

EE432: Digital Signal Processing Fall 2011

Project 03: Voice Data Collection

Assigned: Tues 9/13/2011

Due: Wed 9/21/2011

Introduction

In this project, you will collect samples of your own voice in short “Windows Audio Video” (.wav) files that will be used at different points in the course. You will collect multiple samples of each word/phrase into different .wav files. You will use the following three functions, primarily:

wavrecord: to do the actual recording into a vector, and specify the sample frequency. Warning: as soon as you enter this command and hit the <Enter> button, the recording starts.

wavwrite: to take the vector of samples of your voice and create an actual .wav file.

wavplay: to playback the .wav file you wrote using *wavwrite*, and ensure it is correct by listening to it.

Words/Phrases

Using MATLAB and the *wavrecord* function, each student is to collect three samples of himself/herself saying each word or phrase below. For each .wav file you create, record one second worth of data, with a sample frequency of 8000 samples/sec, except for the last phrase, collect two seconds worth (how many samples is that for each case?). It is important that you follow the format I give you for each file when you use the *wavwrite* command.

Important: After you use the *wavrecord*, use *wavplay* to make sure the recording is okay. Be sure to give the correct sample frequency to *wavplay*.

Important: After you use the *wavwrite*, double-click on the file in Windows (not MATLAB) to ensure Windows Media Player plays what it should sound like.

Say this:

Filename format (substitute 1, 2, or 3 for the x)

“zero”

0_x_<your last name>.wav

Example: the 2nd “zero” file for Midn. Jones is: 0_2_Jones.wav

“one”

1_x_<your last name>.wav

“two”

2_x_<your last name>.wav

“three”

3_x_<your last name>.wav

“four”

4_x_<your last name>.wav

“five”

5_x_<your last name>.wav

“six”

6_x_<your last name>.wav

“seven”

7_x_<your last name>.wav

“eight”

8_x_<your last name>.wav

“nine”

9_x_<your last name>.wav

“Should we chase?” chase_x_<your last name>.wav

Note: Use 2 seconds to collect this phrase, as 1 second may not be enough.

For this project's write-up:

-Plot one recording of the “Should we chase?” file, labeling axes carefully. Annotate (in MATLAB, using text boxes/arrows in the figure window) where you believe each word starts and stops. For a plot title, use your name.

-Provide me all of your .wav files so I can assimilate the data and create a database for us to use later in the course (there should be 33 files for each person).