Adiel-Shaquille Batson (adiel001) - Public Page

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Building Optimization

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(AMC 2022 Project can be found here Building Optimization . Until the page is available, edits will be made here.)

1.0 Introduction

As the urgency to mitigate and combat climate change grows, more and more solutions are required to forder a more sustainable world. On the radar for these solutions, energy conservation and consumption reduction techniques comprise a significant measure in realizing greater sustainability in home & industry (Mahiri et al. 2022). However, one of the greatest limitations in realizing these developments is human contingent, for example forgetting to turn/off lights and heating. This project targets energy use optimization by smart control of lights and heating use in prototye designed to simplify a building.

By utilization of a microcontroller, a relay and two sensors to record, interpret values and automatically perform specific actions in order to minimize wastage of energy.

2.0 Materials & Method

2.1 Materials

- LDR Photoresistor
- DHT11 Temperature Sensor
- SPDT Relay
- ESP32 Connection & MQTT

2.1.1 Software

- Node-Red
- InfluxDB
- Grafana

3.0 Results

4.0 Discussion

5.0 References

Mahiri, F., Najoua, A., & Ben Souda, S. (2022). 5G-Enabled IIoT Framework Architecture Towards Sustainable Smart Manufacturing. In International Journal of Online & Biomedical Engineering; 2022, Vol (Bd. 16, Nummer 4, S. 4–20). https://doi.org/10.3991/ijoe.v18i04.27753

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