International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2013): 4.438

Secured Location Based Bus Route Locator Application for Android Mobiles

Dayanand G Savakar[1], Ravi Hosur[2]

[1]Rani Chennamma University, Belagavi

[2] BLDEA's Vachana Pitamaha Dr. P.G.Halaktti College of Engineering & Technology, Bijapur-586103, India

Abstract: ***In the existing information system, the user who visits unknown city is unable to find the location or landmark of the place he/she is in. During his/her journey in the vehicle, may think of when my stop comes, how far I'm from my destination, etc. This issue is answered by our proposed model in this paper where the mobile phones with android application find the bus route based on the Location Based Services (LBS) finder which is embedded. In the model, once the bus number is entered, the application displays the list of stops that are to be covered by the specified bus number for the route. Depending on users' selected destination, the application locates source and destination on the map, and then a dialog box appears on the map where we set the alarm as a notification. During the journey, the application gives a notification message about the next station in terms of distance (in miles) away from the source. The proposed model also assists the visually impaired people like the BLIND People for whom the Tap, Grid &Gesture mode are developed in the proposed model.***

Keywords: Location Based Service(LBS), Network, GPS, Android cell phone, GPRS, Longitude

1. Introduction

While a broad Location Based Service (LBS) has been popular in the field of navigation, in a country like India, there are many innovative service options that can reach out, not just to the urban consumers, but also to the underprivileged in the cities and villages, giving them a stronger base for inclusion in the process of growth. With India set to overtake the US as the second largest mobile network in the world, mobile phones have become a common feature mainly in the urban areas. Rural tele-density has increased from 2 percent to 8 percent over the last few years but Substantial boost is needed to exploit the true potential of cell coverage. Cell phone companies have now caught up with idea of tapping rural incomes and the spinoffs for growth are tremendous, provided the requirements of the users are correctly identified and the right revenue model is in place. It is here that location based services can add value and the proposed white paper will examine the potential of cellular location based service to meet the objective of growth with equity in India. When we walk down the street or use public transport these days, no doubt we'll find many people using a Smartphone of some description. It's probably easier to count the number of people using who don't have one. Mobile optimized websites are a lot easier to read, navigate and buy. So here we are presented a paper on android application, a location Based Bus Route Finder Application.

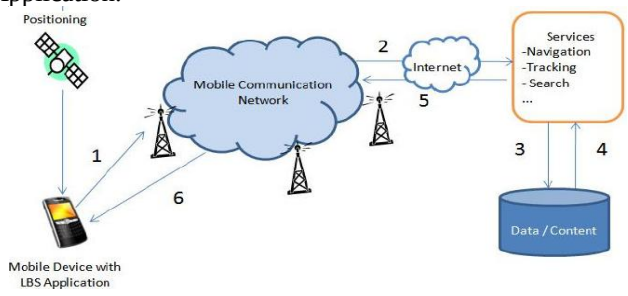

Figure 1: LBS components and service process[7]

This application is helpful to user, to find their location; it sets the alarm in the form of notification. When Bus starts moving it gives voice notification alert by using longitude and latitude of specific. The notification gives information about current stop and also informs still how many miles does user need to travel to reach their landmark. Its significance goes high when there is a time constraint involved in scenario. Someone needs to reach a particular landmark within a specified time stamp in such conditions this application proves to be a reliable one to guide to that destination using the local transportation available without any expenses. In an unknown city there are chances to be deprived by the opportunistic local persons who misguide to charge for more money.

2. Review of Literature

The Bus Stop Alarm model will let users to set a location based alarm on their phone that will go off when they get close to the preselected bus stop. Application can be easily used with the support from GPS and internet already on the Android phones. Any person who knows route number can use this application and set the alarm for the desired bus stop.

This application allows users to take advantage of the publicly available bus data and presents it to the user as an intuitive bus stop alarm application. We think this application is novel because it really emphasizes the advantage of using public transportation. Most people agree that using free time on public transportation will be helpful but so far, there is no way to use that time efficiently. The main reason is that users still have to watch out for their stops which get really annoying. And users need to sit blindly and wait for alarm to ring.

Amit Kushwaha and others [6] suggest that, regarding retrieval of information for the people about their surveillance of real threat or an erroneous target around them

by using mobile device enabled with android operating system. The work lays a foundation for their applications concerned location tracking, query processing, etc was proposed

Manav and Anupam [7], proposes Location based Services with the help of A-GPS in phones and through Web Services using GPRS by the implementation of Location based services through Google Web Services and Walk Score Transit APIs on Android Phones to give multiple services to the user based on their Location. There are various constraints to implement Location Based Services. They resolve Technology Constraints, Infrastructure Constraints, and Market failure

Ch. Radhika Rani, and team [8], proposes a method to automatically trigger Location Based Services when the mobile device is at a particular location in an android system to satisfy location-based requests like finding areas of interest, checking traffic conditions, finding our friends, vehicles, resources, machines and emergency requests. They suggested that users can utilize geographical position of the mobile device with multiple technologies such as GPS satellite network, cellular networks,etc.

3. Proposed System

The Proposed System is more flexible and easier. The main advantage of proposed system over existing system is that it also can be operated/ handled by BLIND PEOPLE. In the proposed model, notification sent in the form of speech, when each stop arrives between source and destination .The notification contains information like Bus stop name, how many miles away from source and still how many miles need to travel to reach the destination land mark.

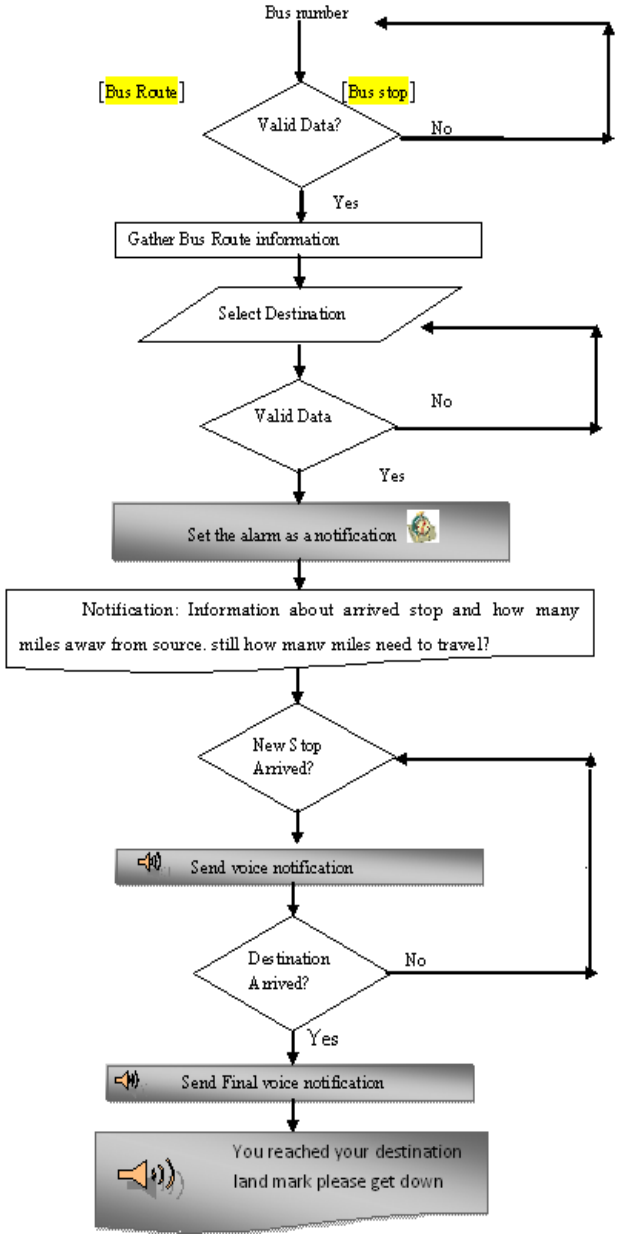

Figure 2: Working process of proposed model

- **Agency Module**

This module gives information about one or more transit agencies that provide the in this feed. The agency_id field uniquely identifies a transit agency

- **User Module**

In this module category of user will be going to define. Users can toggle between two types of input method:

Normal

In this method, user is allowed to enter bus number through keypad. The entered bus number will be confirmed through a voice feedback.

Visually Impaired Assistance

a) Tap Input
b) Gesture Input
c) Grid Input

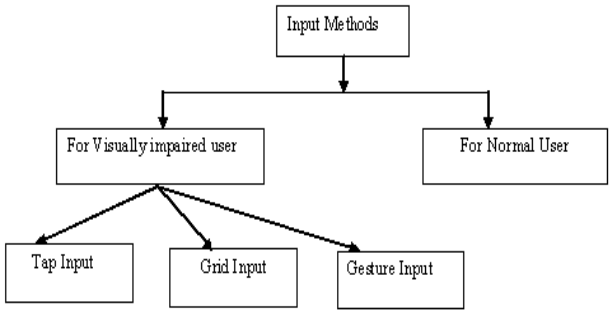

Figure 3: Proposed model for Input mode

- **Stop Module**

This module defines number of stop, stop names and their description. It will also define the type of location, longitude & latitude of a stop.

- **Route Module**

This module defines short forms names of route, as well long forms names of Route and the description about route. Also define the color assigned to routes in a map.

- **Trips Module**

This module lists the all trips and their routes. A trip is a sequence of two or more stops that occurs at specific time.

- **Stop times Module**

This file lists the times that a vehicle arrives at & departs from individual stop for each trip. And identify the order of stops for a particular trip. Also defines multiple routes exists for the same stop.

- **Calendar module**

It includes all dates of service, defines the availability of service on specific day and date.

- **Transfers module**

This module defines the rules for making connection at transfer points between routes.

4. Conclusion

Mobile phones were developed only for voice communication but nowadays the scenario has changed, voice communication is just one aspect of a mobile phone. There are other aspects which are major focus of interest. Central concept of this application is to enable, to help passengers, to find out exact landmarks while travelling in a Bus. The person who is stranger to the city, new to the city, who is travelling in bus, he/she goes on posing question like when my stop comes. By the proposed paper user will be easily find out their location. An application helps both the normal and visually impaired user to locate his/her landmark or destination

References

[1] OL. Google Android Developers, Android Develop Guide,http://developer.android.com/guide/topics/fundamentals.html

[2] **Mohapatra D, Suma S.B.** (2005), "Survey of location based wireless services; Personal Wireless Communications", ICPWC 2005, IEEE International Conference on Digital Object Identifier: 10.1109/ ICPWC. 2005.1431366, Page(s): 358 – 362

[3] **Schwinger, W., Grin, C., Prll1, B., and Retschitzegger W.** (2005), "A light-weight framework for location-based services", In Lecture Notes in Computer Science (Berlin), Springer, pp. 206_210

[4] **M. Fengsheng Yang** (2010), "Android Application Development Revelation", China Machine Press

[5] **J. Dongjiu Geng, Yue Suo, Yu Chen, Jun Wen, Yongqing Lu** (2011), "Remote Access and Control System Based on Android Mobile Phone", vol.2. Journal of Computer Applications, pp. 560-562

[6] **Amit Kushwaha, Vineet Kushwaha**(2011), "Location Based Services using Android Mobile Operating System", International Journal of Advances in Engineering & Technology, IJAET ISSN: 2231-1963, Vol. 1,Issue 1,pp.14-20

[7] **Manav Singhal, Anupam Shukla** (2012), "Implementation of Location based Services in Android using GPS and Web Services", International Journal of Computer Science Issues, Vol. 9, Issue 1, pp 237-242

[8] **Ch. Radhika Rani, A. Praveen Kumar, D. Adarsh, K. Krishna Mohan, K.V.Kiran** (2012), "Location based services in Android", International Journal of Advances in Engineering & Technology, IJAET ISSN: 2231-1963, Vol. 3, Issue 1, pp. 209-220

[9] **Hassine Moungla, Nora Touati and Ahmed Mehaoua** (2013), "Cost Efficient Deployment and Reliable Routing Modeling Based Multi-Objective Optimization for Dynamic Wireless Body Sensor Networks Topology", Volume 4, Issue 4

[10] **X. Liu** (2014), "The Design of Android-Based Video-on-Demand System and its Implementation", Applied Mechanics and Materials, Vols 548-549, pp. 1377-1380

[11] **M. Wang, H. Xie, W. Gao, N. Sun** (2015), "Design and Implementation of Multimodal SNS Information Integration System", Applied Mechanics and Materials, Vols 719-720, pp. 851-856

[12] **D.G.Savakar, Anand Ghuli** (2015), "Digital Watermarking A Combined Approach by DWT, Chirp-Z and Fast Walsh-Hadamard Transform", IJCTA, ISSN 2229-6093, Vol. 5 No.6, pp 2006-2010

[13] **D.G.Savakar, Anand Ghuli** (2015), "Digital Watermarking as a distributed noise by Discrete Wavelet Transformation, Fast Fourier Transformation and Fast Walsh-Hadamard Transform to study the sensitivity between Robustness and Fidelity", IJCA, Issue 1, Volume 5, pp 102-107, ISSN: 2250-1797

[14] **D.G.Savakar, Anand Ghuli** (2015), "A Comprehensive Survey on Digital Watermarking - Schemes, Techniques and properties for Color Images", IJARCSSE , Issue 3, Volume 5, ISSN: 2277-128X

[15] **DG Savakar, BS Anami** (2009), Recognition and classification of food grains, fruits and flowers using machine vision, International Journal of Food Engineering

[16] **BS Anami, DG Savakar, A Makandar, PH Unki** (2005), A neural network model for classification of

bulk grain samples based on color and texture, Proceedings of International Conference on Cognition and Recognition

[17] **BS Anami, DG Savakar** (2009), Improved method for identification and classification of foreign bodies mixed food grains image samples, International Journal of Artificial Intelligence and Machine Learning 9 (1), 1-8

[18] **BS Anami, DG Savakar, PH Unki, SS Sheelawant** (2006), An artificial neural network model for separation, classification and gradation of bulk grain samples, IEEE First International Conference on Signal and Image Processing

[19] **BS Anami, DG Savakar, VS Biradar** (2009), Identification of multiple grain image samples from tray,International journal of food science & technology, 2452-2458

[20] **Dayanand G Savakar** (2012), Recognition and Classification of Similar Looking Food Grain Images using Artificial Neural Networks, Journal of Applied Computer Science and Mathematics

[21] **DG Savakar** (2012), Identification and Classification of Bulk Fruits Image using Artificial Neural networks, International Journal of Engineering and Innovative Technology

[22] **BS Anami, DG Savakar** (2010), Influence of Light, Distance and Size on Recognition and Classification of Food Grains' Images, International Journal of Food Engineering

[23] **BS Anami, DG Savakar** (2009), Effect of Foreign Bodies on Identification and Classification of Bulk Food Grains Image Samples, Journal of Applied Computer Science and Mathematics, 77-83