

20140703 Voice Recognition and Speech Sampling using the Arduino

Seems to be much more complicated then it should be while it does appear (at least in theory) that the Arduino is fast enough and has (just) enough (if you don't count any other part of a program), it can be done, but the sampling rate is not great. So most people have opted for an external VR device. Here is a small list of what I found (They range in price from about \$20 to \$65+), one of the cheapest I found is only \$4.50 seems

to work really well at least in the Youtube videos, but is software running on a Windows Box, from what I understand thou the Arduino can send the audio to this software via serial or TCP/IP.

<http://www.instructables.com/id/Speech-Recognition-with-Arduino/> (using software BitVoicer)

<http://www.bitsophia.com/BitVoicer.aspx> \$4.50

See Bitvoicer in action here:

<http://youtu.be/gS-3fJCa5P0>

<http://youtu.be/d8ZtQ21MDL0>

Hardware:

EasyVR Shield: <https://www.sparkfun.com/products/12656> \$50 bucks, I am not sure if this is a stand-a-lone VR or if it still needs to be connected to the computer software. It maybe both. The demo below also shows Voice prompts, which I think was done using the computer

Youtube Video: <http://youtu.be/SThR-jyoplK>

While not really setup for Voice recording a few people have gotten this to work fairly well, the Ada Fruit Wave Shield \$22

<http://www.adafruit.com/products/94>

Geeetech VR Module & Other Similar on eBay \$23 & up:

http://www.ebay.com/itm/Geeetech-Voice-Recognition-Module-and-microphone-Dupont-jumper-wire-for-Arduino-/191150158415?pt=LH_DefaultDomain_0&hash=item2c816ff24f

These look surprising like the EasyVR (But look like they have a lot less memory then the EasyVR) and I don't see a link to any kind of computer software for these, thou they may work just fine...they are cheap.

Not really a VR chip persay, but worth a mention here: \$18

http://www.ebay.com/itm/ISD4004-Speech-voice-module-Speech-development-Kit-NewWay-third-version-Arduino-/131132154309?pt=LH_DefaultDomain_0&hash=item1e8815e1c5

This is a voice recorder (so VR still works for it's initials) I did see a post where someone did use this to control lights, I can't find the post now, and I'm pretty sure he was sending the recording to software via serial for the real VR to be done.

Most of the VR projects seem to be around either the Bitvoicer or EasyVR platforms, and both look like they work really well.

There is also a library called uspeech which does VR, but I've not been able to get it to work, I've seen the creator for it make it work, but that was about it, from the way it looks he is using just a cheap microphone and amp, and then sending the info off somewhere else for processing (like bitvoicer does) He claims it to be 80% accurate, and better then Siri but?

<https://github.com/arjo129/uSpeech>

When I compile the example code I get errors that are related to the library code, I've not sat down long enough to see if I could figure out those errors, but for me it's not working.

<http://youtu.be/xpJXD2z8eWs>

<http://littlebirdelectronics.com.au/blogs/frontpage/6636622-uspeech-speech-recognition-toolkit-for-the-arduino>