

## Meeting 4

2/7

Daniel DellaFave

### Design Review 1

- DC to DC converter
  - If we have device in sleep mode could there be a problem?
    - Depends on the DC to DC converter
    - The one Prof. Shafer suggested is out of stock so going to have to research this
  - On the ESP data sheet says 500 mA peak, the one we found is says steady state 600mA
    - The power supply won't just output 600mA, it will output whatever the ESP is able to draw
- UART converters
  - Are there USB to UART converters here?
    - Yes
    - Have two options, can include all that stuff on the board, or we can just have the board just go to 6 pins and do all the UART to USB off board since it's just for programming.
    - 6 pins: transmit and receive, power and ground, and the 2 that put it in program mode.
  - USB to TTI/UART are the same thing?
    - USB to TTL/UART are the same thing

### Wifi Module and Server

- Try to find someone using the esp to access NTP (Network Time Protocol) to act as a clock
- Random Nerd tutorials have lots of things like someone using esp as a web browser

### Design Review 2

- Demonstrations of subsystems
  - To demonstrate temperature sensors are working, doesn't it have to be built on board?
    - Hook up temperature sensor to a esp in the closet, and get the i2c working to read the temperature.
    - Wants to see we can do a i2c on an esp8266 with our temp sensor.
  - Control Unit
    - Show we can put in a very low current mode and what that means. Attempt to measure the current of this sleep
    - Connect one of the esp8266 in class to wifi and do something with it. ex. Show we can send a message to somewhere and that place can handle it.

- [Redaction] all i2c references are actually SPI
- With SPI, any GPIO can be the select pin, unless youre an spi slave
- Web app
  - Input a temperature, put it into one of the categories, and act appropriately.