Mobile Data Securely Accessed by SMS from Remote Location Using Android

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Abstract— Mobile technology is widely used in all classes of society. It is the most effective way of communication. Mobile phone use to send and receive text message, with wide area, high reliability, high popularity, easy development, low expenditure and other characteristics using Short Message service (SMS) technology. Using GSM module or network platform of short message, messages can be sent and received between the computer and the mobile terminal. Since the dependency has increased largely, it becomes difficult to live without it. The application intends to address this problem by retrieving data from mobile handset though it is not physically available with the user. The system can also be programmed to send specific SMS to redetermined number if any event or condition triggered. If your mobile phone is not available at the moment and you need to call a person urgently whose contact number is not available at that instant and also their email-id, unread SMS and missed calls from your phone. To get that specific details .you have to go through very tedious process of calling home or where you're mobile are left and get that details etc. The proposed system project helps to simplify this problem. One has to send an SMS to his/her own mobile with the contact name and automatically the contact will be returned to the same number.

Key words: Mobile Data, Remote Location, Android

I. INTRODUCTION

People always want to be in control. They need real-time information instantly. With the advance of technology, mobile phone is no longer a luxurious item. It's easily available and possessed by most population of our country. The popular communication technologies used today are SMS, MMS, GPRS, 3G. Among these, SMS is most widely use. SMS is commonly used for the purpose of data retrieval & enquiry. Based on a query SMS, the result will be looked up from a database and returned to the sender via SMS. In this paper will discuss a solution to provide data recovery (in our case it is CONTACTS) from android based mobile devices from a remote location. The project is based on Android operating system. The main reason for choosing this platform is it's free and open source nature.

Also android is adopted by a very large community. Also android is not limited to phones now a days, it is also used in a DVR, hand held GPS, an MP3 player etc.[1]

II. LITERATURE SURVEY

A. Existing system:

The new research areas for the need of the man that controlled the electrical devices remotely, anything from the home such as an air conditioner, security system, set top box, light, and so on. The case of remote control capability and the possibility of achieving it at a reasonably low cost have motivated the need to research into it not only for industrial application but also for domestic use or home use. Home wireless security systems are becoming increasingly popular and it is being a necessary nowadays.

The capability of controlling home appliances in a wireless and remote fashion has provided a great convenience to many people in life. Through a wireless remote controller, people can do remote operation without directly accessing the host of a home appliance. The home appliances like fan, lamp, television, washing machines and others. The introduction of the Global System for Mobile Communication (GSM) and particularly the use of hand-held mobile phones brought the innovation of distance communication at remote location. Based on this, research utilizes this facility for remote control of systems and appliances; take for instance, a man on a journey inside his car suddenly remembers that he left the Air Conditioner (AC), ON when it was supposed to be OFF. The normal condition is to drive back and switch OFF or for the home security we also monitor the home through the system but we are not include the option of the monitor in the system; in the system we consider only ON and OFF operation. But with the GSM mobile phone in the hand, one looks on how the same could be used to effect control at any point and time[2]. The existing system was developed for hardware components. The existing system is the combination of hardware and software components both. But our proposed system works for the software components specifically it works with the data stored in our phone and that we require in our day-to-day life.

B. Proposed system:

If you have forgotten your Cell Phone at home and you need to call a person urgently whose contact number is not available at that instant. In that case you have to call home and ask someone to search for that contact and then resend it back to you. It takes your lot of time. Instead of doing this tedious process one can send an SMS from someone's cell to his/her own mobile in a predefined syntax.

E.g.: GET CONTACT (Contact name/initial)

The contact name which you wish to get should write the way it is saved in his/her contact list. If one want multiple contacts, then send the initial of the contact name along with the syntax and the application will return all the contacts starting from that initial.

Also unread SMS can be retrieved using this application.

E.g.: GET SMS

As we have message length of 160 characters, the application will ask in the end of every message if you want more contacts or not. If you say 'YES', the application will send further contacts through further SMS else it will stop sending contacts.

C. Security perspective:

If one wants to get to know about this application, he/she can steal or can make an unauthorized access over the contacts. To secure the contacts from unauthorized access we can set a PIN number to be sent along with the syntax which will be known only to you. The application will match the PIN number, the syntax and then process and will reply back.
E.g.: 1234 GET CONTACT (contact name/initial)

Or we can use challenge response for security purpose. In this the application will send a random number and user will respond with a number using challenge response. This will be predefined by the user and saved in "SETTINGS" of the application.

III. DESIGN

A. Goals of application:

The application allows you to search for phone numbers stored on your cell phone REMOTELY with the help of a simple Text message. This app is simple and very easy to use as the application does not use internet and works totally on SMS service.

Split Message is another cool feature of the proposed system. When searching for a name, the search may return many names and numbers which won't all fit into one reply message. Hence, a "…y?" is attached to the end of the first message indicating that there's more. If you want the next part, send a "y" or a "yes".

B. Technologies used:

1) GSM:

GSM is a TDMA based wireless network technology developed in Europe that is used throughout most of the world. Therefore in this project the GSM is the type of wireless that chooses. It is because it's the GSM is better than others wireless. It is suitable to install the systems that need a wide range. It also can monitor the signal strength and more adaptable. So it is suitable for our project.

2) SMS:

Short message service is a mechanism of delivery of short messages over the mobile networks. It is a store and forward way of transmitting messages to and from mobiles. SMS supports national and international roaming.

3) Android:

Android is a mobile operating platform owned by Google. Android is open source and Google releases the code under the Apache License. This open source code and permissive licensing allows the software to be freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers.

4) IDE used:

Eclipse

5) WHY ECLIPSE?

The application is coded through the Eclipse IDE. This is a comprehensive IDE for development of an Android application with support on any OS and any memory type(x64 / x86).
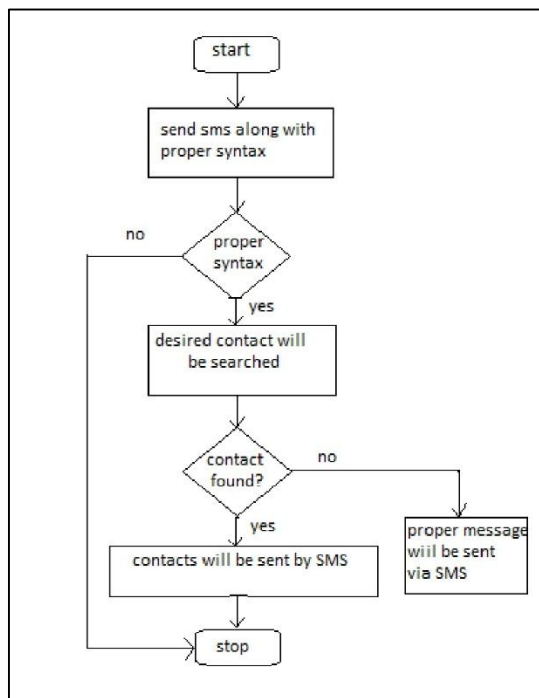
C. Flowchart

Fig. 1: Flow of Application

IV. IMPLEMENTATION DETAILS

To get the contact details one can send the message as shown below along with the predefined syntax.
E.g.: GET CONTACT (Contact name)
GET CONTACT (NAME 1, NAME 2)
GET CONTACT (NAME INITIAL)

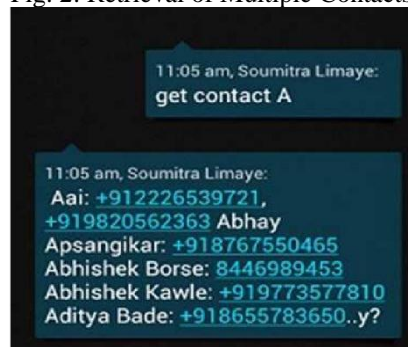
Fig. 2: Retrieval of Multiple Contacts

Fig. 3: Retrieval of List of Contacts from Initials

The contact name which you wish to get should write the way it is saved in his/her contact list. If one want multiple contacts, then separate the contacts with comma (,). If one doesn't remember the contact format then send the initial of the contact name along with the syntax and the

application will return all the contacts starting from that initial.

Also unread SMS can be retrieved using this application.
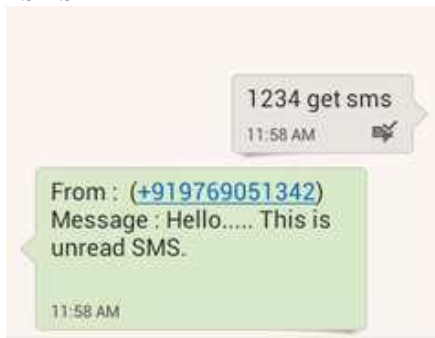
E.g.: GET SMS

Fig 4. Retrieval of Unread SMS

As we have message length of 160 characters, the application will ask in the end of every message if you want more contacts or not. If you say 'YES', the application will send further contacts through further SMS else it will stop sending contacts.

Figure 1 shows how exactly the application works.

V. CONCLUSION

Thus the application is very small, simple and easy to use by using SMS service. The best part of the system is that it has a very low Memory Footprint i.e. it is very light on your phone's resources. The application overcomes the problem of 160 character length of a message. SMS based remote control for general purpose is beneficial for the human generation, because mobile is most recently used technology nowadays. The SMS based remote control for home appliances is easy to implement the system that ON/OFF the electrical device through remotely via SMS or it handled more and more electrical devices which are use in home. In simple automation system where the internet facilities and even PC are not provided, one can use mobile phone based control system which is simple and cost-effective. Alternatively for such requirements landline phone with extension card could also be select for the system.

The application can be able to send other information such as email ID, address and other personal details via message using Multimedia service. One will not need to access internet to get the personal information.

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