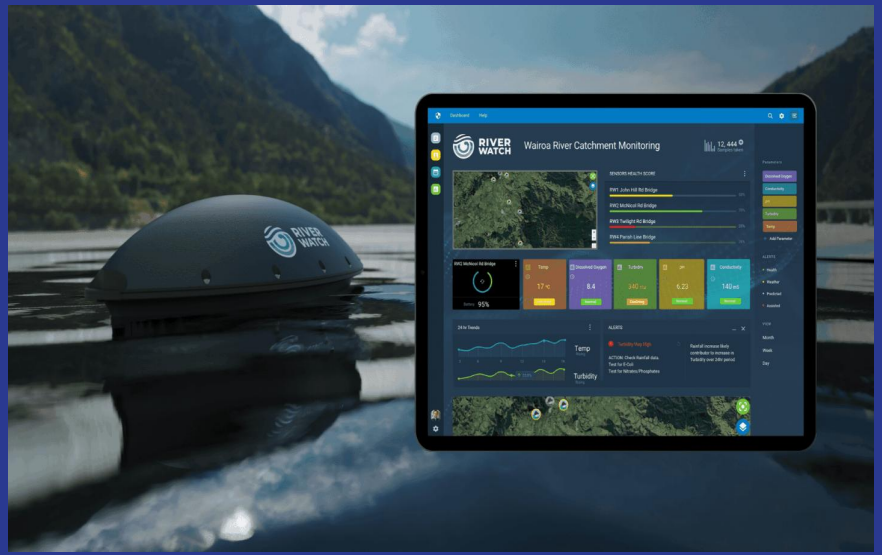
Real-Time River Water Quality Monitoring and Control System



Team ID :PNT2022TMID41301
Team Lead : Saranya M
Team Member 1: Sopana R
Team Member 2: Monisha K
Team Member 3: Punitha T
Mentor : Dr Dinesh Ganesan

Introduction

- River water quality can be monitored by the web application.
- pH level of the water can be monitored.
- Water temperature can be monitored.
- Alerting the authorities

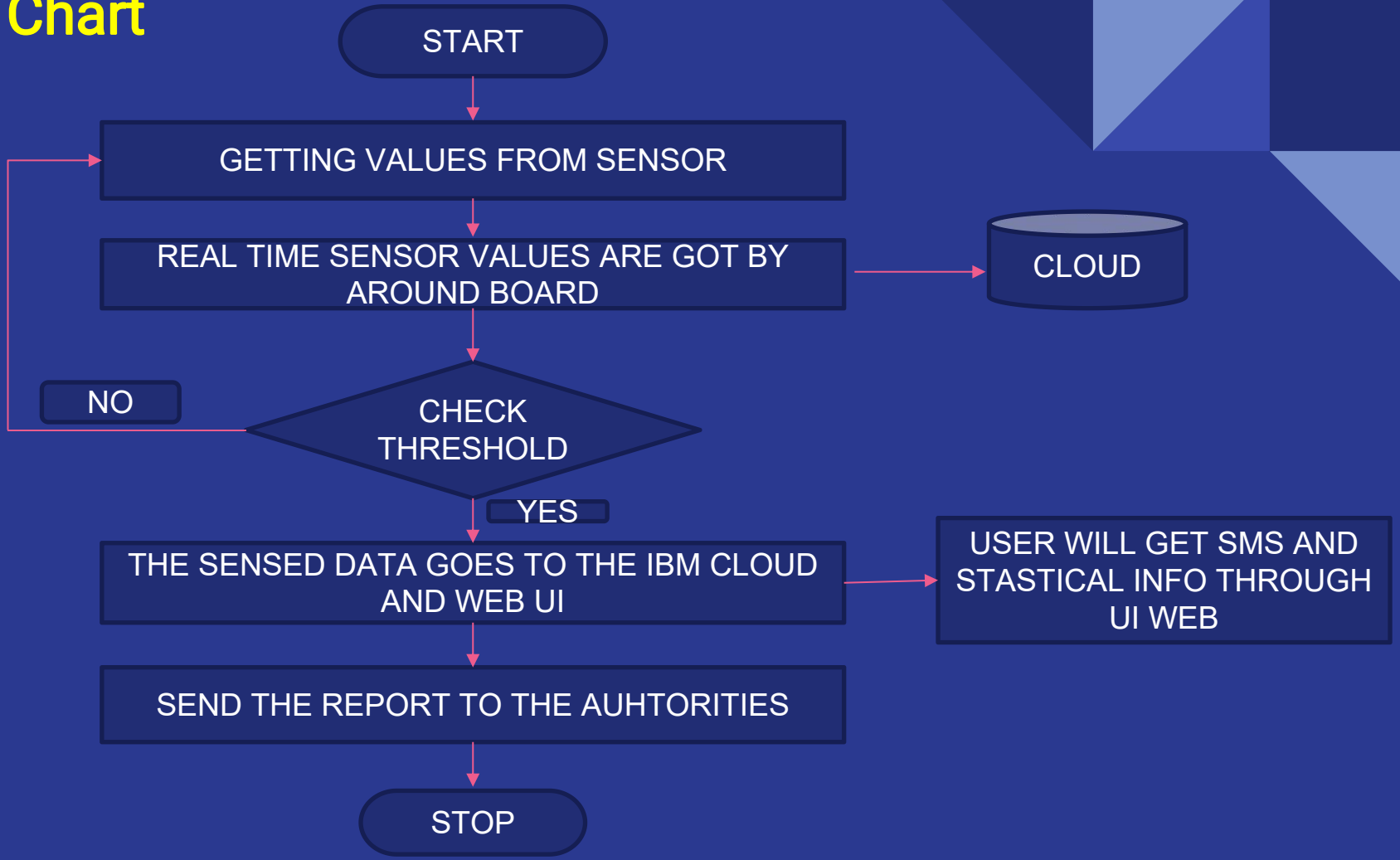
shortflaws

- Weakness in data security,
- Communication coverage,
- Energy consumption management.

Objectives

- **Sending random pH ,temperature and turbidity values will be sent to the IBM IoT platform**
- **Sensors values can be monitored in the MIT App Inventer**
- **Notifies the random values cross the threshold value**

Flow Chart


START
GETTING VALUES FROM SENSOR
REAL TIME SENSOR VALUES ARE GOT BY AROUND BOARD
CLOUD
CHECK THRESHOLD
NO
YES
THE SENSED DATA GOES TO THE IBM CLOUD AND WEB UI
USER WILL GET SMS AND STASTICAL INFO THROUGH UI WEB
SEND THE REPORT TO THE AUHTORITIES
STOP

Methodologies:

- Python Script
- IBM Watson Cloud
- Node-Red
- MIT app Inventor

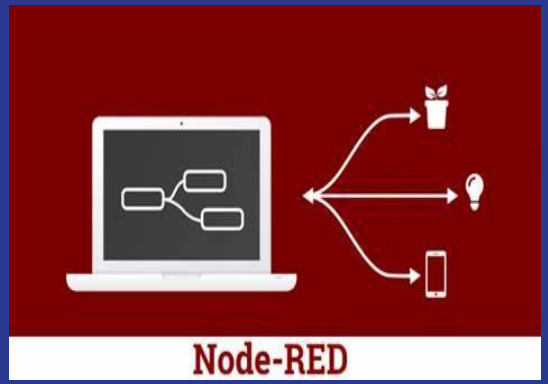
Python Script

- Python code for publishing random sensor data (Water turbidity, PH values , if required temperature) to the IBM Iot platform.
- Python code is used to send random sensor data to the cloud
- Receive commands from the cloud.

IBM Watson

- IBM Watson IOT Platform acts as the mediator
- Create a device in the IBM Watson IOT platform
- Configure the connection security
- Create API keys
- Node-Red service for accessing the IBM IOT platform.

Node-Red



- The Node-RED flow to receive data from the IBM IoT platform.
- Use Cloudant DB(data base) nodes to store the received sensor data
- To create use dashboard nodes
- To visualize the data in graphical format.
- Create an HTTP API for communicating with Mobile applications.

MIT app Inventor

- User Interface to display the Water Turbidity, and pH values.
- we will build a basic mobile application to show the sensor data.
- Design the application to receive the data from the cloud.
- The mobile app to send commands to users using buttons.

Features

- Instantaneous data
- Improved accuracy of measurements
- Contact Guardian Water Treatment

Reference

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Thank You