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Recall/Delete SMS: A Facility in SIM to Recall/Delete Sent Messages

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Abstract- What happens, if we mistakenly send an SMS [Short Message Service] to a person to whom it was not meant to be? Can we Recall/Delete message before it is read by the receiver?

Currently, we do not have a provision in SIM [Subscriber Identity Module] by which we can Recall/Delete the sent message before it is read by the receiver. This Paper talks about a facility to be provided in SIM in the form of an Application where a Recall/Delete Message facility can be provided to the end user. Through this facility, one can Recall/Delete the message sent to a particular recipient, if he/she has not read the message.

The paper is primarily aimed at solving accidental mistakes by users who sent un-intentionally a message to someone whom the message was not intended for. Another important usage is for users who mass broadcast messages and accidentally include incorrect recipient list. The technology may also save you from those embarrassing moments by erasing those messages you sent the night before when drunk!

Index Term- SMS, SIM, MS, RFU.

I. INTRODUCTION

Short Message Service (**SMS**) is a text messaging service component of Phone, Web, or Mobile communication systems. It uses standardized communications protocols to allow fixed line or mobile phone devices to exchange Short Text Messages.

Whenever we send or receive any text message, then technically these text messages gets stored inside the elementary file named as **EFSMS** (**Short messages**) which has a File Id named 6F3C as defined in [1].

Here is the structure of 6F3C File:

Identifier: '6F3C'	**Structure: linear fixed**	**Optional**	
Record length	176 bytes	**Update activity**	low
Access Conditions:			
READ : CHV1 UPDATE :CHV1 INVALIDATE :ADM REHABILITATE :ADM			
Bytes	**Description**	**M/O**	**Length**
1	Status	M	1 byte
2 to 176	Remainder	M	175 bytes

Figure 1: Structure of 6F3C File

In Figure 1: Byte 1 contains the **Status** Byte and Byte 2 to 176 contains the data part of SMS named as **d**.

II. DESCRIPTION OF STATUS BYTE

The first byte of SMS file is Status Byte. This byte tells about the status of the SIM messages i.e. whether the message is deleted/unread/saved or read.

Structure of status byte is as follows:

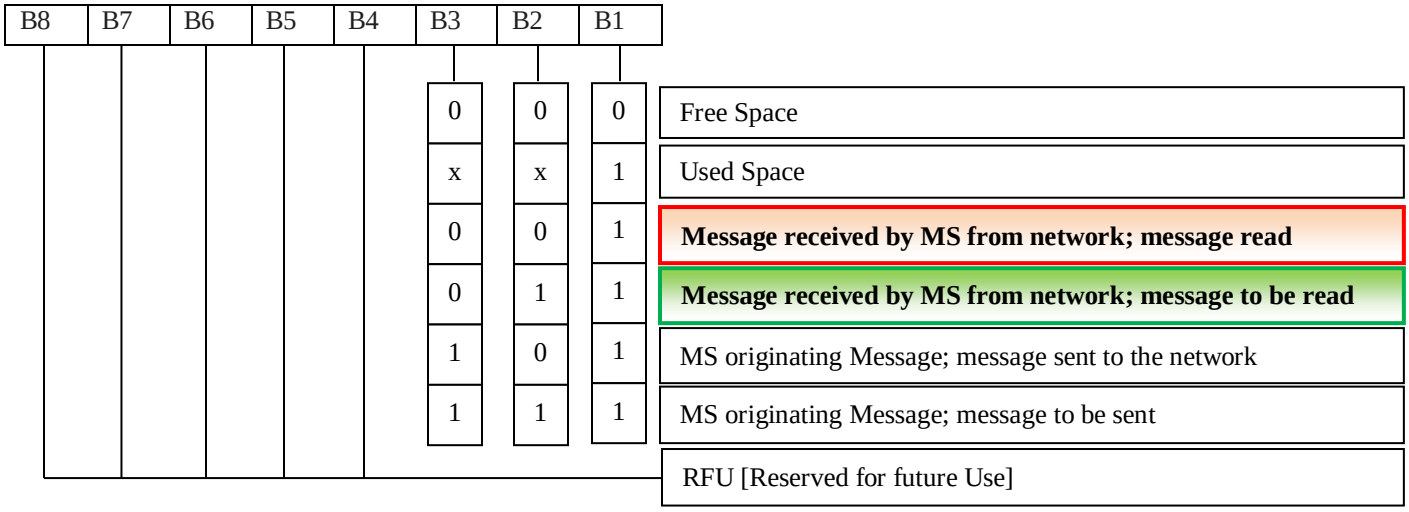


Figure 2: Structure of Status Byte

As we can notice from Figure 2, that if the Status Byte is found to be **0x01 [0000 0001]** then it is implicit that the Message is received by MS [Mobile Station] from network and is in **UNREAD** state. In this case, we do have the provision to recall/delete the message, as the user has still not read the message landed in his/her inbox.

But if the status byte is found to be **0x03 [0000 0011]** then it means that the Message is received by MS from Network and is in **READ STATE**. In this case, we do not have the provision for a recall/delete of the message, as the user has already read the message and thus there is no pint of the recall/delete of this message.

III. CURRENT SCENRAIO

Currently, we do not have a provision in SIM cards by which we can recall/delete the sent message before it is read by the receiver. So if we create an application on SIM card which makes use of the Status Byte explained in Figure 2, then we can facilitate a feature of Recall/Delete Message if the recipient has not read the message.

IV. PROPOSED SOLUTION

In this section, one can find the proposed solution to Recall/Delete a message.

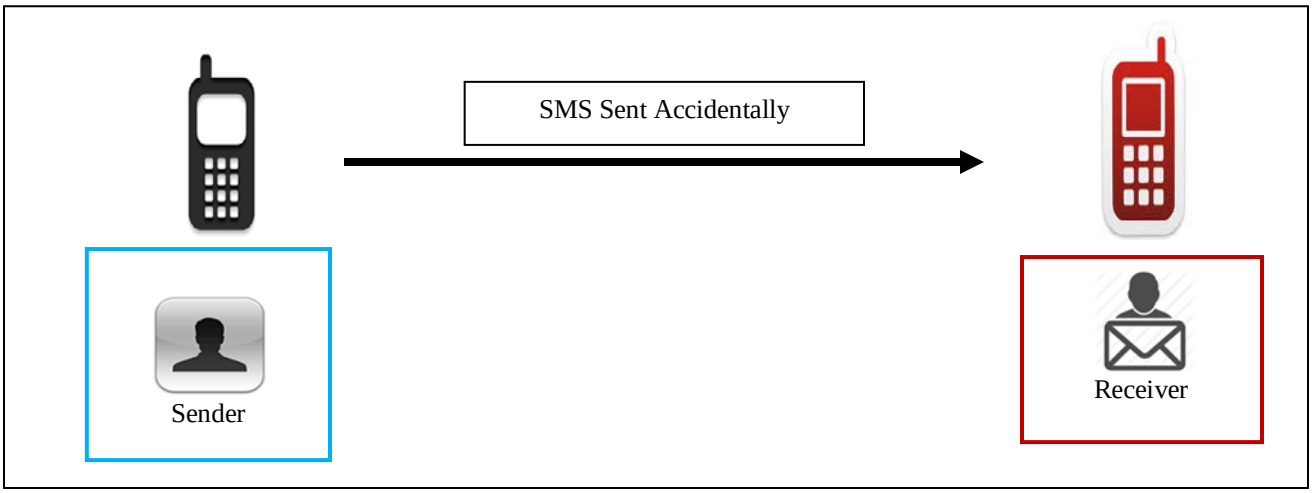
The technology involves development of an application on SIM card that can send a "Recall/Delete Request" message to the receiver's mobile phone, requesting Recall/Deletion of a particular SMS.

On receiving the Recall/Delete Request, the application will read the status byte of 6F3C file. If the value of status byte is **0x03 [0000 0011]**, then it is implicit that "**Message is received by MS from Network and message is UNREAD**".As soon as the application finds that the message is UNREAD by the recipient. It will set the status byte to **0x01 [0000 0001] on recipients SIM**.

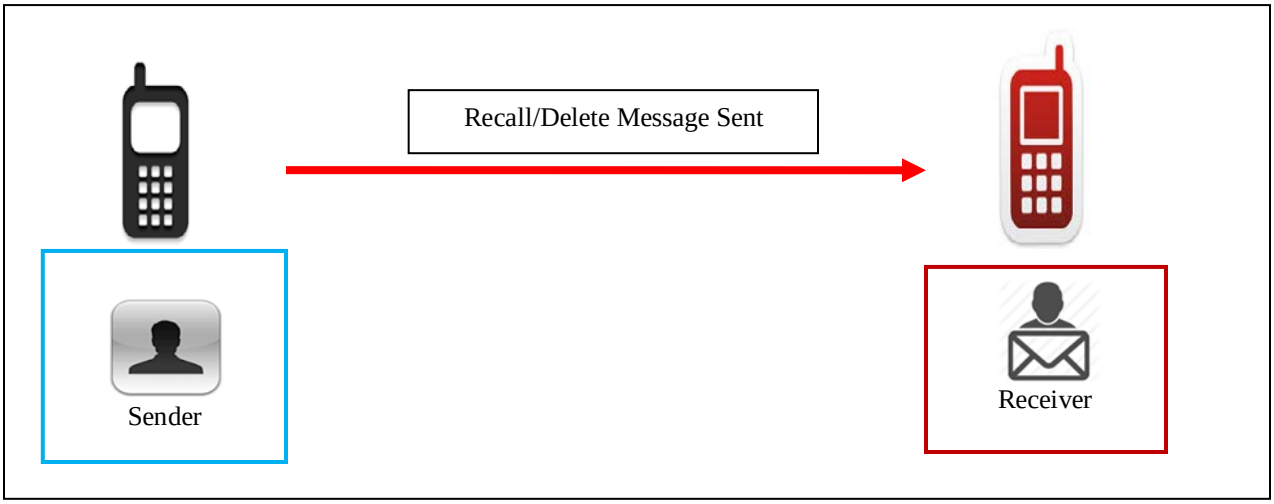
Note: It is mandatory to have this application residing on SIM cards of both the sender and the recipient for successful run of the application

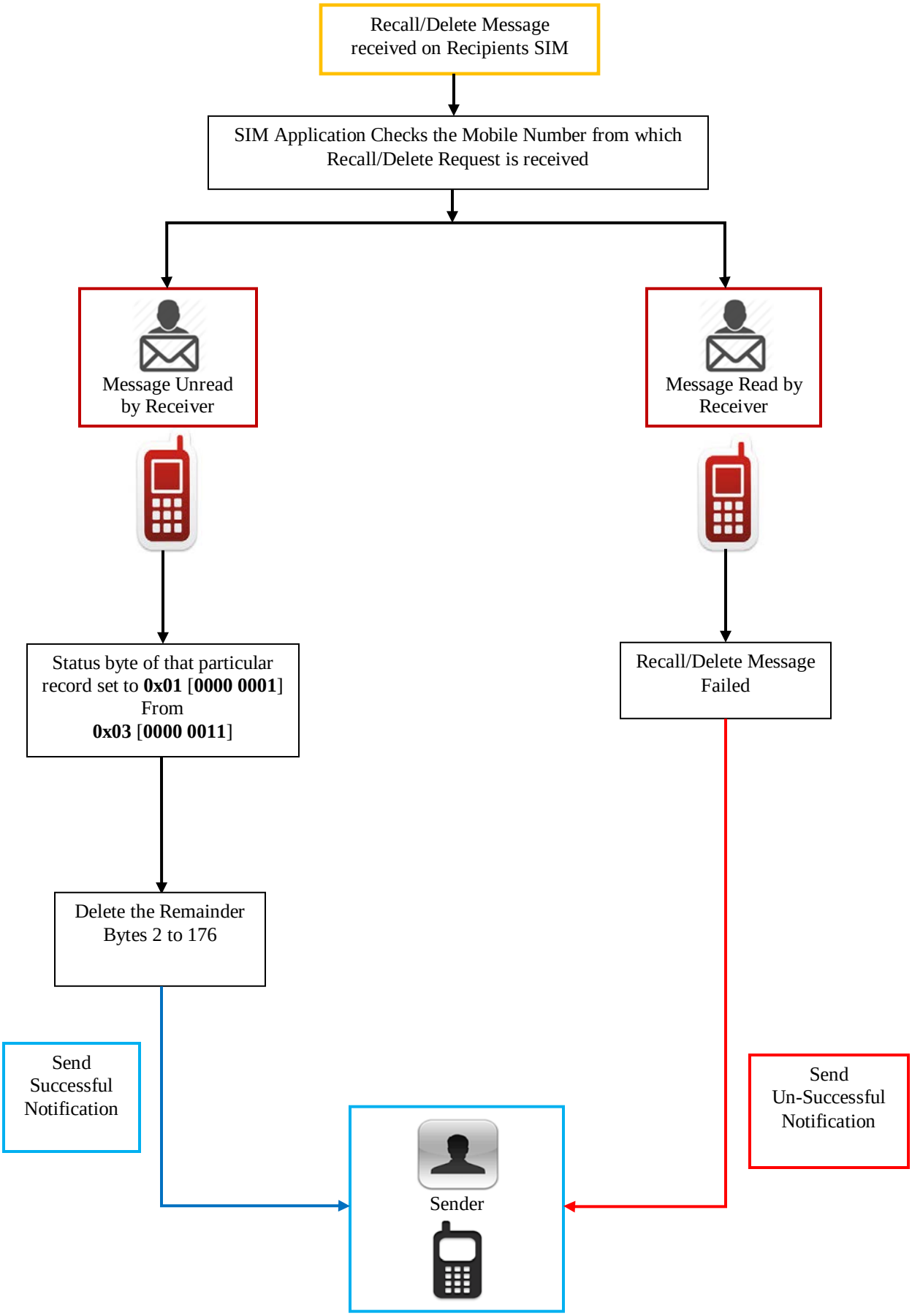
V. Application Flow

1. Sender sends a message to Receiver/Recipient Accidently.



2. An Immediate Recall/Delete Message is sent by sender before it gets read by the Receiver/Recipient.




Recall/Delete Message received on Recipients SIM
SIM Application Checks the Mobile Number from which Recall/Delete Request is received
Message Unread by Receiver
Message Read by Receiver
Status byte of that particular record set to 0x01 [0000 0001] From 0x03 [0000 0011]
Recall/Delete Message Failed
Delete the Remainder Bytes 2 to 176
Send Successful Notification
Send Un-Successful Notification
Sender

VI. CONCLUSION

The above proposed Solution can be implemented effectively on all SIM cards and will serve the following benefits:

1. To unleash the benefits to millions of customers as every SIM can be bundled with this small application removing the dependency on type of Mobile phones used.

2. It will be possible to use this feature on any mobile irrespective of make, design or features which it carries, simply because the application will reside in SIM Memory. Thus one will not require having a specific mobile which supports this feature.

The idea proposed will give power to the hands of the end user. Also such features if bundled with SIM cards can generate big revenue to Telecom operators as well as bringing delight to end customers.

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REFERENCES

[1] 3GPP TS 11.11 version 8.14.0 Release 1999

AUTHORS

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