



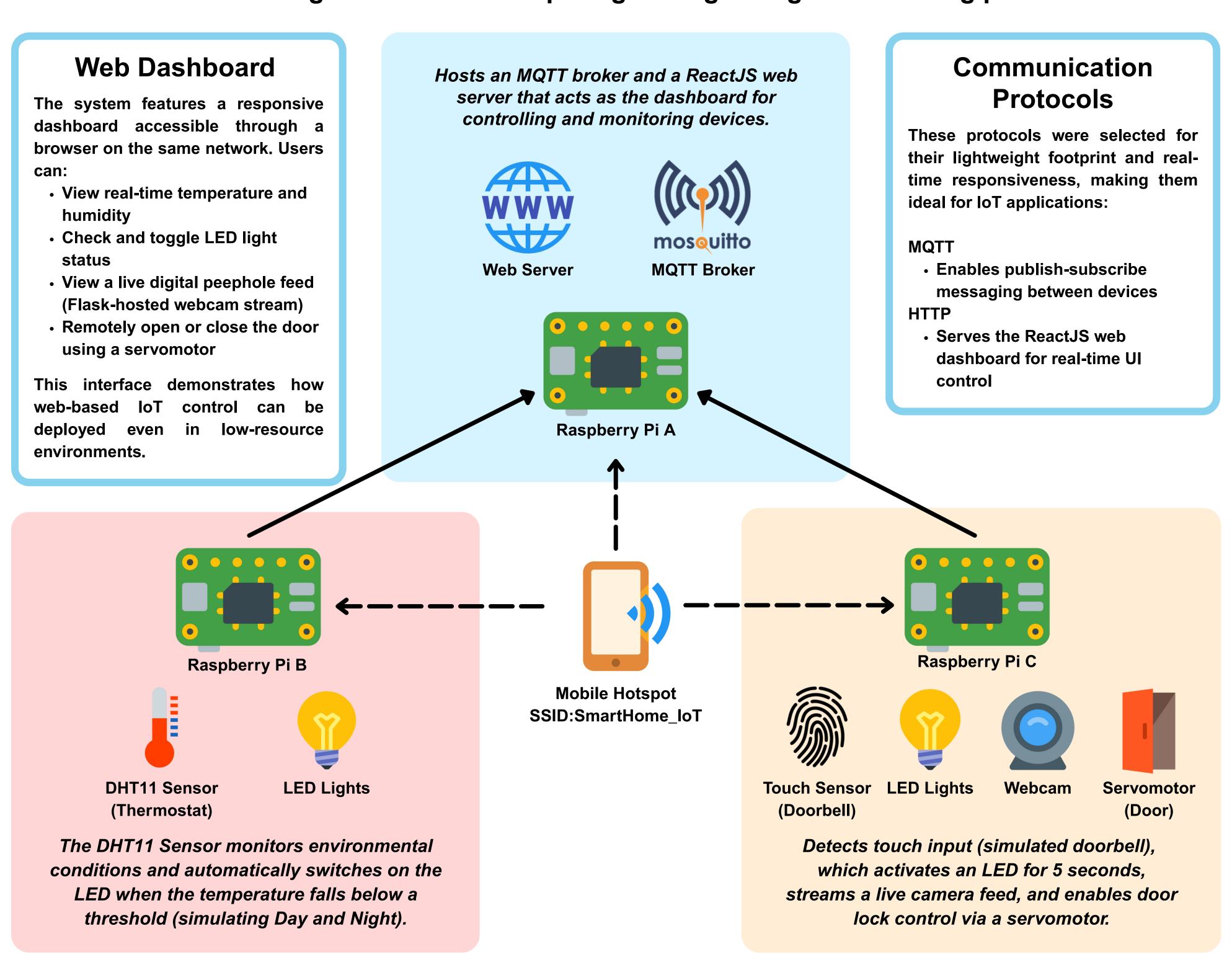


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CONNECTED COMFORT: A SMART HOME IOT NETWORK SIMULATION

This project simulates a modern smart home Internet of Things (IoT) system using a network of three Raspberry Pis connected via a mobile Wi-Fi hotspot.

The aim is to demonstrate how real-time sensing, communication, and remote control can be achieved through distributed computing and lightweight networking protocols.



Use Case Scenario

A visitor arrives and taps the doorbell sensor. The system responds by:

- Turning on the LED light (5-second timer)
- Streaming live camera footage to the dashboard
- Allowing the user to unlock the door remotely

All actions are executed in real time, highlighting the potential of smart IoT systems in residential automation.

Learning Outcomes

Through this project, our team has had the opportunity to:

- Develop a working MQTT-based communication model between IoT nodes
- Implement a NodeJS-powered web dashboard for remote control
- Integrate sensors and actuators into a real-time responsive system
- · Apply core concepts of client-server architecture, protocol design, and network reliability

Tech Stack:

















