9. SCOPE FOR FUTURE WORK

The proposed idea of modulation selection was simulated in the WiMax environment. But LTE based cellular network are more popular than WiMax. The simulation can be extended in the LTE environment and the performance parameters can be discussed.

The algorithm can be experimented in real world system. The software code can be embedded in the transmitter/ receiver of base station to select the MCS based on application and using the selected MCS statically throughout the session based on the signal rate. The simulation was done in the wimax environment with 20 stations per cell .The algorithm can be simulated for large scale environment with more number of base stations.

The receiver based packet loss concealment algorithm has been implemented to use with the G.711 codec. There are some coder that does not provide PLC. The proposed algorithm can be extended to adopt such coder. The length of speech quality taken for testing is 45 sec. The algorithm can be tested for different sized speech input. The algorithm is tested with the sample of male voice. It can be extended for different types of audio samples like music, WhatsApp conversation, conference calls etc. The algorithm is tested for sampling frequency of 8KHZ and packet length of 10ms. The algorithm can be extended for different sampling rate and variable packet length. The algorithm terminates if the consecutive packet loss increases more than 5. The algorithm can be developed to manage situation with more than 5 consecutive packet loss.

Managing the jitter buffer size is one of the possible solution to improve the quality of VoIP application. The play out delay can be modified according to the network condition and the quality of the VoIP application can be tested in real time. The development of the proposed JBMA algorithm can be managed with different buffer sizes along with the circular buffer. The algorithm can be tested for different network conditions and the resultant quality of the speech can be measured.
The proposed idea of spam detection can be improved by the

1. Developing an android application

2. Setting up a server to monitor and alert the users about the Spam callers

Both solutions will identify Spam callers based on the Direct Trust Score of the particular user calculated based on the social status, mobile number used for OTP SMS, Call Rate and Duration of call.

This option of android application development is preferred for individuals since it can be deployed in their Mobile. Android application will be developed considering Direct Trust Score of the particular user to identify and store the details such as repeated callers (with two way communication) and spammers (based on direct trust score). So that, application can notify/alert the user about the spammers using existing data.

The dataset taken for experiment the spam detection algorithm is limited in size. Wide range of data sets can be taken for simulation and the trust score value can be measured for different types of callers.

Centralized server to monitor and alert spammers is a common solution to implement across group of users communicating from office. Centralized server will be required to manage Spammer's data and it will be communicating via SIP server in order to notify the user about the Spammers.

IoT (Internet of Things) has increased the importance of VOIP in the phone networks. This leads to different types of VOIP traffic to be combined with IoT, which in turn leads to increased challenges. These factors make this area of VOIP research a booming topic for researchers from all fields.