

**Abstract:**

This mini project presents an Internet of Things (IoT) solution for remotely controlling a pet feeder using an ESP8266 microcontroller. The system integrates a web interface accessible over WiFi, allowing users to interact with the pet feeder. Key features include the ability to turn the feeder on/off, toggle a webcam feed, and customize feeding intervals.

The ESP8266 microcontroller establishes a connection to a local WiFi network, and an embedded web server is created using the ESP8266WebServer library. A servo motor controls the pet feeder's mechanism, simulating the feeding action for the pet. The web interface provides a user-friendly experience, displaying real-time information about the servo and webcam status.

Users can dynamically control the feeding process through the web interface, adjusting the feeding frequency and enabling/disabling the webcam feed. The project aims to offer convenience for pet owners, allowing them to monitor and feed their pets remotely.

The project also emphasizes collaboration, as indicated by the team member names in the web interface. The system is designed to be extensible, and the code includes placeholders for additional JavaScript logic to asynchronously communicate with the server for real-time status updates.

Overall, this IoT mini project showcases a practical application of connected devices, demonstrating how technology can enhance the interaction between pet owners and their pets. The web-based control interface provides an intuitive and accessible means for managing the pet feeder's functionality.