Smart Water Fountains

Phase 5: Project Documentation & Submission

(1)Project Objectives: The project aims to create a comprehensive IoT system integrating various sensors, a mobile app, and Raspberry Pi.

The objectives include real-time data monitoring, user-friendly mobile interface, and seamless integration between hardware and software components.

(2)IoT Sensor Setup: The IoT sensor setup involves deploying a variety of sensors like temperature, humidity, motion, or any other relevant sensors in the target environment.

These sensors collect data which is then transmitted to a central system for processing and analysis.

(2)Mobile App Development: The mobile app is designed to provide users with an intuitive interface to monitor and control the IoT sensors remotely.

It allows users to view real-time sensor data, set thresholds, receive alerts, and control connected devices through a user-friendly graphical interface.

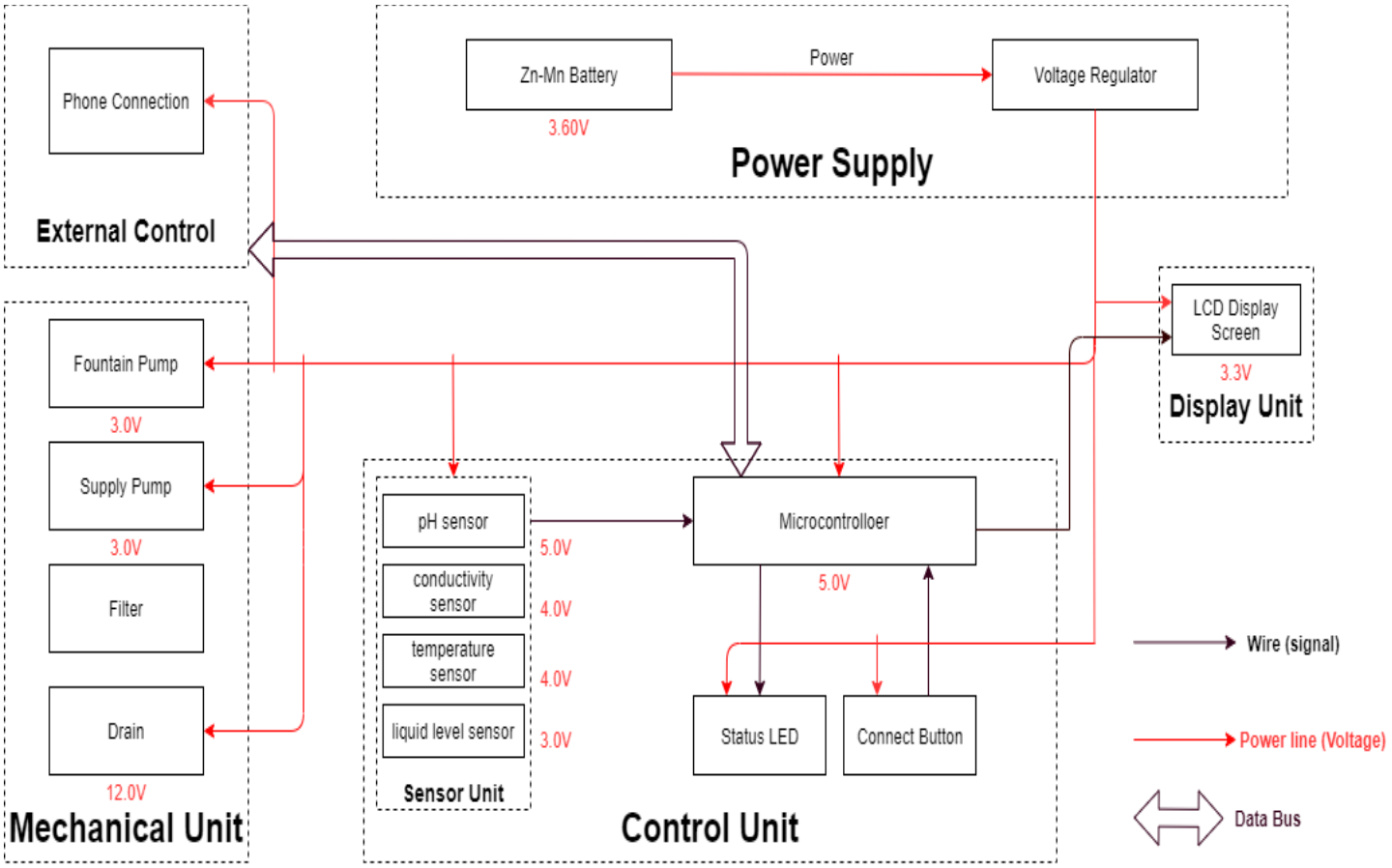
(3)Raspberry Pi Integration: Raspberry Pi acts as a central hub in this IoT system. It receives data from sensors, processes it, and communicates with the mobile app.

Raspberry Pi can also control various actuators based on the sensor data and user commands, providing a seamless integration between sensors and user interface.

(4)Code Implementation: The project involves writing code for multiple components:

- **Sensor Data Collection:** Code is required to read data from sensors. This may involve libraries or APIs specific to each sensor type.
- **Data Transmission:** Code is needed to transmit sensor data securely to the Raspberry Pi or any cloud-based service for further processing.
- **Raspberry Pi Processing:** Code on Raspberry Pi processes incoming data, applies logic for decision-making, and communicates with the mobile app.
- **Mobile App:** Code is written to create the mobile app interface. This involves frontend development for user interaction and backend integration to receive data from Raspberry Pi and send control commands back.

Block Diagram of Smart Water Fountain:



Water Fountain Status:

The real-time water fountain status system not only promotes efficient use of water resources by optimizing fountain operation but also raises public awareness and educates communities about the importance of water conservation, leading to a more sustainable and environmentally conscious society.