# Ideation Phase
# Define the Problem Statements

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|---|---|
| Date | 30 Jan 2026 |
| Team ID | LTVIP2026TMIDS88041 |
| Project Name | Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management |
| Maximum Marks | 3 Marks |

**Customer Problem Statement Template: Wind Turbine Energy Prediction**

Energy companies, wind farm operators, and grid managers are increasingly dependent on renewable energy sources to meet growing demand and reduce reliance on fossil fuels. Wind energy is a critical part of this transition, but its production is highly variable due to weather conditions.

**Empathy Statement:**

Customers feel frustrated when they cannot rely on renewable energy predictions. They want confidence that their investments in wind energy will deliver consistent results, and they need tools that make renewable energy management as predictable and dependable as traditional sources.

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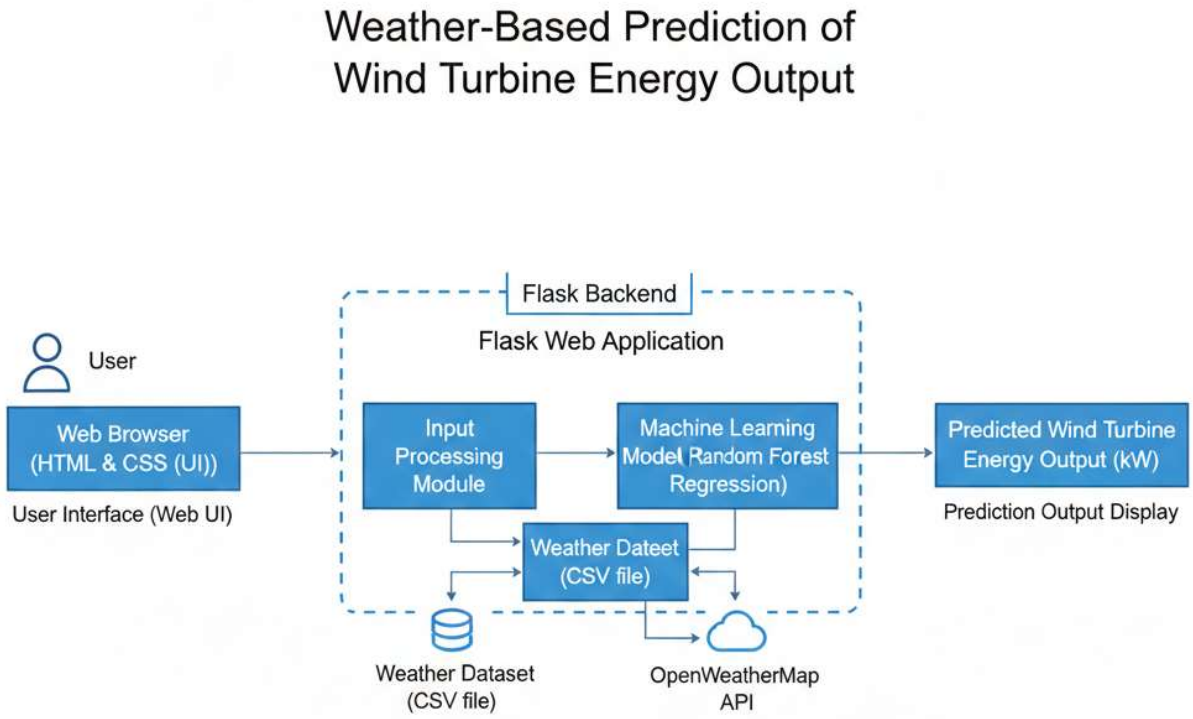
| **I am** | Describe customer with 3-4 key characteristics - *who are they?* | Describe the customer and their attributes here |
| **I'm trying to** | *List their outcome or "job" the care about - what are they trying to achieve?* | List the thing they are trying to achieve here |
| **but** | Describe what problems or barriers stand in the way – *what bothers them most?* | Describe the problems or barriers that get in the way here |
| **because** | Enter the "root cause" of why the problem or barrier exists – *what needs to be solved?* | Describe the reason the problems or barriers exist |
| **which makes me feel** | Describe the emotions from the customer's point of view – *how does it impact them emotionally?* | Describe the emotions the result from experiencing the problems or barriers |

Reference: https://miro.com/templates/customer-problem-statement/

**Example:**

**Problem Description:**

The project aims to predict the energy output of a wind turbine based on weather conditions. This is valuable for energy companies and grid operators to better manage and optimize energy production. By analyzing historical data of weather conditions and energy output, machine learning models can be trained to predict the energy output of a wind turbine given current weather conditions.




| Problem Statement (PS) | I am (Customer) | I'm trying to | But | Because | Which makes me feel |
|---|---|---|---|---|---|
| Weather-Based Prediction of Wind Turbine Energy Output | A wind farm operator | Predict wind turbine energy output using weather data | I cannot accurately estimate future power generation | Weather conditions change frequently | Uncertain and inefficient in energy planning |