DSP Project

Build a scrambler of an audio signal before transmission such that if the scrambled signal is intercepted by a hacker, he/she will not be able to understand the signal. The more complex the scrambler the harder it will be for the hacker to descramble it. However, the intended receiver should be able to descramble the signal and hear the original signal. We will test your scrambler/descrambler as follow:

1- In Matlab you will load an audio sentence and descramble it.
2- Play the scrambled audio signal in the speaker of the computer. It should not make any sense to us.
3- Build a descrambler function in Matlab that you pass to it the scrambled signal and it play back the descrambled signal which should sound like the original signal.
4- Implement the descrambler on the DSP board such that when the scrambled signal is played from Matlab to the DSP board the output of the DSP board should be the original signal.

Your grade will depend on the complexity of the scrambler that make it so difficulty for hackers to figure out how to descramble the signal.