Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID41928
Project Name	Real time water quality monitoring and control system

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Arduino(control system)	Sensors are interfaced to Arduino and it collects measurements data periodically from sensors.
FR-2	WSN Sensor	Multiple sensor nodes installed for the detection of pH, temperature, dust particles, turbidity
FR-3	Software Design Requirements	WSN requires IoT platform which requires Neural Network Model to classify water quality as Good Or Bad. IoT integrated big data analytics to store data in cloud and analyze it constantly..
FR-4	pH level Detection	To monitor the water quality Ph sensor is used and the signals are sent to Arduino.
FR-5	Turbidity Detection	Turbidity sensor measures the clarity of element or muddiness utter in the water and the signals are send to Arduino.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	To determine the drinking water quality using pH,Turbidity
NFR-2	**Security**	Mobile application is secured with firewalls protection.
NFR-3	**Reliability**	Real time sensor output values with future predicted data storage. 98% efficient monitoring output. It also gives assurance for aquaculture safety
NFR-4	**Performance**	High performance because of the system Efficiency
NFR-5	**Availability**	In form of mobile UI 24 x 7 monitoring system
NFR-6	**Scalability**	More number of users can be access thedata