SMART ENVIRONMENT SYSTEM (SES) WITH ARDUINO

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ABSTRACT

We all were born to grow and learn; technology is not different from this paradigm. In the past decades technology has grown at tremendous pace, and according to an article in The New York Times "all appliances will eventually be smart ones". The Smart Environment System (SES) implementation is based on the Arduino micro-controller that allows the user to control lights and check the temperature remotely far from home via the Internet. The user is able to manage the temperature in the house by turning on/off the Air-Conditioning unit (AC), the lighting system and thermostat before arriving home to get a warm or cool cozy environment at the house.

INTRODUCTION

- An Arduino microcontroller is a small computer with one or more processor
- Arduino is an open-source platform that help anybody to create millions of projects
- we want to give you the option to control the weather inside your house
- Our system will manage everything through a webpage, creating the most efficient and fast way to communicate with your devices.

FRAMEWORKS USED

Frontend Development

- webpage
- Arduino microcontroller attach to the units

Backend Development

- Elaborated code
- Hardware connections

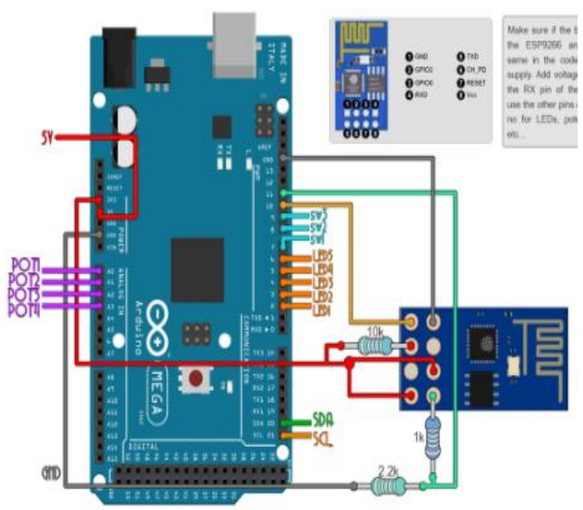
FRONTEND DEV

- ESP8266 Wi-Fi Module
- https://smartenvironment.000webhostapp.com/
- Arduino Mega 2560

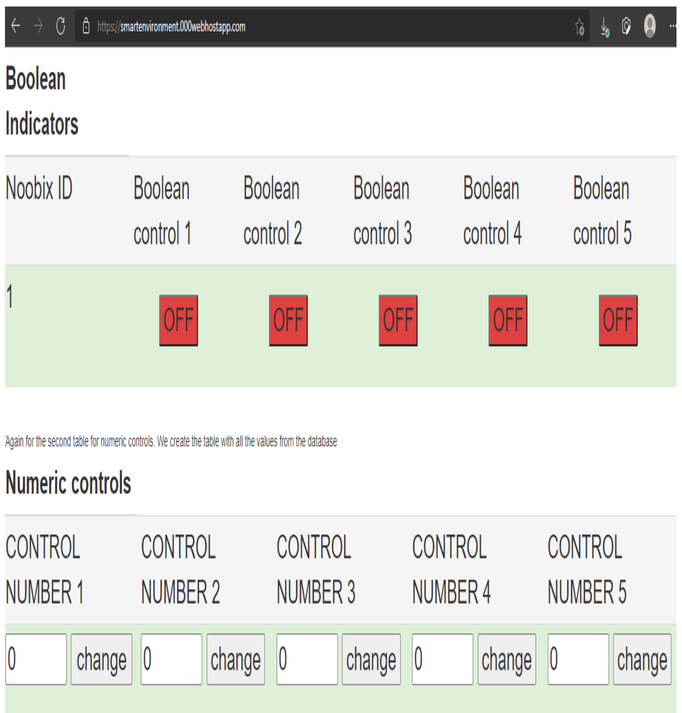
BACKEND DEV

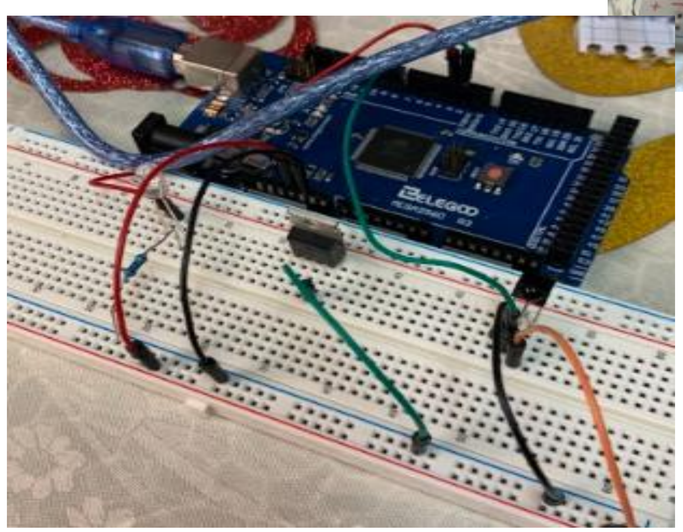
- C++
- Infrared LED (receiver emitter)
- Light Sensor
- Transistors
- SQL file

SCHEMATIC



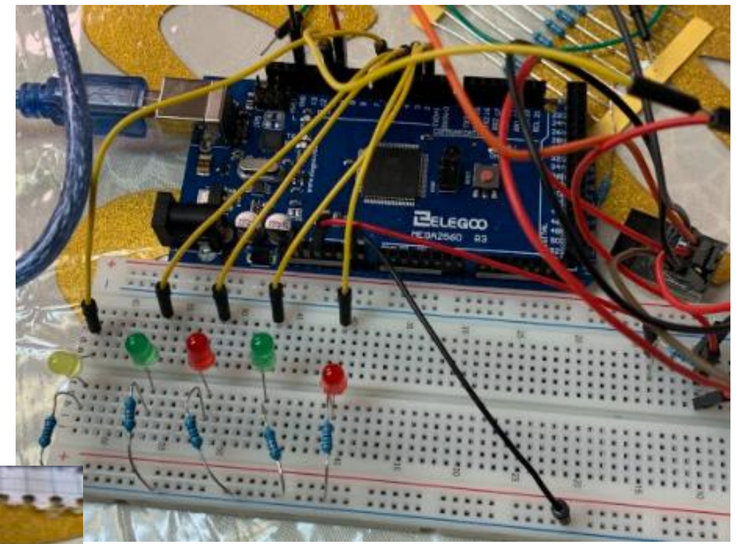
RESULTS





FUTURE WORK

- Fix connectivity for the heater and AC
- Finishing Web page functionality and aesthetics
- Testing and troubleshooting for bugs and/or logic errors in code



CONCLUSION

- *Understanding HTML/JS functionality*
- *Potential for expansion as user feedback is received*

REFERENCES

- https://www.youtube.com/watch?v=kmf8ZfWdGU4
- ***ESP8266 + Arduino + database - Control Anything from Anywhere - YouTube***