

PROTECTING THE SUBSCRIBER FROM UNWANTED COMMUNICATION

Though TRAI has contained the problem of pesky calls and unwanted SMS with the DND (Do Not Disturb) registry, the efforts have not been entirely successful.

Users of telecom services continue to suffer unwanted communication from telemarketers, especially such marketers who are not even registered to provide the service

Origin of the problem

Telecommunication services have greatly reduced the cost for initiating and maintaining communication, whether through SMS, phone call, messaging or email. While this is generally welcome, it has set the price for making unsolicited commercial communication (spam) so low that subscribers are constantly bombarded with it.

Are there rules to protect the subscriber?

TRAI has brought out **Telecom Commercial Communications Customer Preference Regulations, 2010** and has followed it up with 16 amendments to fine tune the process for subscribers to record their preferences and for the Telecom Service Providers to take action on any complaints.

The **registered telemarketers** have to abide by the regulations and are, therefore, careful about respecting the customers' wishes. They are not to send promotional UCC message, but may send messages that are transactional in nature, such as for banks to remind you about EMI instalment or send OTP, and for the online merchants to send you messages about progress of shipment to you, etc.

In case a DND subscriber receives purely promotional messages in the guise of transactional messages (that come with an alpha only header), the customer may lodge a complaint with their telecom service provider. Such complaints, once proven, lead to severe action under the regulations.

Another class of spam originates from **Unregistered Telemarketers**. These calls or messages come from 10 digit numbers given to ordinary subscribers, but contain UCC. You may complain about such calls or messages too, and they lead to disconnection of the number.

The reported violations (of registered or unregistered telemarketers) are investigated by the Telecom Service Providers and the user receives a message advising him or her of the action taken, and if not satisfied, there is an option to escalate the dispute to Appellate Level with the TSP.

TRAI does not directly intervene in complaints, but the overall process is monitored for compliance.

Are there any other measure taken, besides acting on complaints?

Even without your complaints, the majority of these messages are filtered by the service provider so you never get to see them, much like the server-side spam control in most popular email systems.

Hundreds of millions of messages are trapped for your convenience each month. But some do bypass the filters, unfortunately.

Mechanism for Allowing or Disallowing a communication

The consumer of telecommunication services are provided several methods for recording their preferences in the DND registry and also for making their complaints.

Based on consumer complaints, 1,37,245 telephone lines were disconnected in 2016. A genuine complaint with requisite details leads to disconnection of the offending telephone number, with other penalties depending on the circumstances.

To set your preferences or to make a complaint, you may call 1909 or send an SMS in the prescribed format. Your service provider's website also has the facility, in case you prefer to do it via the web.

The easiest method is use the DND App of TRAI.

TRAI DND App

This App is available from the Google App store for free:

<https://play.google.com/store/apps/details?id=com.traai.DNDServices&hl=en>

The App helps make you make a complaint in seconds and automatically includes essential detail in the message. Easier verification at the TSP's end thereby leads to disconnection of the offending telephone number and other penalties depending on the circumstances.

The objective is to develop the App further to achieve the following:

1. Crowdsourcing of information to profile telemarketers.
2. Setting preferences in the DND registry based on subscribers' classification of messages.

3. Providing spam filtering on the device, with due regard to privacy concerns of the consumer.
4. Providing enhanced services, such as archiving messages on behalf of the consumer or filtering them into folders on the pattern adopted by Google inbox.

The TRAI invites developers to contribute in enhancing the application. The source code for the current version of the App is published on Github at: <https://github.com/TRAI-DND/DND>.

Work is being continued on the following:

Client Application Module

User Registration and authentication module - It will have access to basic hardware details of the user and establish a mapping between the mobile number, the SIM serial number, IMEI number and MAC address of the handset. The module will take dual or multiple SIM devices.

The application will initially only allow limited combinations of SIM serial numbers and mobile numbers to prevent misuse. The figure can be realistic in nature which will not cause hindrance to a genuine user, like a simple user is not going to use, say, more than 10 different SIM cards for a given handset.

The user DND preferences will be synced with the application on registration.

The application will be registered on a device only if it passes basic qualification criteria. The registration module will also be able to identify if a user is a returning user or a new user.

The application will also enforce basic authentication like OTP and user defined saved PIN for registration and application level transactions like raising a SPAM/UCC request.

The registration module will create a list of all the available SIM card slots with their IMEI numbers and inserted SIM card serial numbers (not actual mobile numbers). However, it will be up to the discretion of the user to activate or deactivate one or all SIMs with the DND application. The DND app will not enforce any of its activities on the user but the user can choose to opt in or out.

Call Log, SMS and Saved Contacts access module

This module will gain access to the user call logs, SMS and saved contacts and classify every entry in either white list or black list. The list will be revised in intervals or on occurrences of special events. These events will be such events which can be related to real time UCC calls or messages. For example, the app may be able to sense that a user has been repeatedly rejecting calls from a particular number which has crossed an app defined threshold value and this can be a stress event and the number can be added to the black list and vice versa. These events will be rules stored on the server can available to the user via app sync. The black list

items will be presented to the user for further confirmation. Only on user confirmation will number be synced with the server as a SPAM marked by that user. This module will create a crowd sourcing model for SPAM identification. The threshold value of number of users reporting a telephone number as a spam will be a server side parameter. This learnt information will be available for every user a declared SPAM.

Another example is when a user receives a call or an sms, which is not available in the either of the lists, this will trigger a lookup function on the server spam list and then the call or sms will be classified by further processing. The server lookup list is generated by crowd sourcing model

Rule based SPAM filter for SMS

This module will implement popular spam filtering algorithms and classify the SMS senders in white or black list based on user DND preferences and SPAM filter outcomes.

A dictionary for every type of service will be maintained at the server and will be synced with the client for determination of SPAM at the client end on real time basis. The application will also maintain freshness level of each list. Once a list has been tagged as 'stale', the user will be required to sync the lists with server. This syncing will be automatic process in most cases, where not when a user has limited data access or turned off the data access, and in such cases the user will be prompted.

User Preferences Module

This module will contain app level setting as well as user DND level preference settings. The user may also be presented with an option for de-register the device.

The user will also have the option to turn the DND on/off- SPAM detection, SPAM list auto syncing, DND services, device level notification on all or one of the mobile numbers form the preference module.

Manual SPAM marking module

This module will present the user with marking/unmarking numbers as SPAM/UCC based on received calls of SMSs. The request will be captured but only confirmed as spam based on server side intelligence generated by crowd sourcing model.

Server Modules

- 1) User Registration/ Authentication
- 2) Crowd sourcing module for UCC detection
- 3) Client Sync module
- 4) DND register/deregister module

- 5) Rule based SPAM/UCC SMS filter module - The rules will be synced with the client application.

System Features

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