**Picking a Microcontroller (MCU)**

The Cortex M0+ microcontroller (ATSAMD21G18A-AUT) has certain features that led me to chose it over other MCUs. Note that this may change with future iterations of the design process. This processor is found on the Arduino M0 and Arduino Zero Development boards.

Features:

* Large flash storage - 256 kb (8x more than ATMEGA328)
  + Necessary for storing the WiFi module code
* Integrated USB high speed controller
* Lots of I/O (not that we really need it tho)
* 3.3v operating voltage (same as Wifi module)
* Fairly low price point ($2-$3 depending on quantity purchased)
  + Not much more than ATMEGA328 MCU
* Way more power than we need for this particular application
* 12-bit analog to digital converter (ADC) for audio/mic input
* Large hacker/maker community support
* Fairly low pin count (32/48 depending on model) for easier assembly
* Small form factor (QFP package)
* 32-bit operating core (vs 8-bit core in ATMEGA328)
* 48 MHz maximum operating frequency (vs 20 MHz in ATMEGA328)

\*note that the ATMEGA328 MCU referenced above is from the Arduino Uno development board