PET CARE SYSTEM

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Motivation/ Introduction

"Revolutionize pet care with our IoT-based system. Monitor pet activity, food, water levels, and room temperature remotely using ThingSpeak and Blynk, ensuring optimal health and well-being for your furry friends."

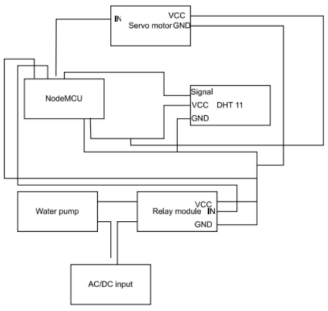
SCOPE of the Project

- Objective: Develop an IoT-based Pet Care System for remote monitoring.
- Features: Measure pet activity, food/water levels, and room temperature. Use ThingSpeak for data analytics and Blynk for a user-friendly interface.
- Health Analysis: Monitor pet diet for optimal health.
- Scope:Hardware/software development, user-friendly interface, scalability for future enhancements.

FIGURE 1.PROBLEM

Methodology

To implement the circuit using the Blynk application for controlling the servo motor and water pump, first, create a Blynk project in the Blynk app and obtain the authentication token. Then, add two buttons to the project, assigning them to virtual pins for controlling the servo motor and water pump. Write an Arduino sketch for the NodeMCU that includes the Blynk library and establishes a connection to the Blynk server using the authentication token. Define functions in the sketch to interpret commands from the Blynk app and control the servo motor and water pump accordingly. Upload the sketch to the NodeMCU and wire up the circuit according to the provided diagram, ensuring proper connections between the NodeMCU, relay module, water pump, and servo motor. Power up the NodeMCU and open the Blynk app on your smartphone. Select the project and use the buttons in the app to send commands to the NodeMCU, which will then activate the relay module to control the water pump and send signals to the servo motor for position control. Test the functionality and troubleshoot any issues that arise to ensure proper operation of the circuit.



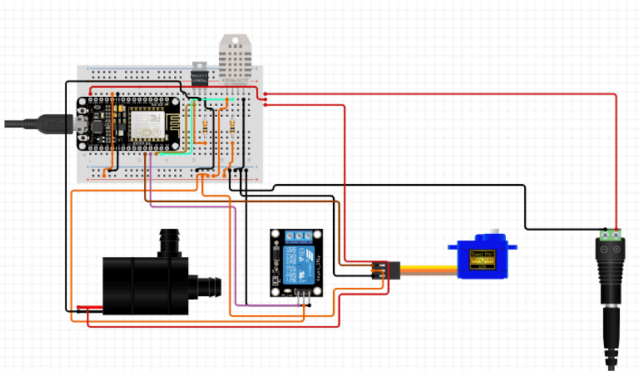


Fig 3. CIRCUIT DIAGRAM

Results

To conclude, the present project implements an IoT-based pet care system applying several sensors and actuators on three devices (food feeder, water dispenser, and room temperature monitor). The food feeder subsystem contains functions such as instant and remote food dispensing and food consumption monitoring. The water dispenser can monitor water consumption. The litter box records the frequency and timing of the pet goes to the toilet. To combine the three subsystems, we use an interface in a smartphone to control and monitor the devices as well as display the statistical records

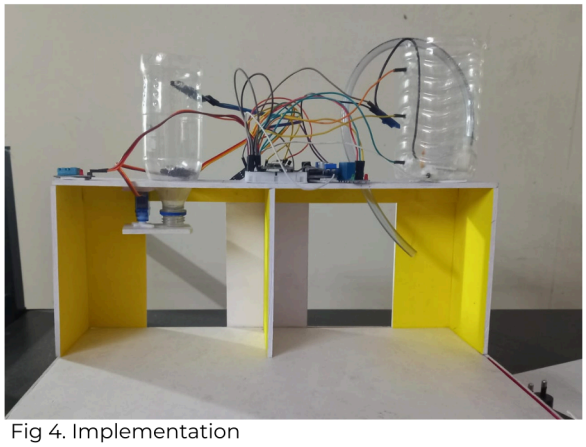


Fig 4. Implementation

Conclusion

"Transform pet care effortlessly. Our IoT system, powered by Blynk, ensures remote monitoring of pets, fostering their health and happiness with insightful data and control features."

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