**Project Design Phase-II**
Data Flow Diagram & User Stories

| Team ID	PNT2022TMID24632
Project Name	Project - Detecting Parkinson's Disease using Machine Learning
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
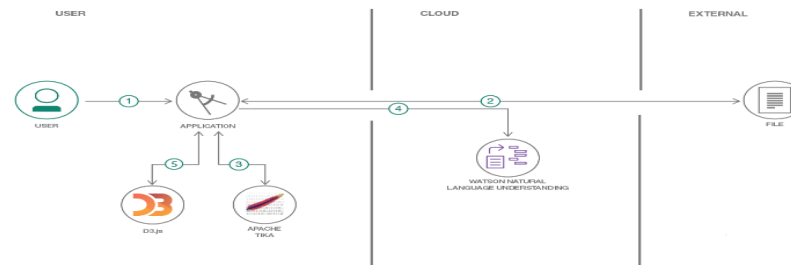
1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

DFD for Parkinson's-Disease-Detection
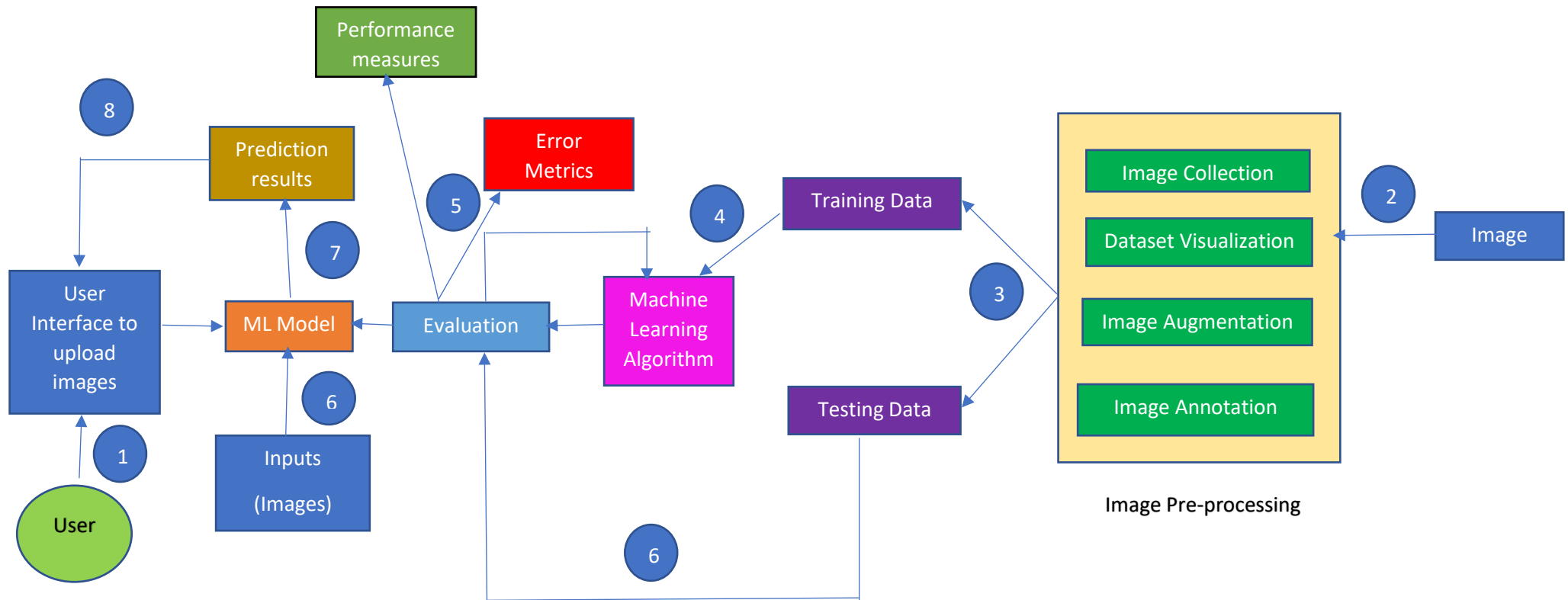
1. User uploads the image
2. The image is pre-processed i.e data is cleaned
3. The dataset is splitted into testing and training data
4. The training data is trained with an ML Algorithm. Here the Algorithm used is Random Forest Classifier
5. Performance measures of ML Algorithm is evaluated

6. Now test data and inputs fed into the deployed ML model
7. Thus, ML model gives prediction or result of the input
8. Results are displayed to the user

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
User (Upload the image)	Upload Images	USN-1	As a user, I can upload the images in the website in order to obtain the prediction result of parkinson's disease	I can upload hand drawn spiral or wave images. The file type of image can be any.	High	Sprint-1
	Test Vital Page	USN-2	As a user, I will get the prediction result and accuracy on the test vital page.	I can get instant result either positive or negative one click away	High	Sprint-4
	Dashboard	USN-3	Dashboard displays the symptoms, causes and medications for the Parkinson disease		Low	Sprint-2
Administrator	Data Collection	USN-4	As an Administrator, I need to collect data (images of spirals and waves drawn by healthy people and Parkinson's patients).	I have sizable amount of data that is splitted into training dataset and testing dataset.	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
	Data Pre-Processing	USN-5	As an Administrator, I should clean my data and prepare it for model building by doing pre-processing activities such as resizing, visualizing the dataset and converting from RGB to grayscale	Cleaned dataset is ready for doing further process.	High	Sprint-1
	Model Building	USN-6	As an Administrator, I need to build the model using Random Forest Classifier for spiral images and Convolutional Neural Networks (CNN) for wave images	ML Model is ready for deployment on the testing data.	High	Sprint-2
	Deployment of Model	USN-7	As an Administrator, I need to deploy the Machine Learning model that was built.	Model has been deployed successfully.	Medium	Sprint-3
	Building the frontend of the application	USN-8	As an Administrator, I need to build the website for the application using HTML, CSS etc.	The website is static and it is designed in order to achieve the user interface	High	Sprint-3
	Connecting the ML model, Frontend and Backend	USN-9	As an Administrator, I can integrate the deployed model and web application using python flask server.	The web application is dynamic and can be used by the users now.	High	Sprint-4