#### **Software Development Life Cycle (SDLC) for SkyCast - A Weather Forecast Website**

#### **Requirement Analysis (Defining What is Needed)**

This phase identifies the features and constraints of SkyCast based on user needs and technical feasibility.

* **Functional Requirements**:
  + Real-time weather data retrieval using the OpenWeather API.
  + Search bar for users to input and look up weather by city name.
  + Display key weather parameters: temperature, humidity, wind speed, and a short-term forecast.
  + Responsive design compatible with desktop and mobile devices.
* **Non-Functional Requirements**:
  + Fast-loading, lightweight UI for an optimal user experience.
  + Minimalist and intuitive design for easy navigation and readability.
  + Scalability to handle increased traffic during weather events.
  + Secure management of the API key to prevent misuse.
* **Documentation**: Requirements are documented in a shared Google Doc or GitHub Issues for team reference.
* **Guidance**: Faculty or team leads ensure requirements are clear, concise, and aligned with project goals.

This step ensures SkyCast meets both user expectations and technical standards.