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SMS Based Route Finder Application for Smart Phone

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Abstract:
This paper presents the location based services used in mobile for finding route. Route finder is an application Developed for finding location. For that provide some Parameter like latitude & longitude (Indicate the Location & position). The Route finder application involved GPS Tracker for Calculating the Latitude & Longitude & that latitude & longitude take as Input in Application. Input given an Application & take some facility of Google maps for the Showing the Route from source to destination. But, the some minor limitation of the project is to have the Internet Connection, without internet Connection can't run the application. As default there is no need of the internet connection for the calculating Latitude & Longitude. That is Calculating using GPS device involved & GPS is related to the as a satellite exits in the space. Short Message Service (SMS) is one of the cheapest and best ways for sending and getting precise information with a limitation size. The usage of SMS in GSM based mobile communication is successfully tested for getting GPS co-ordinates of the client location using a Android based Smartphone and dynamically plotting the co-ordinates, path etc. using Google Maps API in the server.

KEYWORDS: Android operating system, LBS, GPS, Google Maps, SMS applications

INTRODUCTION:

Mobile phones, with the advantages of high speed and convenience, are important to people's daily travel. Activities like out going, travelling to work, shopping, and visiting friends and relatives are often done by using motor vehicles or car. Location based Services offer advantages to the mobile users to retrieve the data about their current location and process that data to get more useful information near to their location. Now a day's everyone is in hurry to reach their destination. Location based Services can be implemented on Android based smart phones to provide these value-added services: like providing routing information, helping them find nearby places. Location-based services refer to 'a set of applications that exploit the knowledge of the Geographical position of a mobile device in order to provide services based on that information.' This application is beneficial for users who are in critical situation or who don't know the route of destination and reach the destination in limited time. This application is also effectively used by users who are kidnap; they just send their location to closed friends or police by pressing single button.

1 PEOJECT DESCRIPTION

This is purely Android application which runs on Android devices or Smart phones. Basically, this application takes the latitude and longitude, and sends these latitude and longitude to the destination user through SMS. These latitude and longitude are send by either SMS or Bluetooth. The end user takes these latitude and longitude as input and check the Location of the source user through Google Map. The main focus of our research is to reduce the continuous accessing of mobile phone because when user don't know the destination, their mobile phone were continuous busy for finding the route, or if a user in critical situation and nobody there for help, in that case destination user know the location and go there for help them. GPS system can be used to get location which includes latitude and longitude.GPS system is a satellite based service which is available 24X7 everywhere in the world. Mobile phones equipped with GPS receiver are easily available in the market and is a booming technology. This cell phone technology has enabled us to communicate every part of the world across the boundaries.

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A. User Classes and Characteristics

Users must have GPS in his/her Smartphone.

The Application should not affect the performance of device.

Application should fetch the latitude and longitude from GPS and send it to end user.

End user take the co-ordinates and process it with own location and show the location of source user.

End user provides services to source user through acknowledgement SMS.

B. *Design and Implementation Constraints*

Internet enabled mobile device working on Android platform.

Phones having GPS facility. System with:

i. Processor –Intel Pentium 4 or above version.
ii. RAM: 1 GB (min).
iii. Memory space: 10 GB.

2. SYSTEM ARCHITECTURE

This application works between two users on Android Phone. One user request the service from other user and other user provide service according to user needs. e is composed of client and server interface. Server act as middleware and pass the message from one user to other user.

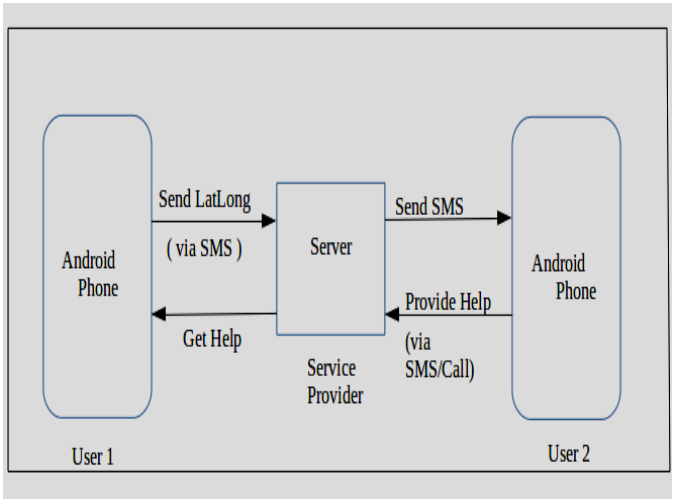


Figure 1: Overall Description of the system

In fig.1first user who need help from other user send the coordinates to other user. At the other user side, receive their coordinates and find the location of first user through Google Map where we use packet data of Smartphone for showing location in map. After display the location of the first user other user sends the acknowledgement to the first user through SMS.

3. IMPLIMENTATION

The proposed system highlights on the SMS of the users about their current position who need help. Location-based service is another functionality used in Android applications. It is combined with maps to give a good experience to the user about their current location.

Module at requested user:

In this module requested user first gets their latitude and longitude by just pressing the "Get own LatLong" button. After getting the current latitude and longitude requested user send his/her latitude and longitude to the user where the requested user wants to reach, or a user who provide help when requested user in critical situation. Fig-2 show the requested user gets his/her Lat Long.

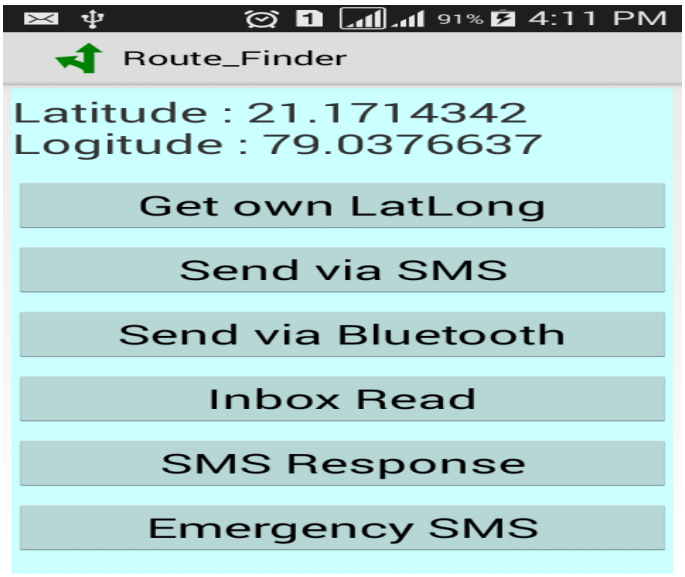


Figure 2: Layout of get own LatLong

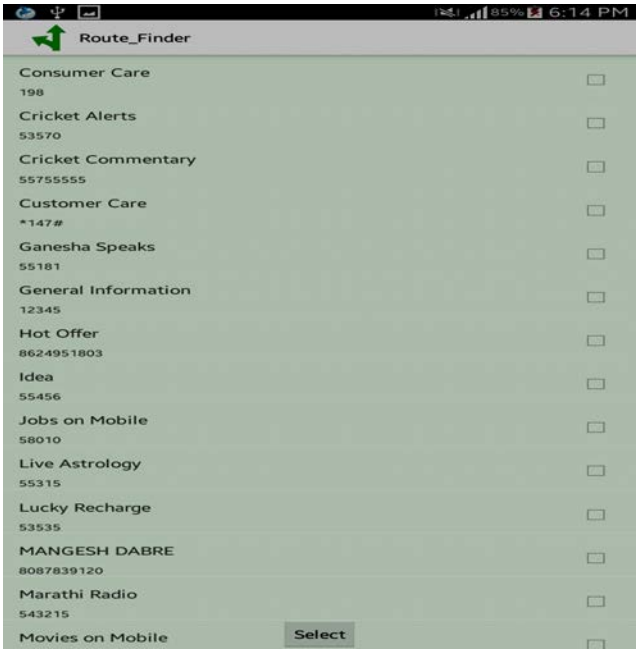


Figure 3: Layout for selecting user no. to send LatLong

In this application we can send our latitude and longitude through Bluetooth which we used in future. For that first we get Bluetooth permission request for connecting device. Fig.4 show Bluetooth permission request for device connection.

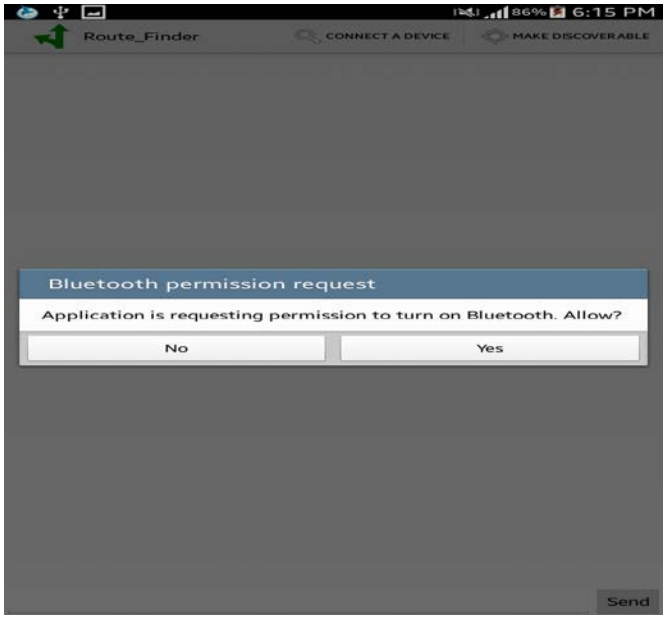
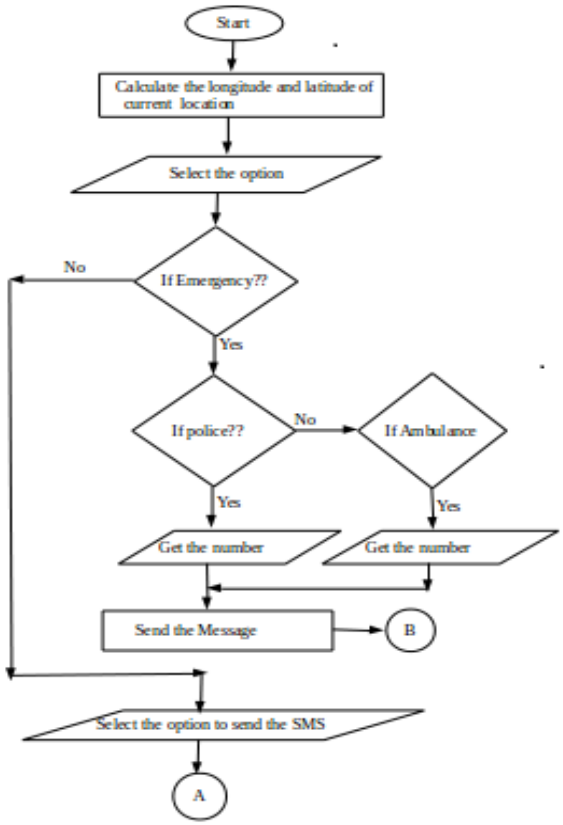


Figure 4: Layout of Bluetooth permission request

Figure 5: show the Bluetooth paired device where we send our latitude and longitude which can be used in future.



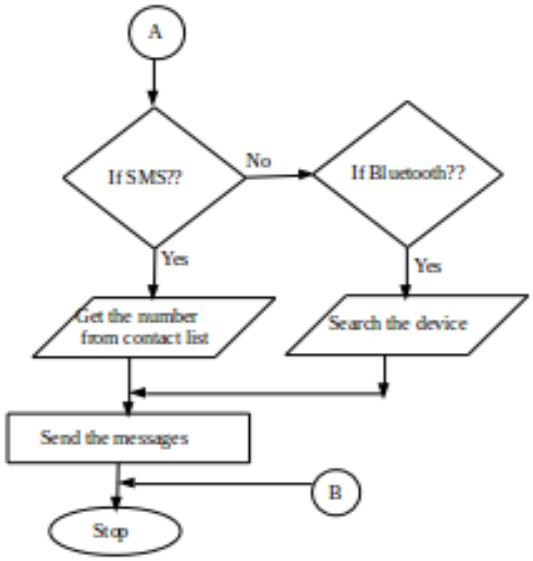


Figure 6: Flow of Application at requested user side

Module for service provider user

In this application, when the end user received a requested user LatLong they open our Inbox by just pressing “Inbox Read” button. Fig.7 shows the Inbox Read Layout.

Figure 7: Layout of Inbox Read

After read the inbox message when we touch the message the next screen show the latitude and longitude of both the users and when we click the show map button on that screen it reflect the location of both the users. Fig.8 shows the layout of location of both users.

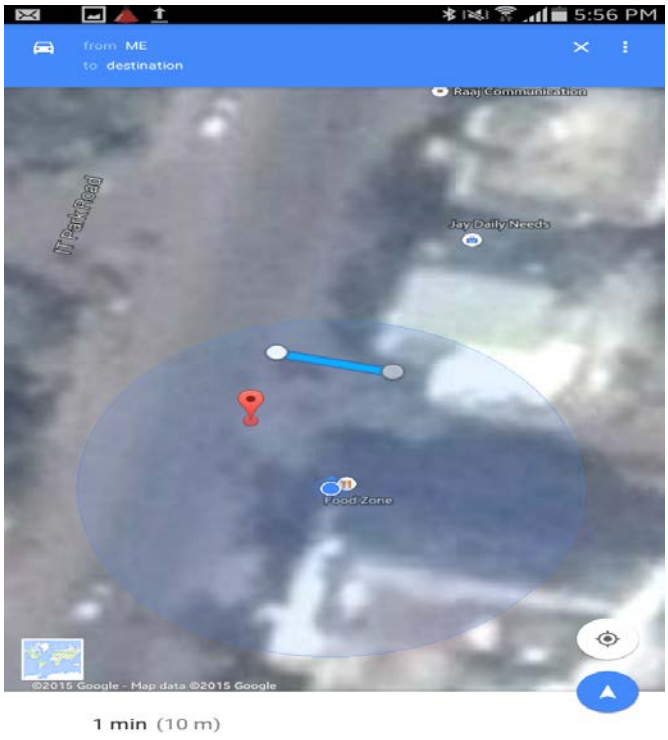


Figure 8: Layout of location of both the users

When the service provider user shows the location of requested user it sends response the requested user according to their needs or convenience. Fig.9 shows the send response to requested user.

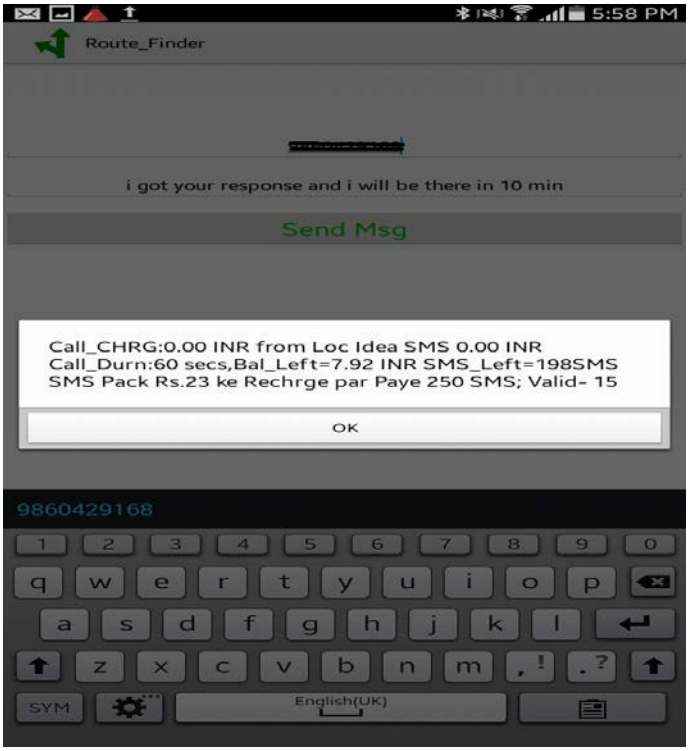


Figure 9: Layout of send response to requested user

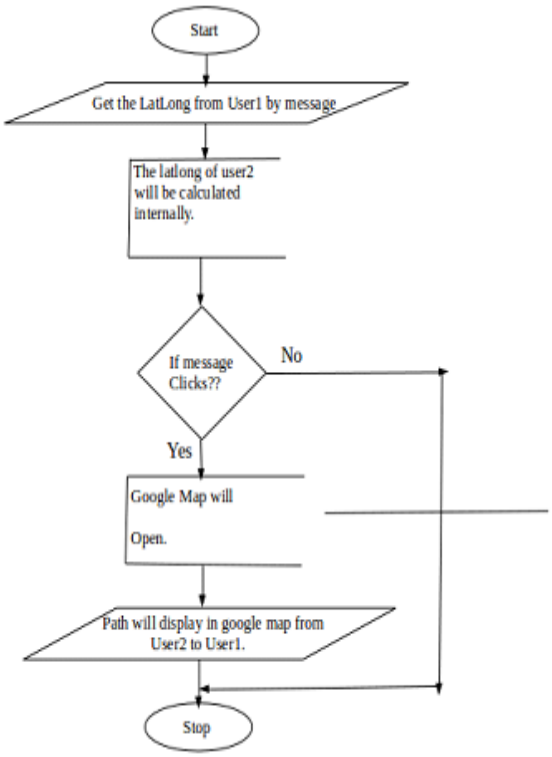


Figure 10: Flow of application at service provider user side

4. Conclusion

The app that we have designed will be very beneficial to locate the person and find the route. The project had used the concept of latitude and longitude to find the location and get the route of particular person. The project is relatively very cheap as it require the charges of only SMS according to whatever provided by the cellular company. It can be prove to be a good alternative to find the shortest path in relatively less time as opposed of techniques that are available and that using complex algorithms. The application is easy to handle and we can say that easy to operate. Calculating latlong of location is relatively easy as compare to calculation that is required in complex algorithms. In future sending message through Bluetooth in car where we show the route through GPS which can be inbuilt in car.

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