Project Design Phase-II

Solution Requirements(Functional &Non-functional)

Date	**10 NOVEMBER 2022**
Team ID	**PNT2022TMID08456**
Project Name	**Project- Real time river water quality monitoring and control system**
Maximum Marks	**4 Marks**

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement(Epic)	Sub Requirement(Story/Sub-Task)
FR-1	**User Registration**	**Registration through Form Registration through Gmail Registration through Linked IN**
FR-2	**User Confirmation**	**Confirmation via Email Confirmation via OTP**
FR-3	**Hydroxilic level detection**	**To detect the presence of hydroxilic acid a Ph test is imminent. Soa pH sensor is used to detect the pH value of river water, periodically.**
FR-4	**Dust presence in water**	**To detect the dust presence in water we need to analyze it with a parameter called turbidity . for that we use turbidity sensor.**
FR-5	**Reaction turbine generator**	**For energy production for system to have self produced power methods as well as to clean the most pollutants of river waters such as bacteria ,we use reaction turbine generator as Rivers come under low head.**

Non-functionalRequirements:

Followingarethenon-functional requirements ofthepropos edsolution.

FRNo.	Non-FunctionalRequirement	Description
NFR-1	Usability	**timecontinuous monitoring andquality controlproducedbythesystem, moreeffective andlesscomplexities**
NFR-2	Security	**Data encryptions atfront endandbackendisappliedtothe Androidapplication.Proxy servers can't disrupt or hackas sufficient protectivemeasures taken atarchitecturelevel ofapp itself.**
NFR-3	Reliability	**Asafeandsecuresystem, thatassureslivingaspects forallbeingsfromaquatictolandspecies.Syste m hasembarkedefficiencyinenergy managementanddata management. Atrustworthy andprofitable systemthatconstructedwithadvanceddata analyticsprocedurethat canprovide adynamic qualitymonitoring andcontrol system.**
NFR-4	Performance	**Asthedifferent technolofocal blockscanitself definean systembasedonecofriendly and innovativeproduct facilitatingpeople's lifeon dailybasis. Chances of entropyisless duetohigh end engineering (Careful executing of Architectural designandpretty plannedprocess models.)**
NFR-5	Availability	**Customerserviceavailablefor 24/7 ,query handled viahighend UIviaagency.Alsomonitoring, analysing andstreaming of sensedparameters, values are handledbycloudserviceswhich canbeviewedvia mobileapp.**
NFR-6	Scalability	**High accuracydue topresetarchitectural design givesita product ofhighscalability.also theproductisdevelopedjusttomeet up with customers core constraints.the systemcan bedevelopedbasedon people'sinnovativeideas as thisproductisscalable forlater upgrades andversions ,as well forother productsbasedonit.**
NFR-7	Stability	**stabilityisperfectly explainedas ahighly stable systembasedon greaterpowermanagement strategies anddefinitedesign.**
NFR-8	Efficiency	**LowPower consumption and Highperformance.**