

# AUTOMATIC ROOF COOLING SYSTEM

# 1.0 INTRODUCTION

The Automated Roof Cooling System is an automatic cooling system that uses temperature sensors and a sprinkler system. It aims to reduce indoor temperatures by cooling the roof when the outdoor temperature is too high, thereby reducing reliance on air conditioning and increasing comfort.

## 2.0 PROBLEM STATEMENTS

1

Indoor temperatures rise significantly during midday due to roof heat absorption.

2

Conventional cooling methods such as fans and air conditioners consume high electricity and are not environmentally friendly.

3

There is no automated system that efficiently regulates roof temperature and conserves energy.

# 3.0 PROJECT SCOPE

- Designing and developing a prototype that can monitor and control roof temperature automatically.
- Implementing IoT technology for real-time data monitoring through Node-RED.
- Testing the system's functionality and efficiency in reducing roof temperature.
- Evaluating the effectiveness of the automatic cooling process compared to traditional cooling methods.

# 4.0 PROJECT OBJECTIVES

1

To develop an automatic system that activates sprinklers when the temperature exceeds a set threshold.

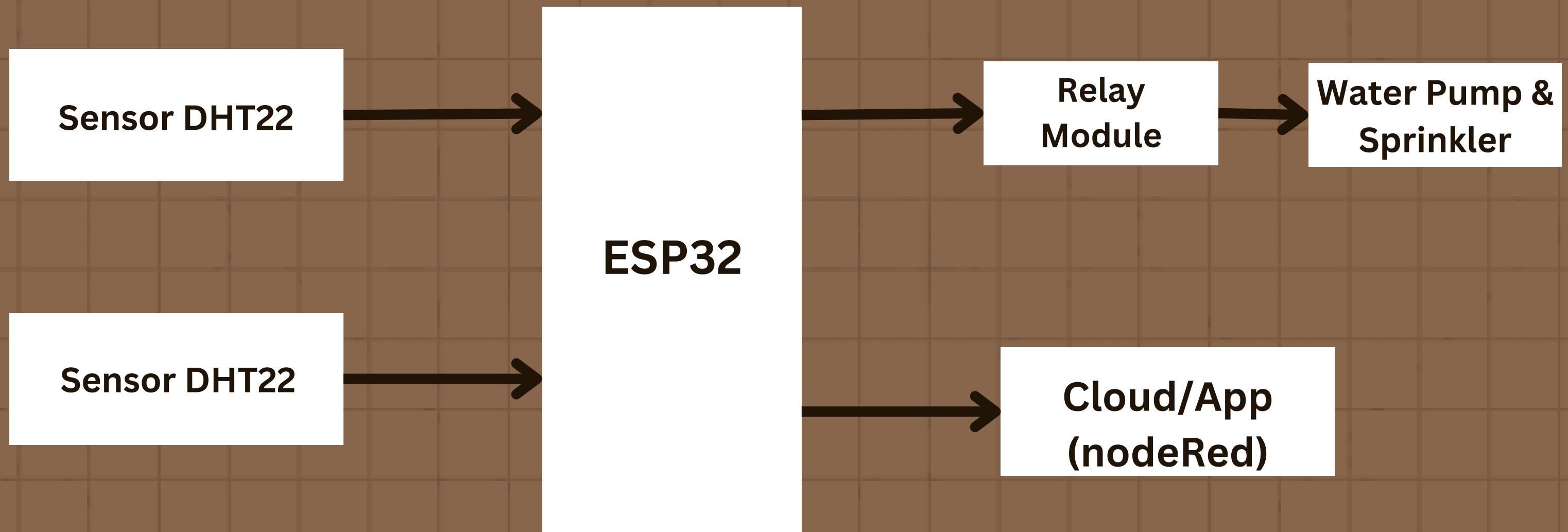
2

To design an IoT-based system that activates a water pump automatically to cool the roof surface and lower indoor temperature.

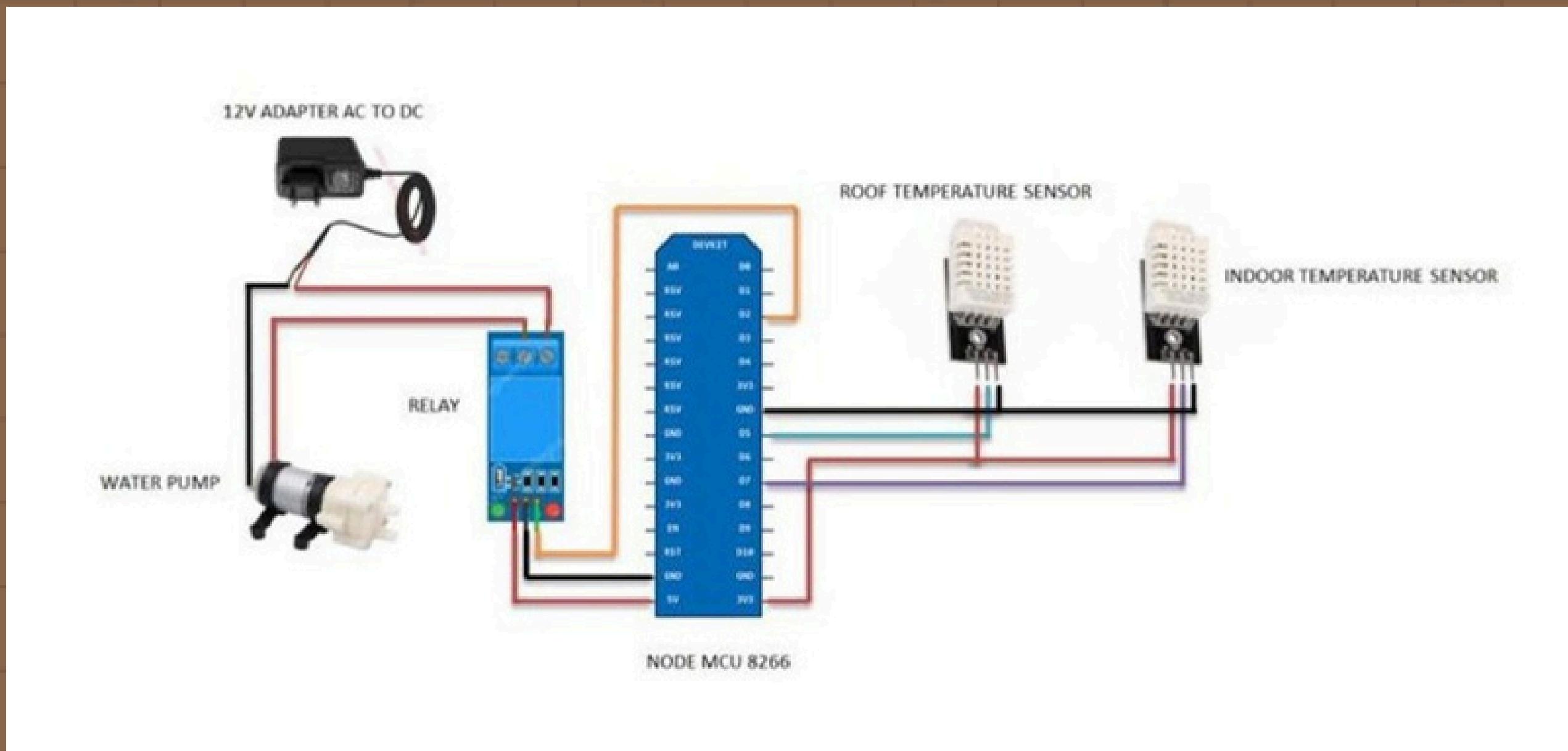
3

To create an energy-efficient and environmentally friendly cooling solution that operates automatically with minimal user intervention.

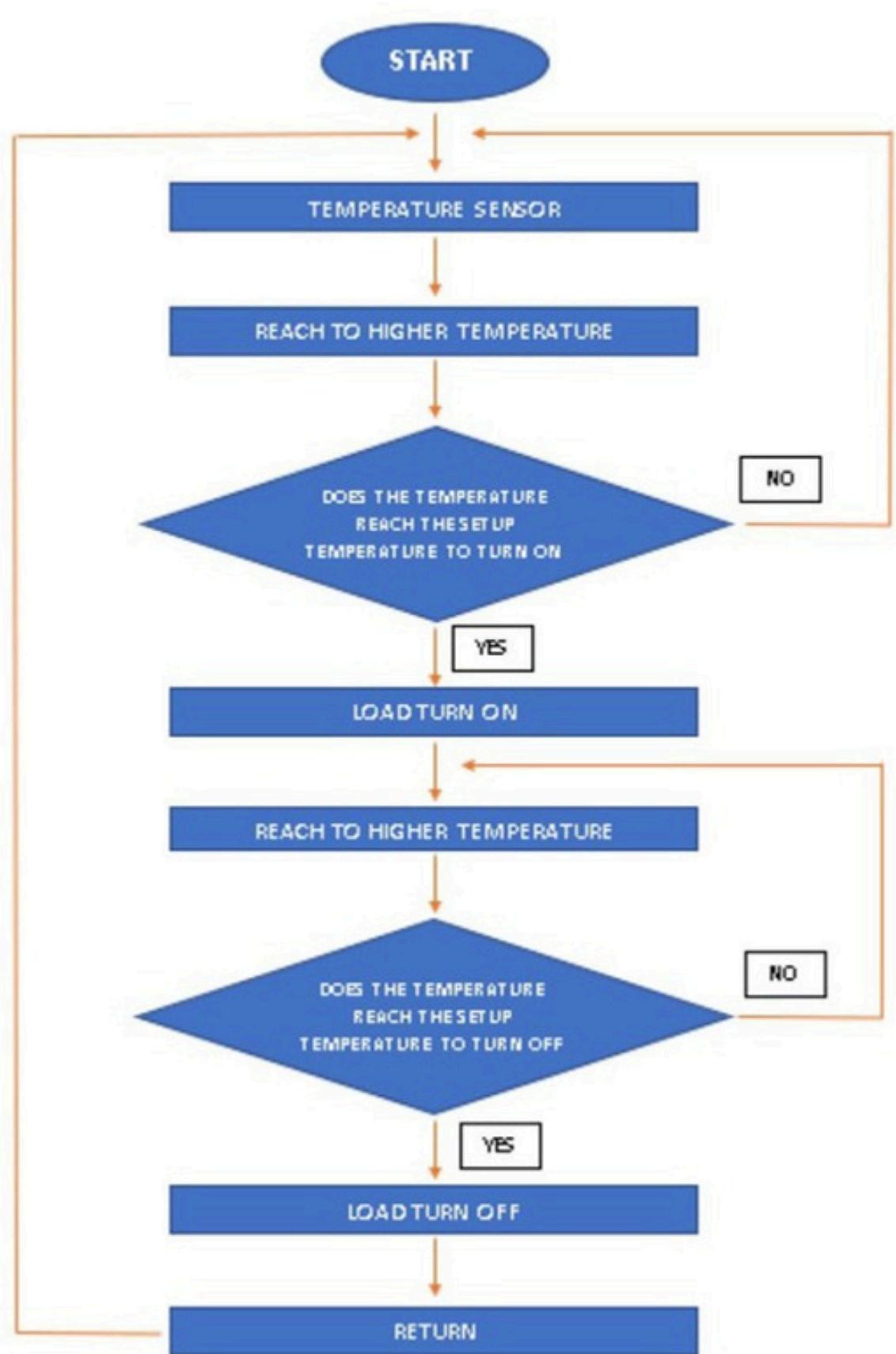
# 6.0 BLOCK DIAGRAM



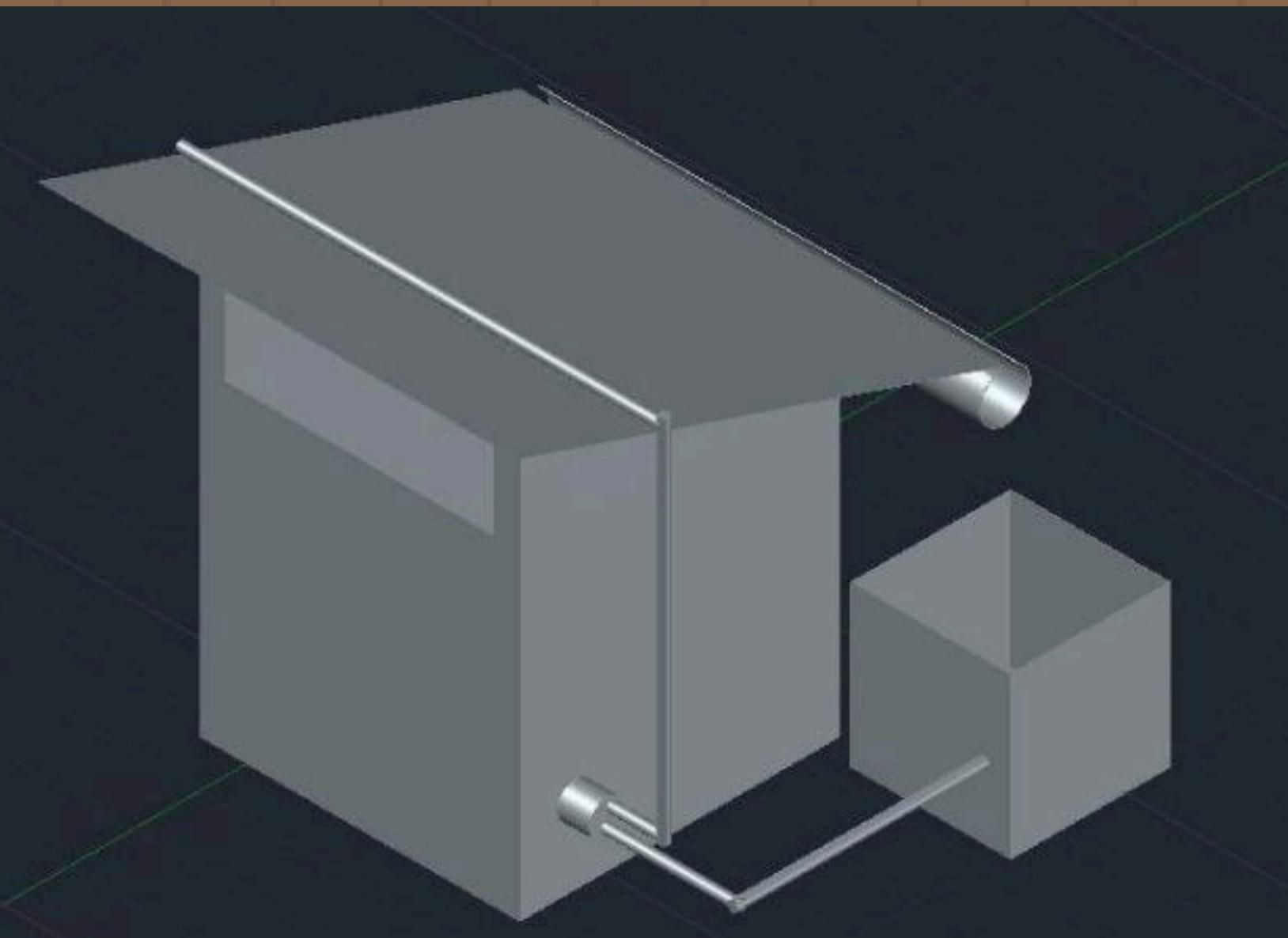
# CIRCUIT SCHEMATIC



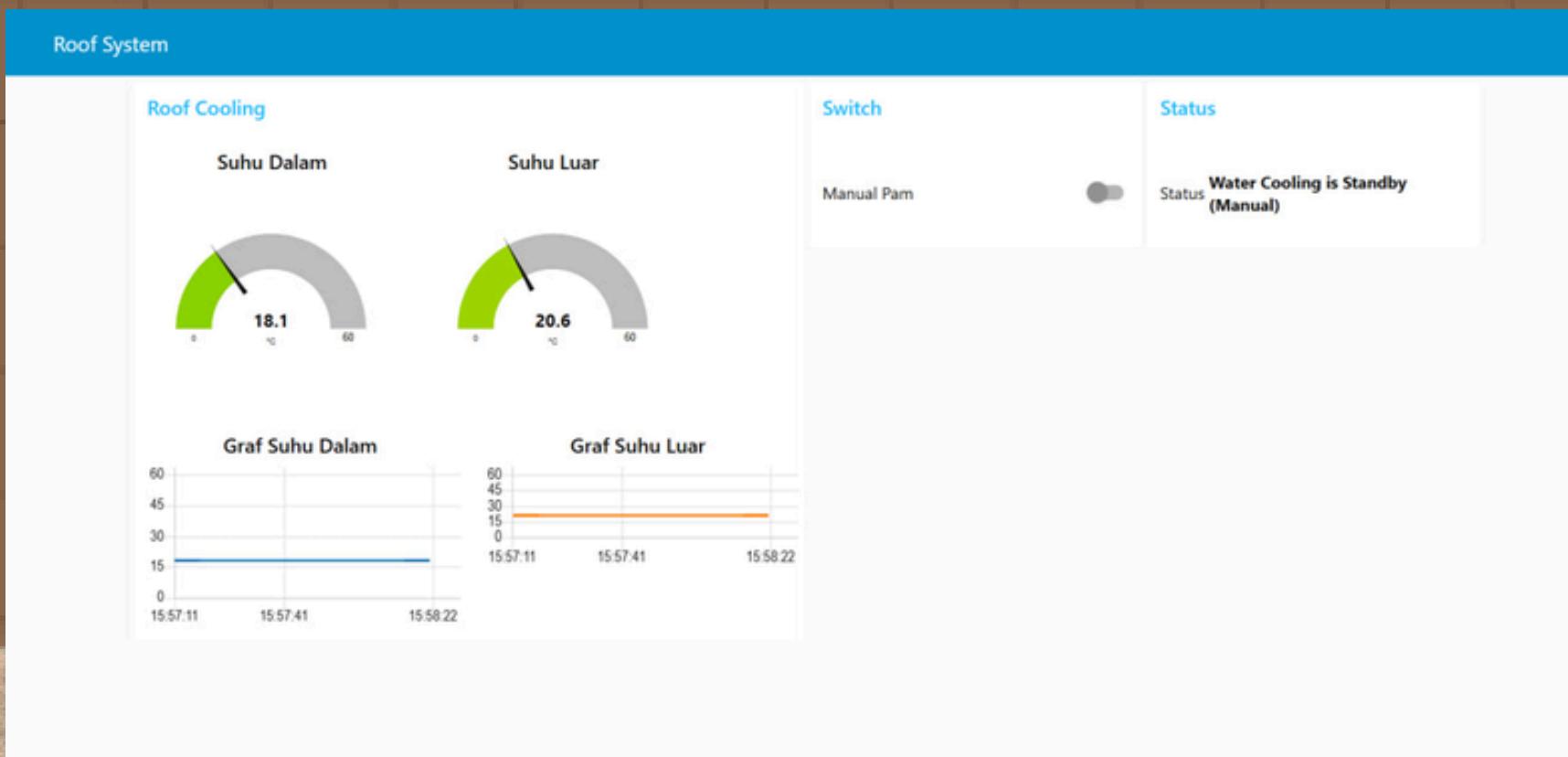
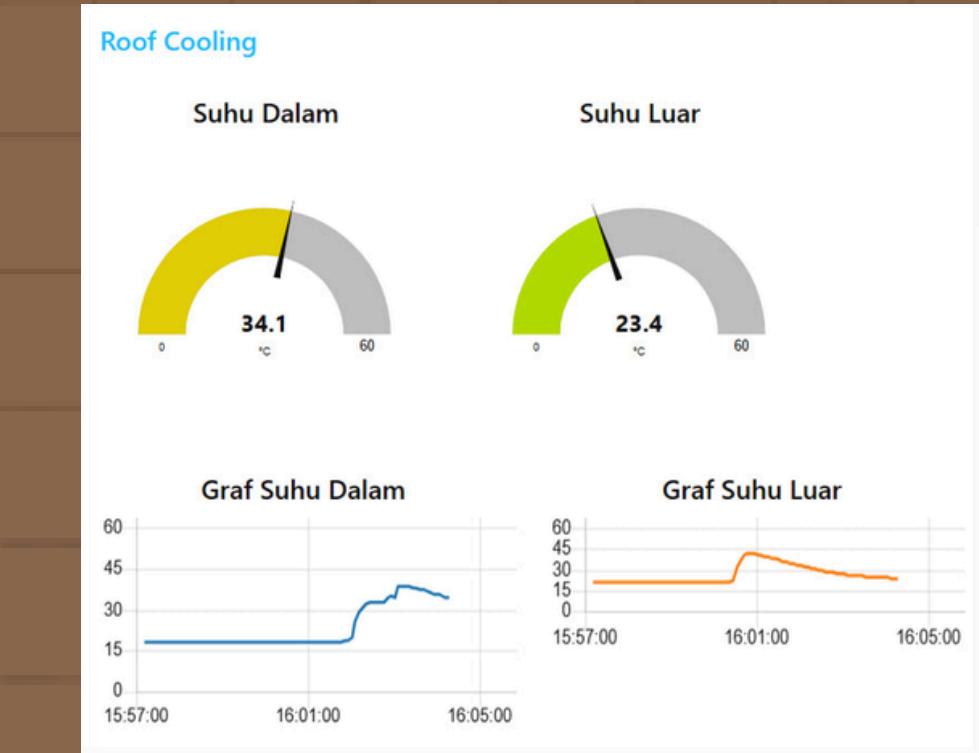
# SYSTEM FLOWCHART



# PROJECT LAYOUT



# 11.0 RESULT & ANALYSIS



# CONCLUSION

In conclusion, the Automated Roof Cooling System successfully helps reduce indoor heat using an automatic and energy-efficient water cooling method. This project proves that technology and innovation can improve comfort while promoting sustainable energy use.

# DEMONSTRATION VIDEO

P

AUTOMATIC ROOF COOLING SYSTEM -putera



Copy link



Watch on

