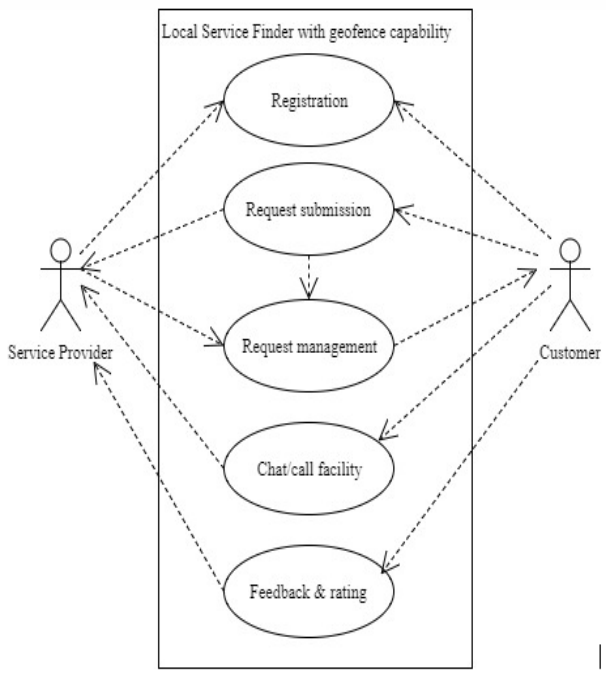

Figure 4.1 system flow diagram

Customer and service provider will register to system by providing essential information. For verification they have to enter OTP which is send by application to their provided email ID .Service provider will able to enter their specialties as well as experience. When customer login to application, they can request for service. While submitting their request they can mention budget and time. Customer can be request to only particular service provider if and only if those service providers previously provide service to that customer; otherwise the request is forwarded to all service providers within Geo-fence.

Service provider will receive notification of request. According to decision of service provider (Accept/Reject) notification send to customer. When service provider accept request, the corresponding customer communicate with service provider through chat facility. Proposed system will provide feedback and rating facility. So that customer can give feedback and rating to service provider who gives service. System will filter the feedback to positive and negative. According to rating the request will be forwarded by system to service providers who have high rating.

V. CONCLUSION

The Local Service Finder with geo-fence capability application we are developing, is intended to find local services in particular region. Customer request for any service

like electrician, plumbing, etc. fulfills the application in easy way. The GUI provided is very simple so that any novice can learn to use it. This project is partially implemented with some of the features as per requirements.

Service providers will also happy because of growth in their business or income source. Customer can easily communicate with service provider and get struggle free any kind of local services by sitting at their home.

VI. ACKNOWLEDGMENT

We take this opportunity to express our deep sense of gratitude towards one and all who have directly or indirectly helped us in the due course of doing this research and preparing this research paper.

REFERENCES

[1] Vinayak Hegde, Aswathi T S, Sidharth R, "Student Residential Distance Calculation using Haversine Formulation and Visualization through Google Map for Admission Analysis", *International Conference on Computational Intelligence and Computing Research*, 2016.

[2] Pratiksha Mittra, Nitin Rakesh , "A Desktop Application of QR Code for Data Security and Authentication", *International Journal of Multimedia & Its Applications (IJMA)*, Vol.3, No.3, 51-59, August 2011.

[3] Mfundo Masango, Francois Mouton, Alastair Nottingham, Jabu Mtsweni, "Context Aware Mobile Application For Mobile Device", 978-1-5090-2473-5/16/31.00, 2016

[4] Dijana Jagodic, Dejan Vujicic, Sinisa Randic, "Android system for identification of objects based on QR code", *23rd Telecommunications Forum Telfor (TELFOR) , 10.1109/TELFOR.2015.7377616*, 2015

[5] Huiguang Liang, Hyong S. Kim, Hwee-Pink Tan, Wai-Leong Yeow, "Where am I? Characterizing and Improving the Localization Performance of Off-The-Shelf Mobile Devices through Cooperation", *NOMS 2016-2016 IEEE/IFIP Network Operations and Management Symposium*, 10.1109/NOMS.2016.7502834, 2016

[6] Patricia Ortal, Shinpei Kato, Madsto Edahiro, "Real-time visualization of moving objects", *IEEE 3rd International Conference on Cyber-Physical Systems*, 10.1109/CPSNA.2015.20, 2015

[7] Wei-meng Lee, "Beginning Android 4 Application Development", John Wiley and Sons,Inch