**1. Goals of the Project**

Research dependence between emotions and acoustic characteristics of speaker. Particularly, between average pitch, loudness and temp of speech. There are few research where this dependencies are described. Also, split speech to phrases, and analyze each phrase and estimate whole speech by summing phrase estimations. And at the end- try test this solution to estimate call center’s conversation records.

**2. Overview of the System Specification**

System should provide:

* Extracting acoustic characteristics of sound file
* Normalizing
* Splitting speech to phrases
* Emotional estimation of speech

**3. Background Theory**

Fast Fourier transform to get pitch and intensity of voice. After, we do normalization to split speech to phrases. There are few techniques, for example, min-max normalization. Calculate average, minimum, maximum values of pitch and intensity. We retrieve timeline of how pitch and loudness changes during conversation. Then we do classification by rules from few researches(For example, http://www.pyoudeyer.com/emotionsIJHCS.pdf).

**4. Overview of Task Specification and Project Schedule**

1. Implement module which provide getting acoustic characteristics(pitch, loudness) –Complete
2. Normalizing
   1. Implement intensity normalizing –Complete
   2. Find speech pauses and split speech to phrases –on-going
3. (Research) Try to use few researches to estimate speech and choose the best of them.