Project Design Phase-II

Functional Requirements

Date	14 October 2022
Team ID	PNT2022TMID39342
Project Name	Hazardous area monitoring for industrial power plants using IOT
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 LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Verification	Verification through Gmail-login. Verification through FingerprintVerification via text OTP. Two-step verification.
FR-4	User Authentication/ Notification	Authenticate sign in of unknown device via Email.Authentication via text message.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	*How hard is it to use the product?* Defining these requirements isn't as easy as it seems. There are many types of usability criteria. One of the most popular is by Nielsen Norman Group that suggests evaluating usability with five dimensions: **Learnability,Efficiency, Memorability, Errors, Satisfaction.**
NFR-2	**Security**	Security is a non-functional requirement assuring all data inside the system or its part will be protected against malware attacks or unauthorized access. But there's a catch. The lion's share of security non-functional requirements can be translated into concrete functional counterparts. If you want to protect the admin

		panel from unauthorized access, you would define the login flow and different user roles as system behavior or user actions.
NFR-3	**Reliability**	**Reliability** specifies how likely the system or its element would run without a failure for a given period of time under predefined conditions. Traditionally, this probability is expressed in percentages. For instance, if the system has 85 percent reliability for a month, this means that during this month, under normal usage conditions, there's an 85 percent chance that the system won't experience critical failure.
NFR-4	**Performance**	**Performance** defines how fast a software system or a particular piece of it responds to certain users' actions under a certain workload. In most cases, this metric explains how long a user must wait before the target operation happens (the page renders, a transaction is processed,

		etc.) given the overall number of users at the moment.
NFR-5	**Availability**	**Availability** describes how likely the system is accessible to a user at a given point in time. While it can be expressed as an expected percentage of successful requests, you may also define it as a percentage of time the system is accessible for operation during some time period. For instance, the system may be available 98 percent of the time during a month. Availability is perhaps the most business-critical requirement, but to define it, you also must have estimations for reliability and maintainability.
NFR-6	**Scalability**	**Scalability** assesses the highest workloads under which the system will still meet the performance requirements. There are two ways to enable your system scale as the workloads get higher: horizontal and vertical scaling. • *Horizontal scaling* is provided by adding

		more machines to the pool of servers. • *Vertical scaling* is achieved by adding more CPU and RAM to the existing machines