Weekly Report 3: 9/15/14

Date: 9/15/14

Project Name: Commercial Nocturnal Asthma Monitor

Group Number: 26

Group Members: William Padovano, Chris Beyer, David Kim

Current status of project:

We have implemented a Matlab routine to make STFT (short-time Fourier transforms) images from various audio signals, including coughs, words (“hello” and “cheek”), and claps. These signals were chosen in particular to help identify features associated with the sharp and raspy sounds of a cough. We have also compiled a list of design specifications associated with both quantitative characters, such as weight, size, and cost, as well as qualitative ones pertaining to the product-user interface. It is important to note that this product be a commercial, not diagnostic, product.

Work planned for next week:

We plan to look more deeply into the literature, patents, and commercially available products to better form our product. We may also look into plotting the ROC (receiver operating characteristic) of some measurements of coughs or wheezes (e.g. frequency, intensity) in order to pick an appropriate threshold for distinguishing safe from dangerous levels. Determining which parameter(s) and values of the parameter(s) to look at will depend on more thorough literature searches.

Anything needed from client or TA or instructor to continue work:

N/A