

# Data Transfer without using Internet or Bluetooth

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**Abstract**— This paper is about sending Data without using Internet or Bluetooth because these days Smartphones acquiring the whole world via Android or where one uses apps to fulfill their needs. But for sending SMS or Data either they will have to send message by normal manner or by using E-mail or Apps. This application works on the same paradigm as E-mail does. What happens if Internet Balance gets finished unfortunately at that time when he or she is in great need of that, then one can't send data from any app, at that time this app can be proved to be a boon for the person, sometimes Government has to send guidelines via E-mail to their employees, villagers etc. or any Catastrophe occurs than Doctors could help the people by sending guidelines where mostly internet connection not available at that point of time this app can be fruitful and one can send files through sms to remote area also. With this low-cost application a user can send Attached file like .txt, .pdf, .doc etc. with maximum characters as compared to normal SMS. This paper proposes a sms application through which a user can attach a file from the SD-Card (retrieve) just like E-mail and send it to the recipient to the remote area. And nominal charge will be deducted from the user who sends data to the recipient.

**Index Terms**— Compression;Contact;Send;Attach;Sd-Card; SMS;Security

## 1 INTRODUCTION

In this hectic schedule people want everything on time whether to reach somewhere or communication, for communication they use internet or mobile. Best source in internet to transfer data or text file is E-mail where one can send multiple file to the recipient of different extensions at the same time. And this facilities are also provided to the Mobile phones too the same thing which we can do in computers.

Even in mobile we can send audio, video slides etc. too means sending data becomes easy via MMS (Multi Media Services). In the same manner we can also send text file with compressed format to the recipient without using internet or Bluetooth using this application where charges will be deducted as per service providers.

Now among the several features there is one feature named SMS in which humungous applications has been developed and still counting. Among them one is mine called "Data Transfer without using Internet or Bluetooth", in which our main focus is to send data like text file by attaching it to the button just like in E-mail. And send it to the remotely present recipient. There is one more motto of mine is that the charge deducted from the balance of the user must be nominal means sending the message using this application causes normal message charge deduction. And it counts as the number of message has been sent.

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## 2 RELATED WORK

SMS (Short Messaging Service) is a popular service for transferring and exchange of short messages between mobile phones. MMS (Multimedia Messaging Service) is another technology in mobile phones for creating, sending, receiving and storing messages that include text, images, audio, video clips.

The growth of Information and Communication Technology (ICT), including mobile technology such as hand phone, PDA, Notebook etc. is becoming faster day by day. These technologies are supported by many Low-cost facilities such as, calling capabilities, caller Id, SMS, MMS, playing games, browsing internet etc. These Low-cost technologies can be used to develop a mobile application. Many applications have already been developed by using these facilities.

Utkarsh *et al.*[2] proposed an application which can be used to send SMS without the need of a mobile phone and internet. It uses a GSM/GPRS modem and a SIM card to send messages to any mobile network. The cost of the message sent is based on the message tariff subscribed with the SIM card. And the application is used to send private messages as well as used to broadcast any news content. To send SMS messages they have placed a valid SIM card from a wireless carrier into a mobile phone or GSM/GPRS modem, which is then connected to a computer. There are several ways to connect a mobile phone or GSM/GPRS modem to a computer.

Prof. Chavan *et al.* [3] proposed SMS security that guarantees provision of confidentiality, authentication, and integrity service. These provide hybrid compression encryption technique to secure the SMS data. They proposed techniques encrypt the SMS Elliptic

curve encryption techniques and compress the encrypted SMS to reduce its length this document using lossless compression techniques. It is very useful when confidential information is exchanged using SMS because it is difficult to protect the information from SMS security threats like man-in-middle attack, DOS attack as well as ensure that the message is sent by authorized senders.

Yudo *et al.* [4] proposed an effective method to compress SMS by doing some modifications to arithmetic coding data compression mechanism. Arithmetic coding provides nearly optimal data compression but it requires additional memory space in compressed data to save arithmetic coding probability table for decompressing the compressed-data. To overcome this inefficiency, the proposed solution erases the need of memory space. This method uses semi dynamic probability table usage to compress and decompress SMS. To optimize the effectiveness and efficiency of proposed method compression ratio, this paper also proposes a smart data representation to represent code number so that the number of bits needed to represent compressed SMS can be well-minimized. By using this smart data representation, 2k digit decimal code number value in base-10 can be written by only using k default GSM 7 bit characters. The proposed compression mechanism in this paper has been researched plainly in mobile phone that uses Android operating system. Based on the research, the compression ratio of proposed compression mechanism is vary depends on the content of SMS. The average compression ratio of proposed compression mechanism is 71%.

### 3. PROPOSED WORK

This paper proposes a SMS application through which a user can attach a file from the SD-Card (retrieve) just like E-mail and send it to the recipient to the remote area.

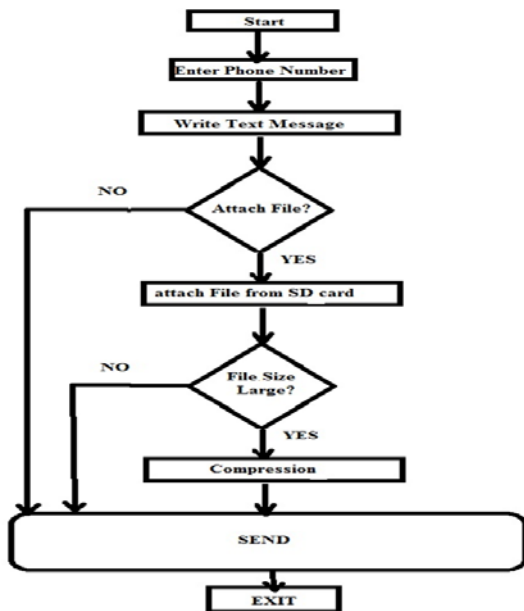


Figure: SMS Flowchart

And that file will be compressed using Arithmetic Encoding. Then the incoming message should be decompressed on the Receiver end in order to get the complete message.

In the current scenario MMS and SMS has many features through which one can send messages 160 words or 140 bytes of size per message and it can reach out its limit by multiple of 140 bytes up to 7 long message, whenever sender sends multiple messages at the same time. And if sender wants to send long file than he/she uses MMS, in which mobile phone user sends formatted text messages theoretically of any length plus graphics, images, audio, video etc. Whereas in MMS sender need to attach file just like we do in E-mail

In MMS it works on the paradigm of E-mail. MMS is created based on stored-and-forward type of information delivery. In the similar manner SMS application user sends short and plain text messages to other mobile users.

### 4 EXISTING SMS WORKING

SMS is the transfer and exchange of Short text messages between two mobile phones. The SMS is defined based on GSM digital mobile phones. According to GSM03.40 standard [1] the length of the exchanged message is 160 characters at most, which are saved in 140 bytes depending on how the information is saved according to the standards.

Currently in SMS user can send only 160 characters or 140 bytes in single message and it'll be multiple of it if sender sends SMS more than one. But SMS doesn't provide the facility which MMS possess like only short messages are allowed not long one, images, etc.

#### SMS application Sender:

To overcome the problem of sending short messages to the recipient one can send long messages with attachments of compressed file in it. All he has to do is just attach the file by taping it on attach button and retrieve the file from the SD-Card where he has saved the file from his mobile phone. The file will automatically be compressed and retrieved only when user wants to attach it and want to send it to the recipient.

#### SMS application Receiver:

- Now once the receiver receives the message the user has to just open it up and it'll automatically stored into the SD-Card.
- And if the receiver wants to send the same message to other recipient (third party) then its mandatory that other user must have this application installed in his mobile phone in order to Decompress the incoming file into his SD-Card.
- It's safe to attach file which avoid intrusion of the other person.

### Compression:

The Attach file which could be .txt, .pdf, doc etc. will be compressed through which a user can send much greater messages as compared to the current SMS facility.

It means that now user can send multiple characters instead of short messages and there is no need to have internet connection in the mobile phone to send Attached file.

The technique used for Compression is "Arithmetic Encoding" which is used to optimize the maximum character capacity of sms body every character in sms is mostly encoded in 7 bit and maximum capacity of one SMS is only 1120 bit. This is a compression mechanism that works by converting a data message to a real code number between 0 and 1.

- It requires high precision and effective encoder-decoder to calculate and represents its code number (compressed data) .
- Very limited data space like SMS, the need of additional memory space to save arithmetic coding probability is inefficient.

### FRAMEWORK OF SMS APPLICATION:

The layout of the proposed paper is like this:

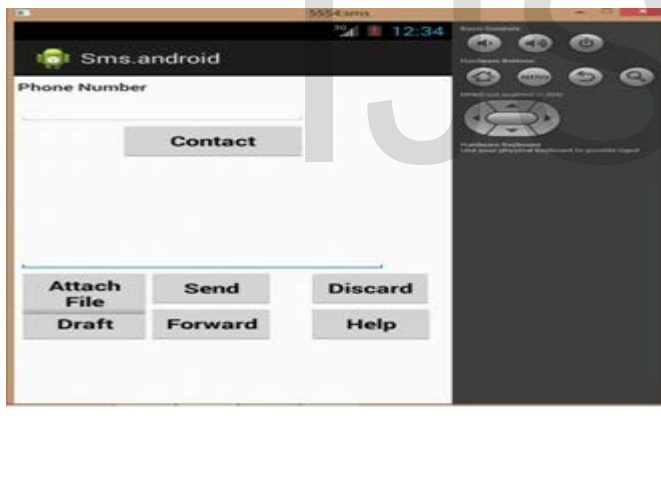


Figure 2: Layout of Proposed Application

This layout is been developed for android operating system and has been tested in the inbuilt feature of eclipse called "emulator" which is provide a virtual device to work in an environment like a mobile phone for the developer in order to test the Application. Means this application has been created for android O.S. and data is been tested programmatically because service providers doesn't provide the facility to send attach file via SMS.

### FUTURE WORK:

*Operating Systems Compatibility:*

In order to send SMS for this application one need to have Android os but for future work we are working on other Operating systems also like SYMBIAN, MICROSOFT through which the sent SMS could be viewed at ease and without any problem.

2) Will try to make our own SMS protocol through which we can send our required application at any platform.

### CONCLUSION

In this paper we proposed that sending .txt, .pdf, .doc etc types of files in Compressed form via SMS could be boon for the world because one could send files even when there is shortage of internet balance, Government could send their guidelines over SMS to their employees, doctors could send guidelines to the catastrophic area, remote areas like villages etc. And layman who doesn't know how to use Computer could easily send file through this application.

This application could be used in the university campuses where university could send the admit cards directly to their students in their mobile phones. As the files start sending to the recipient then it depends on the size of the file that how much time it consumed. The balance deduction occurs as the message has been sent, it means that the message has been delivered to the recipient

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