# Project Design Phase-II

**Solution Requirements (Functional & Non-functional)**

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| Date | 12 October 2022 |
| Team ID | PNT2022TMID51589 |
| 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.

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| **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 pop-up Message. |
| 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.

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| **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 application is available for 24\*7 |
| NFR-6 | **Scalability** | The system can be used as web application as well as mobile application with a sufficient internet  availability. |