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Title

Using 1Shield to Control LED lights Through Voice and Phone

Description:

The Goal of this project is to be able to control LED’s (turn on, turn off, or dim the lights) through smartphones using 1Sheeld. The 1Sheeld is a shield that can connect to a smartphone and the Arduino microcontroller via Bluetooth. It does this by providing a voice activating application on the phone, and through the app we can communicate between the shield, the smartphone and the microcontroller. Through this communication, we can control and alter the state of the LEDS. Furthermore, if time permits, we will expand and explore with 1Sheeld and its capability with communication between smartphone and the microcontroller by using sensors to send data to the smartphone using the 1Sheeld communication, which can be used for Smart Home devices.

Objectives:

1. Physically set the 1Sheeld system up and its connection with the smartphone and microcontroller.
2. Write the software for this system connection and implement it so that the system can communicate and control LED’s.
3. Set up voice control for LEDs using the smartphone application.
4. After the original goal of altering the LED’s via voice activating application through smartphone, expand and explore the capability of 1Sheeld to utilize other abilities such as operating sensors to send data and feedback to a smartphone.

References

Voice Control of LED’s.

<https://www.hackster.io/maharaafat93/control-your-light-system-by-your-voice-bbabff>

What is 1Sheeld: An Explanation

<https://www.kickstarter.com/projects/integreight/1sheeld-replace-your-arduino-shields-with-your-sma>

Security Home with 1Sheeld:

[https://create.arduino.cc/projecthub/13672/home-security-automation-using-1sheeld-70e37e?ref=similar&ref\_id=17076&offset=1](https://create.arduino.cc/projecthub/13672/home-security-automation-using-1sheeld-70e37e?ref=similar&ref_id=17076&offset=1" \t "_blank)

1Sheeld Getting Started:

[https://1sheeld.com/tutorials/getting-started/](https://1sheeld.com/tutorials/getting-started/" \t "_blank)

Bluetooth LED Control for Arduino using mobile app

<http://www.ijstr.org/final-print/june2015/The-Bluetooth-Based-Led-Control-For-Arduino-Test-Platform-By-Using-Mobile-App.pdf>