

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

|               |  |
|---------------|--|
| Date          | 03 October 2022  |
| Team ID       | PNT2022TMID31617   |
| Project Name  | Predicting the energy output 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                             | Registration through Gmail<br>Registration through form                                  |
| FR-2   | User Confirmation                             | Confirmation via Email<br>Confirmation via OTP   |
| FR-3   | User login into website                       | Login using credentials<br>Forgot password/change password for updating user credentials |
| FR-4   | Displaying further information about the site | To know more about the site, user can click on the about button                          |
| FR-5   | Enter required parameters                     | Inputs like city name, area and more   |
| FR-6   | Validating all required fields                | System checks whether all the required fields are filled and those values are correct    |
| FR-7   | Displays weather conditions of entered city   | Climatic conditions of the entered city will be displayed to the user                    |
| FR-8   | Displays prediction results                   | User can view the results predicted  |
| FR-9   | Download prediction results                   | Download as jpg/png, download as pdf   |
| FR-10  | Logout from the site                          | User can log out from the site using the option provided                                 |

**Non-functional Requirements:**

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

| FR No. | Non-Functional Requirement | Description  |
|--------|----------------------------|--|
| NFR-1  | <b>Usability</b>           | The responsive website satisfies the user needs and is easy to use.  |
| NFR-2  | <b>Security</b>            | Login credentials will be protected from attacks and of single use only. If it doesn't match the existing one, it shows error message.<br>Number of attempts to login to the site is limited |
| NFR-3  | <b>Reliability</b>         | User interface to guide the users throughout the website.  |

|       |                     |   |
|-------|---------------------|---|
|       |                     | User credibility is maintained by means of social proof<br>System provides the precise output without generating errors |
| NFR-4 | <b>Performance</b>  | Site evaluates the user queries quickly   |
| NFR-5 | <b>Availability</b> | User can access the site from anywhere, anytime.  |
| NFR-6 | <b>Scalability</b>  | With sufficient internet access, the system can be used as a web application to handle users from multiple users.       |