Project Design Phase-II
Data Flow Diagram & User Stories

Date	04-11-2022
Team ID	PNT2022TMID28461
Project Name	Predicting the energy output of wind turbine based on weather condition
Maximum Marks	4 Marks

Data Flow Diagrams:

1, The user should register on web application using mail ID and password

2. The user should enter the wind details such as wind speed, wind direction and temperature

3. The data given by the forecaster is taken as the input and will get stored in IBM cloud database

4. The application is build to predict the energy that produces by wind turbine based on weather condition.

FLOW CHART

```
┌──────────────────────┐        ┌──────────────────────┐        ┌──────────────────────┐
│ User Registration/   │───────▶│   User Dashboard     │───────▶│ Enter the Input      │
│ Login                │        │                      │        │ Details and store    │
│                      │        │                      │        │ into database        │
└──────────────────────┘        └──────────────────────┘        └──────────────────────┘
                                                                            │
                                                                            ▼
┌──────────────────────┐        ┌──────────────────────┐        ┌──────────────────────┐
│     Test Data        │◀───────│  Training the Model  │◀───────│     Evaluation       │
└──────────────────────┘        └──────────────────────┘        └──────────────────────┘
           │                                                                │
           ▼                                                                ▼
┌──────────────────────┐                                        ┌──────────────────────┐
│ Processing the data  │                                        │ Predict the energy   │
│                      │                                        │ of wind turbine      │
└──────────────────────┘                                        └──────────────────────┘
           │                                                                │
           ▼                                                                ▼
┌──────────────────────┐                                        ┌──────────────────────┐
│ Collected Database   │                                        │  Display the output  │
└──────────────────────┘                                        └──────────────────────┘
```
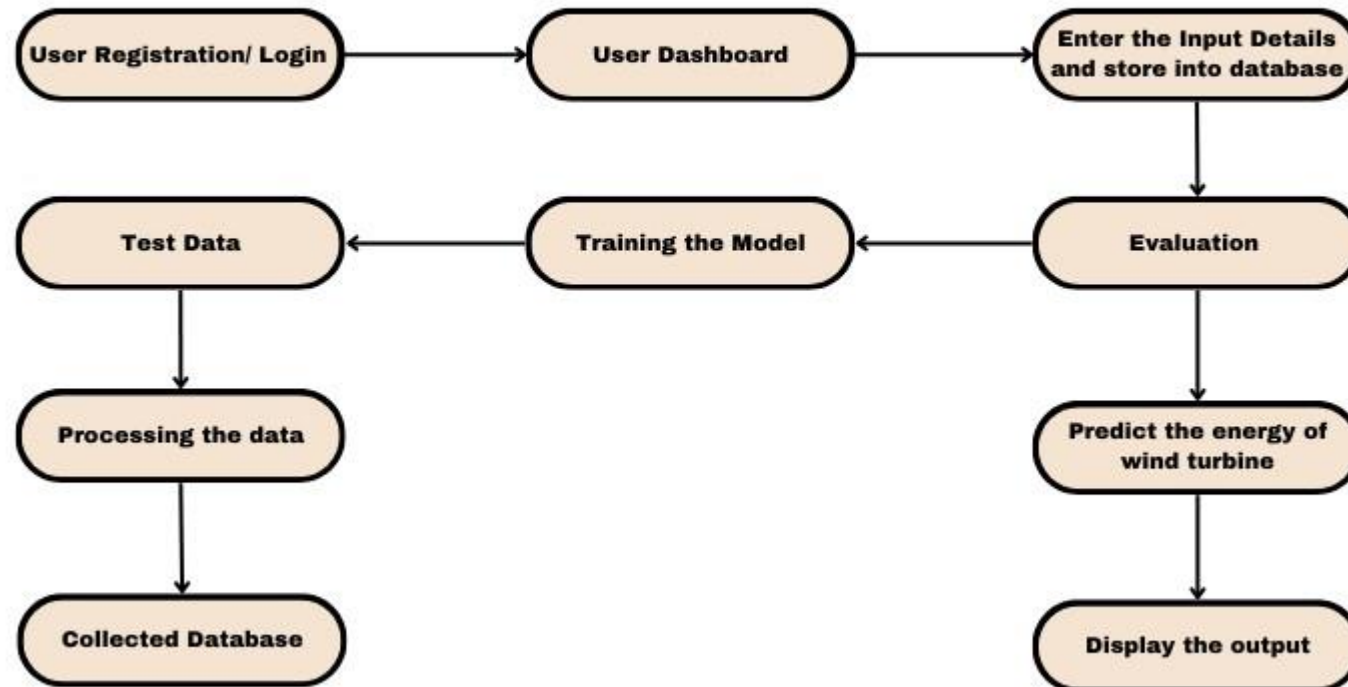
User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Admin	Data set	USN-1	Gather the information needed to make the wind energy prediction value	Enough data has been gathered to train the model	High	Sprint-1
	Data Preprocessing	USN-2	Perform data cleaning to optimize the dataset	Clean Dataset enough to make accurate predictions	High	Sprint-1
	Training & Building Model	USN-3	Building the model using linear regression algorithms to classify the data	Model should be used for predicting exact valuation of the wind energy.	High	Sprint-1
	Deploy the model	USN-4	Deployment of ML model using IBM Cloud	Model should be working fine from the cloud	High	Sprint-1
	Integrate the web application with the IBM model	USN-5	Use flask for the integration purpose	The model ought to be simple to use and reliable on the web application.	High	Sprint-1
Meteorologist	Home page	USN-6	Information on the application and the process for wind energy prediction.	We can get an idea about how to use these model	Medium	Sprint-2
	Registration	USN-7	As a user, I can register for the application by entering my email, password, and confirming my password	User can access my account / dashboard	High	Sprint-3
	Login	USN-8	As a user, I can log into the application by entering email & password	User can login to my account	High	Sprint-3
	Dashboard	USN-9	User can enter the details and get the prediction values.	User can add input values	Medium	Sprint-1
	Output	USN-10	As a user, I can be able to access the predicted output value of wind energy	Predicted values must be displayed depending on the data provided by the user.	Medium	Sprint-1