Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	23 October 2022
Team ID	PNT2022TMID35585
Project Name	Project - Predicting the energy output of wind farm based on weather conditions.
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Predicting the energy output of wind farm based on weather conditions.

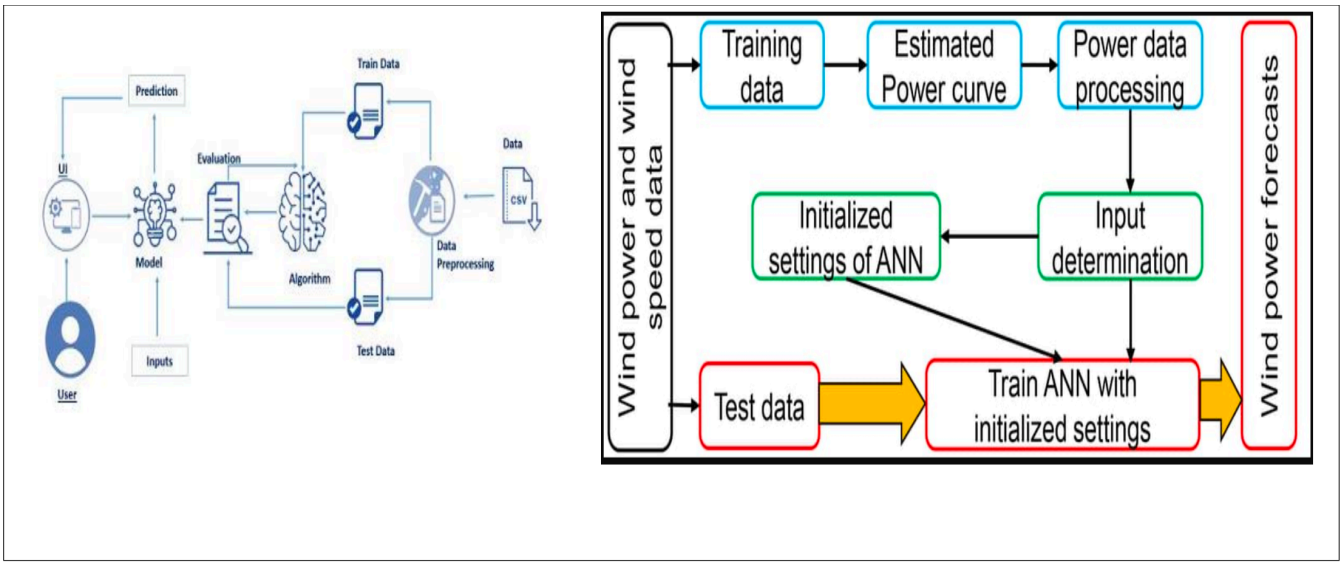

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application - Web UI	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Processing the dataset used for website	Java / Python
3.	Application Logic-2	Processing the dataset used for website	IBM Watson STT service
4.	Application Logic-3	Separating and testing, training the dataset	IBM Watson Assistant
5.	Database	None	MySQL, NoSQL, etc.
6.	Cloud Database	To learn the function of processing the dataset, train, test and Learning.	IBM DB2, IBM Cloud etc.
7.	File Storage	Stored in git hub and local filesystem.	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	It helps in determining the weather condition and power output of wind turbine.	IBM Weather API, etc.
9.	External API-2	None	Aadhar API, etc.
10.	Machine Learning Model	It helps in train the dataset to be good in understanding as human.	Object Recognition Model, IBM MI etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration: Git hub	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Notepad and Flask is used to build website and joined with model.	HTML, Python Flask
2.	Security Implementations	A secure website has a web application firewall activated to prevent attacks and hacks	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	It can handle a growing number of users and load, without compromising on performance and causing disruptions to user experience	Flask in Python, , Python Web Frame Works
4.	Availability	It has the ability of the users to access and use a website or web service	Python, Python Web Frame Works
5.	Performance	The pages of a website load and display in the web browser and has no cache. And fast as possible.	Flask in Python, Python Web Frame Works, Python For Data Visualization, Data Pre-processing Techniques, Machine Learning, I BM Cloud, IBM Watson Studio