

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

Date	15 October 2022
Team ID	PNT2022TMID48869
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.

Energy Forecasting

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Registration	Registration through Application If customer wants to check their weather, temperature, Humidity they must be registered first.
FR-2	Login	After registration Confirmation were received via Email. <input type="checkbox"/> User received confirmation, He/ She can Login through valid user id and password you provide.
FR-3	Location	Turn on location service for getting better local search results and Detect location by GPS and network.
FR-4	Modify Location	<ul style="list-style-type: none">• Search and Manage the Multiple location.• Customer can see weather in any places you like.
FR-5	Forecast for free	<ul style="list-style-type: none">• This Application offers daily weather, hourly weather forecast .• Forecasts which includes atmospheric pressure, weather condition, visibility distance, relative humidity, wind speed and direction, in addition to 32 hourly future weather forecast.
FR-6	Predict the wind energy	From the output of the wind speed customer can easily predict the Energy outcome through the weather condition
FR-7	Store & Share	The report what are the customer get collected has option to save and share through email, messages, etc,...

FR-8	Reports	<u>The Final report that customer should get ,</u> <ul style="list-style-type: none"> • Hourly and Daily forecast • Pressure, Temperature, Humidity, Wind Speed. • The prediction of energy.
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Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Application should be easily used by the customer.
NFR-2	Security	<ul style="list-style-type: none"> • A web application firewall works by inspecting and, if necessary, blocking data packets that are considered harmful. • Application security enhance the security of an application by making it less vulnerable to threats
NFR-3	Reliability	The ability of the application working constantly in the way of user acceptable manner when working within the specified environment over a set duration of time.
NFR-4	Performance	<ul style="list-style-type: none"> • The application helps in predicting the energy produced by the wind turbine. • By selecting the location over the local area or world wide we can easily get the wind speed, Pressure, humidity and so on based on the location we selected. • Using this information customer can easily predict the energy produced by the wind turbine. • Performance should be very accurate and reliable.
NFR-5	Availability	This application forecast the live information and should be available at all times. The user can access the application by using a web browser, only restricted by the down time of the server on which system runs.
NFR-6	Scalability	Application scalability may depends upon the response time of the particular software and also based on the network usage and memory usage.

