ProjectDesignPhase-II

SolutionRequirements(Functional&Non-functional)

Date	**03 November 2022**
TeamID	**PNT2022TMID10699**
ProjectName	**Project- Real timeriverwater quality monitoring and control system**
MaximumMarks	**4 Marks**

FunctionalRequirements:

Followingarethefunctionalrequirements oftheproposedsolution.

FRNo.	FunctionalRequirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	**User Registration**	**Registration through Form** **Registration through Gmail** **Registration through LinkedIN**
FR-2	**User Confirmation**	**Confirmation via Email** **Confirmation via OTP**
FR-3	**Hydroxilic level detection**	**todetect thepresenceofhydroxilicacida pHtest is imminent. Soa pHsensor isusedtodetect thepHvalue ofriver water,periodically.**
FR-4	**Dustpresencein water**	**Todetect thedustpresencein waterweneedtoanalyzeit with aparameter calledturbidity.for that weuse turbiditysensor.**
FR-5	**Reaction turbinegenerator**	**for energy productionfor systemtohaveselfproduced power methodsas well astoclean themost pollutants ofriver waterssuchas bacteria,weusereactionturbine generator asRiverscomeunderlowhead.**

Non-functionalRequirements:

Followingarethenon-functional requirements ofthepropos edsolution.

FRNo.	Non-FunctionalRequirement	Description
NFR-1	Usability	**timecontinuous monitoring andquality control producedbythesystem, moreeffective andless complexities**
NFR-2	Security	**Data encryptions atfront endandbackendisapplied tothe Androidapplication.Proxy servers can't disrupt or hackas sufficient protectivemeasures taken atarchitecturelevel ofapp itself.**
NFR-3	Reliability	**Asafeandsecuresystem, thatassureslivingaspects forallbeingsfromaquatictolandspecies.System hasembarkedefficiencyinenergy managementand data 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 theproduct isdevelopedjusttomeet 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.**