System Concept – Group 9

Problems:

1. Microphone connecting with Microcontroller
   1. Ambient sound level measurement
      1. Average of sound level
   2. For (number of events i.e. time of average){

Average = (sum of events including NOW)/(number of events)

IF volume level > threshold as function of ambient and senselevel {  
 IF volume level is sustained above threshold

Send signal to digipots to lower volume

}

1. Volume Control using Microcontroller
   1. Microcontroller adjusts digipots for both L and R
      1. need 2 digipots
2. Channel Selection
   1. MIN, MED, MAX changing settings in uC as to what levels of threshold are allowed
   2. Need to figure out what levels of sound are appropriate at which levels.
      1. Function of threshold necessary can be a function of sensitivity selection
      2. Threshold function of ambient sound level
      3. Threshold function may be linear, piecewise or non-linear
3. Battery
4. Equipment Choices
   1. Battery
   2. Battery enclosure/holder
   3. Atmega328PB
   4. 2x digipot
   5. 3-button switch
   6. Auxillary ports: 1 M, 1 F

<https://www.dfrobot.com/product-514.html?gclid=EAIaIQobChMI_dni1Y2L5QIVDWyGCh3_8wuuEAQYECABEgIWD_D_BwE>

<https://www.amazon.com/Uxcell-a12062600ux0366-Female-Stereo-Connector/dp/B008SNZUYC>

<https://elabbay.myshopify.com/products/ap-bo-v1a-3-5mm-4pins-stereo-mic-audio-plug-breakout-board-elabguy>