

Investigation Assignment

PART 4th.

Here is the technical paper which illustrates the widely used methods to acquire a signal and process it in order to rectify the noisy components . The method that is being used in this assignment is using a matlab code and filtering out the noisy frequencies from the recorded voice signal/speech.

Reference:

(1) **Design and implementation of Butterworth,Chebyshev-1 & CIC filters for speech signal processing**, Abhishek Singh, Ankita Bansal, Ritu, R.P. Rishishwar, 2nd National Conference on Recent Development of Electronics-2017, Bharti Publication, ISBN NO:978-81-933475-3-9.

MAIN OBJECTIVE OF THIS PAPER

The objective of this paper is to compare the characteristics of butterworth and chebyshev-1 filter by accessing their response by filtering the same voice signal/speech . By doing so , they can easily remove the excessive noise in the signal . Hence, making the signal more suitable for communication like mobile, TV etc.

THE TECHNIQUE USED TO ACQUIRE THE SIGNAL

It is quite simple. They have just recorded the voice signal in .wav format for windows(.aac for mac). Then they have specified the location of the recorded signal in their matlab code. After compiling and running the code , we can hear the recorded voice signal , as well as see the phase and magnitude response of the designed filter.

THE TECHNIQUE USED TO CONDITION THE SIGNAL

The technique they have used is designing a butterworth filter in matlab using standard coding. They have stated the different parameters of the filter. The SCILAB's function is implemented in order to remove the noise from the speech signal. The technique used was quite efficient as it removed much noise from the input voice signal. The noisy frequency which was therein the signal is filtered out.