PROJECT DESIGN PHASE – II

SOLUTION REQUIREMENT (FUNCTIONAL & NON-FUNCTIONAL)

Date	13 May 2023
Team ID	NM2023TMID10372
Project Name	Remote gas pipeline tunnel temperature monitoring system

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement	Sub Requirement
FR-1	Circuit	DSP22 ESP32 Potentiometer
FR-2	Code	Importing libraries IBM Credentials Creating instance Wi-Fi connection
FR-3	IBM Cloud	IBM Cloud account IBM Watson login
FR-4	Node-Red	Node JS Node-Red installation API Key IBM Node connection

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution

NFR No.	Non Functional Requirement	Description
NFR-1	Usability	People can use this product easily. The user needs to have only the knowledge of English to understand the values of temperature, humidity and leakage threshold.
NFR-2	Security	The system provided as solution is completely secure. It requires registering in IBM and Node-Red platform which are highly secure.
NFR-3	Reliability	Time required to get the values of temperature, humidity and leakage threshold values is very low and within milliseconds. Hence reliability is high.
NFR-4	Performance	The performance is high since the accuracy of the values obtained is high. The solution gives the exact values.
NFR-5	Availability	This device can be used by every user who have IBM account.
NFR-6	Scalability	The performance is high since high precision sensor is used.