EEar

EE 41440

January 17, 2017 Minutes

Meeting Leader: Garrett

Updates:

Audio

* Fourier transform ready
* Need to put code into raspberry pi
* Will need input button to check for learning new sounds

Alarm Setup

* No more app (not connecting hubs to WiFi, no app experience)
* Need screen, LCD with buttons?
* Touch panel screen made for Pi
  + Schafer has one he can put in cart
  + Basically brings up screen with graphical user interface
* LCD screen might need a keyboard
* LCD interface to Pi might be difficult, should just look into Pi

Battery/Board Design

* Schematic for wristband pretty much done
* Need to double check pins for Bluetooth chip
* Same part as breakout board
* Would it be good to follow Sparkfun?
  + 2 in 1 system on a chip, so you can test on a breadboard, use logic analyzer to check if it’s doing what you need it to
* Libraries should work if it’s Arduino device
* Plug into serial to check now, will be using external programmer, so really just need to bring out pins, friction fit to program it
  + try with pins first but probably won’t want to use pins in future designs
* Will have to consider where will things physically connect? SPI out the side? out the end?
  + Needs to fit in small package
* Space for antenna on board
  + Already one on the board but we don’t know the range
  + Chip antenna that are more than .5 inch long, can be soldered in, can be found on Digikey
  + Check range when Pi is talking to wristband
  + Range of transmit power can be changed in device, need to transmit with the highest power
  + But also need to pair devices, so should consider wristband range too

Bluetooth Network:

* Could have smaller bases, not as intricate as larger hub with screen
* Bluetooth code is coming along
* Device seems to stop pairing occasionally
* Pi will be sending serial data over Bluetooth, wristband will be receiving data and responding
* Pressing buttons to program chip is tedious
  + Often doesn’t work, no consistency
  + Perhaps try using pen instead of finger
  + See if you can find a way to automate the process with the board
  + Thing dev: you pull something down then hit the reset; check the thing dev to see how it does this to see if we can include a circuit to do that (or similar) for our board
* Will try loading/pairing again

To Do:

* Send email reminder about screen
* Schafer will send link for using screen with Pi