

EE432: Digital Signal Processing Fall 2012

Project 03: Voice Data Collection

Assigned: Thurs 9/06/2012

Due: Thurs 9/13/2012

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 save multiple samples of each word/phrase out to different .wav files. You will primarily use the following three functions:

audiorecorder: to do the actual recording into a vector, and specify the sampling frequency. As soon as you call the *record* method of the object created by this function, recording will begin.

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

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

Words/Phrases

Using MATLAB and the *audiorecorder* function, each student is to collect three samples of himself/herself saying each word or phrase below. For each .wav file you create (except the 3 files corresponding to the last phrase), record two seconds worth of stereo data with a sampling frequency of 8000 samples/sec and a bit depth of 8 bits. For the last phrase, collect three seconds of data for each trial. It is important that you follow the file formats specified below when you use the *wavwrite* command.

Important: After you use *audiorecorder*, use *audioplayer* to make sure the recording is okay. Be sure to give the correct sampling frequency to *audioplayer*.

Important: After you use *wavwrite*, double-click on the file in Windows to ensure Windows Media Player plays what it should sound like. (Alternatively, you can use *winopen* from the MATLAB command line.)

Say this:	Filename format (substitute 1, 2, or 3 for the x)
“zero”	0_x_<your last name>.wav Example: the 2 nd “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 3 seconds to collect this phrase, as 2 seconds may not be enough.

For this project’s write-up:

-Plot one recording of a “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. Use your name for the plot title.

-Upload all of your .wav files to your <yourlastname>_EE432 shared Google Docs (Google Drive) folder, for use later in the course. (There should be 33 files for each person).

NO WRITTEN SOLUTIONS. JUST CODE, ANNOTATED PLOT, AND UPLOADED .WAV FILES.