

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

Date	21-10-2022
Team ID	PNT2022TMID39908
Project Name	Predicting the energy of wind turbine based on weather conditions
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 and logging in by entering their username and password.	Registration through Form
FR-2	User Confirmation by validating the username with respect to the password	Confirmation via Email Confirmation via OTP
FR-3	Displaying the further information about the application.	By selecting the about button the details of the application will be displayed.
FR-4	Validating the city name.	System checks whether the city entered by the user is present or not. If present it will collect the further details else it will display the pop-up message as error in the city.
FR-5	Checking the data type of the value.	System checks for the data type of the value entered by the user.
FR-6	Validating all required fields.	Before predicting the output the system checks whether all the values are entered by the user and checks whether all values are correct
FR-7	Displaying weather conditions for a given city.	It displays the weather of the city which have been selected.
FR-8	Displaying predicted energy output power.	The predicted output will be displayed as amount of wind energy power generated.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system satisfies the user goals and the application is easy to use.
NFR-2	Security	The data provided to system will be protected from attacks and unauthorized access
NFR-3	Reliability	The system will provide the consistency in output without producing an error.
NFR-4	Performance	The performance will never degrade even the workload is increased.
NFR-5	Availability	The availability factor of a wind turbine is the amount of time that the turbine is able to produce electricity over a certain period, divided by the amount of the time in the period.
NFR-6	Scalability	The scaled model is simply geometrically zoomed from the reference full-scale one, while in the second strategy the scaled rotor is completely redesigned in order to match desired characteristics of the full-scale machine.