Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	03 October 2022
Team ID	PNT2022TMID35585
Project Name	**Predicting The Energy Output Of Wind Turbine Based On Weather Condition**
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**	Users may create accounts and login using their credentials to use the application. This prevents unauthorized access and keeps their data secure.
FR-2	**User Confirmation**	Confirmation via Email Confirmation via OTP
FR-3	**Dashboard**	Once logged in, the user is redirected to a dashboard wherein the various features provided by the application are made available.
FR-4	**Data Manipulation**	Users have the facility to enter, update and modify their personal details.
FR-5	**Weather Details Display**	Integration with OpenWeatherMap to display forecasts for the next few days
FR-6	**Power Output Prediction**	Getting relevant inputs from the user Communication with the flask backend, and displaying the results
FR-7	**Productivity Stats**	Users can visualize energy output statistics from their wind farm over time in order to gain insights and better understand trends.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The User Interface must be simple, elegant and cater to the needs of people with varying degrees of digital literacy.
NFR-2	**Security**	The user's information must be confidential, and the software must be developed keeping common security vulnerabilities in mind.
NFR-3	**Reliability**	The results of the predictive model must be reliable and give the user a clear estimate to work with.

NFR-4	**Performance**	The predictions must be returned with minimal latency.
NFR-5	**Availability**	Hosting the application on IBM cloud ensures zero to little down time, thus making it available around the clock.
NFR-6	**Scalability**	The application must display horizontal as well as vertical scalability, adapting to a larger user base while being open to the addition of new features.