Shalaka
Connected Devices LLP

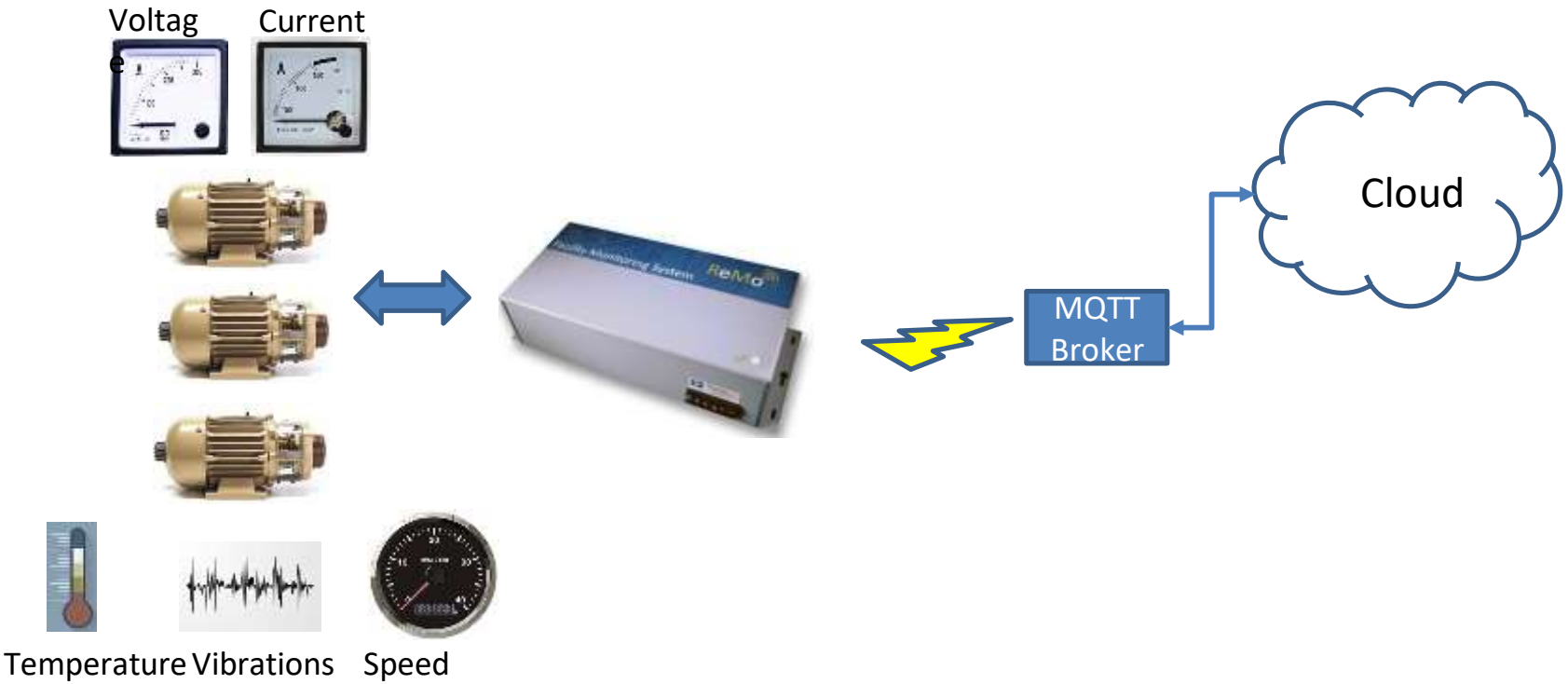
Cloud Based DC Motor Control

Hemant Kamat
Chief Technology Officer

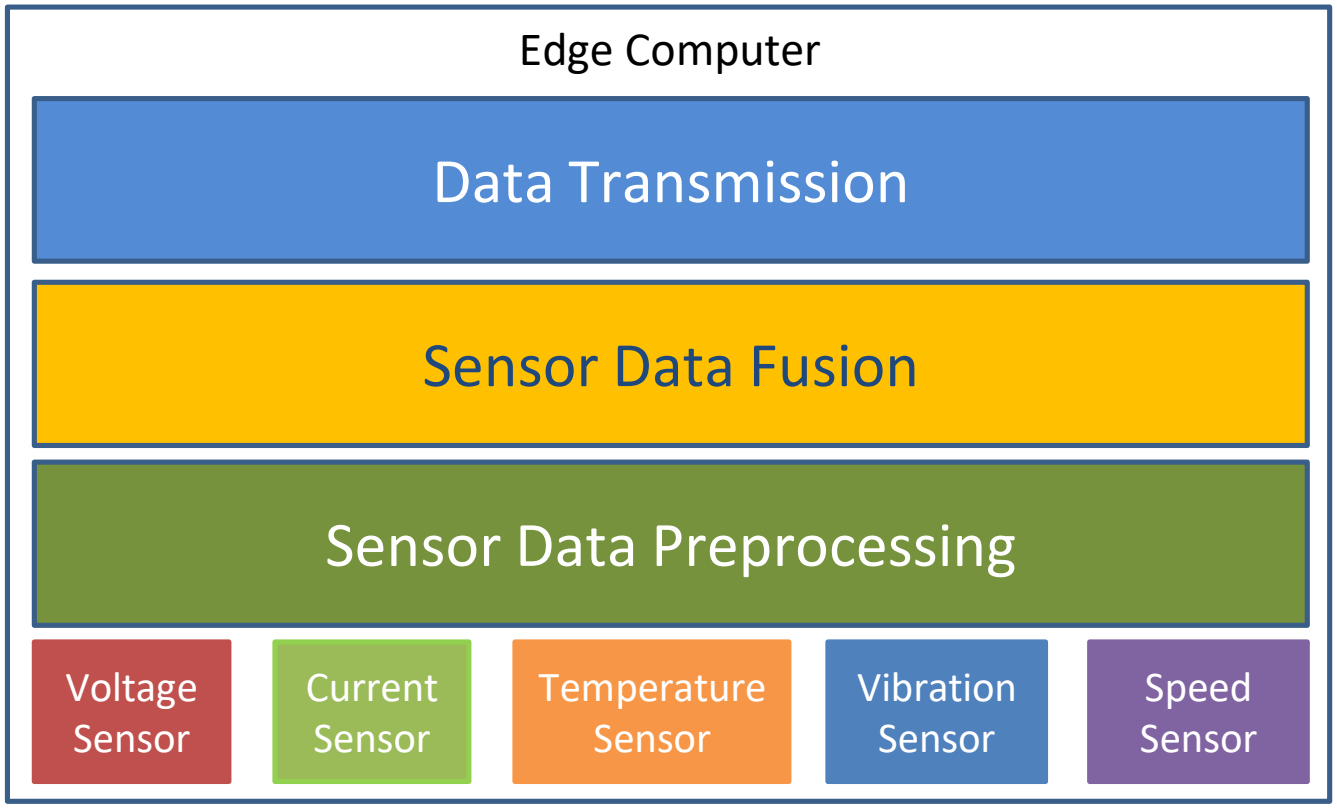
Objective

- Develop Web App to Acquire data from Controller for 3 DC motors using MQTT
  - Voltage
  - Current
  - Temperature
  - Vibration
  - Speed and Direction
- Save the data in database
- Display the same in tabular form of Main Page of the Web Application
- Plot graph for the same using filtered data
- Set and Monitor Alerts
- Send Control Commands to the Controller using MQTT
- Collaborate with SCD-BITS-PS1-2021-09

Concept


Voltag
e
Current
Cloud
MQTT
Broker
Temperature
Vibrations
Speed

Architecture



Architecture

- Motor Basics
- Sensors
  - Voltage
    - Voltage 1
    - Voltage 2
    - Voltage 3
  - Current
    - Current 1
    - Current 2
    - Current 3

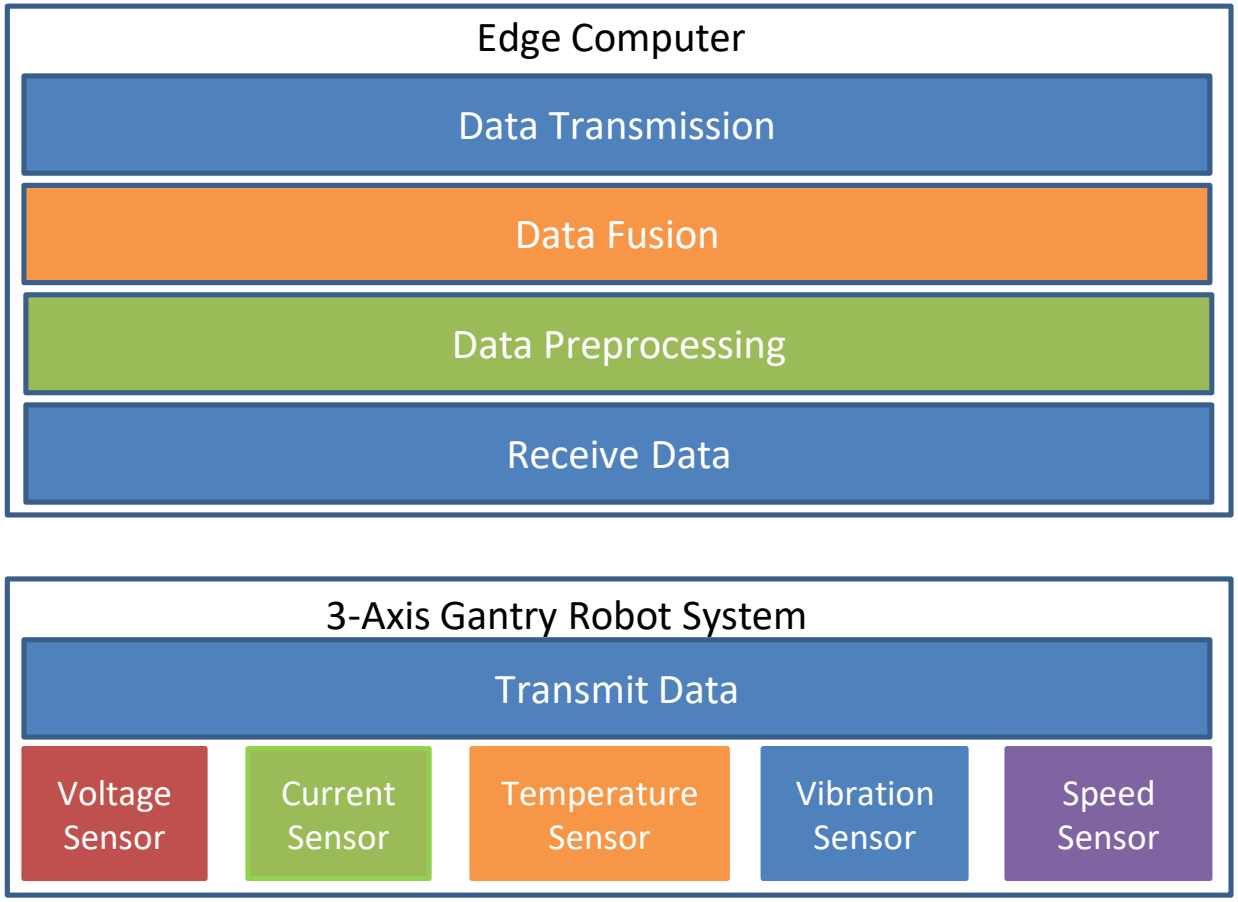
Architecture

- Sensors
  - Temperature
    - Temperature 1
    - Temperature 2
    - Temperature 3
  - Vibrations
    - Vibration 1
    - Vibration 2
    - Vibration 3
  - Speed
    - Speed 1
    - Speed 2
    - Speed 3
    - Direction 1
    - Direction 2
    - Direction 3

Architecture

- Sensor Data Preprocessing
  - Data Sanitisation
- Sensor Data Fusion
  - Combine individual sensor data in a mathematical model to derive more information
- Data Transmission
  - Transmit the data over a Communication Interface upstream
    - MQTT Broker
    - Wireless Communication Interfaces
    - Wired Communication Interfaces

Implementation



Tools

- Edge Computer
  - Python
- MQTT Broker
  - Mosquitto
- Web Application
  - Javascript
  - Node.js
  - Angular
  - MySQL

Shalaka
Connected Devices LLP

Thank You!