**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID51231 |
| Project Name | Predicting the energy output of wind turbine based on weather condition. |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Our aim is to map weather data to energy production. The model prediction is then showcased on user interface to predict the energy output of wind turbine. |
|  | Idea / Solution description | Our approach was to use a time series forecasting model that would generate point forecast of wind generation for the upcoming three days, for a wind turbine. |
|  | Novelty / Uniqueness | It will be working on bad weather condition. Precise information on timing.Flectuation in weather conditions |
|  | Social Impact / Customer Satisfaction | Wind energy jobs in rural communities in manufacturing, transportation and project construction. |
|  | Business Model (Revenue Model) | ⎫ Identifying most significant features for wind power prediction.  ⎫Continuous learning and model improvement by hybrid ensemble with data and  function perturbation.  ⎫ Predicting best time for wind farm energy utilization.  ⎫ Integrating weather conditions for predicting various time periods like per day, per  week, per month, and annual reports for wind energy generation.  ⎫ Graphical representations and reports to support various business decisions on  improving wind energy generation.  ⎫ Balancing production and utilization of the wind energy |
|  | Scalability of the Solution | ¬ To identify more environment parameters for testing their impact on wind  energy generation.  ¬ To avail on-demand supply of wind energy.  ¬ To predict customer usage pattern and try to map with the wind energy  generation for better business production. |