CS122A P1 Proposal

Wireless Temperature and Humidity Sensor

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**Introduction**

My wireless temperature and humidity sensor aims to read the temperature and humidity levels in a room and output the current levels to a smartphone application. This system aims to help parents such as myself out there who are taking care of sick children. When we put them to bed at night, sometimes we leave a heater on and a humidifier to relieve their symptoms. It can be worrying at times however, not knowing with uncertain weather conditions if the room will remain at suitable levels or if a parent needs to intervene. With this system any parent will be able to easily check their phone to see if their child is in the safest environment possible.

**Complexities**

1. DHT11 Temperature and Humidity Module will be giving the temperature and humidity levels.
2. ESP8266 NodeMCU is the wireless module which will be communicating the information from the sensors to the smartphone application.
3. Blynk IoT will be our application of choice.
4. 9V Battery with Snap-on Controller to supply power to the unit so it may be placed in any room easily.
5. Fan Blade and 3-6V Motor which turns on after a certain temperature threshold is crossed.

**User Guide**

The user will download the Blynk IoT application to their smartphone of choice. The user then powers the system on. Once the system is on the sensor will begin gathering ambient temperature and humidity. The wireless module will begin transmitting a signal which the user will connect to via their smartphone through the application. On the application the user may open the user template option to get a live feed of the current temperature and humidity levels at the time. The system will have built in parameters where if a certain threshold is crossed for either the temperature or humidity levels, a notification will be sent to the application to update the user of such. The fan module will automatically toggle on/off after the temperature threshold has been reached.

There will also be an option to toggle the fan module on the unit to begin cooling the room.

**Hardware Components**

* Computing
  + Elegoo UNO R3 microcontroller
* ESP8266 NodeMCU
* DHT11 Temperature and Humidity Module
* Fan Blade and 3-6V Motor 1PC
* Inputs
  + Smartphone Application
* Outputs
  + Fan