Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14th October 2022
Team ID	PNT2022TMID38399
Project Name	Project - Detecting Parkinsons Disease using Machine Learning.
Maximum Marks	4 Marks

Technical Architecture:

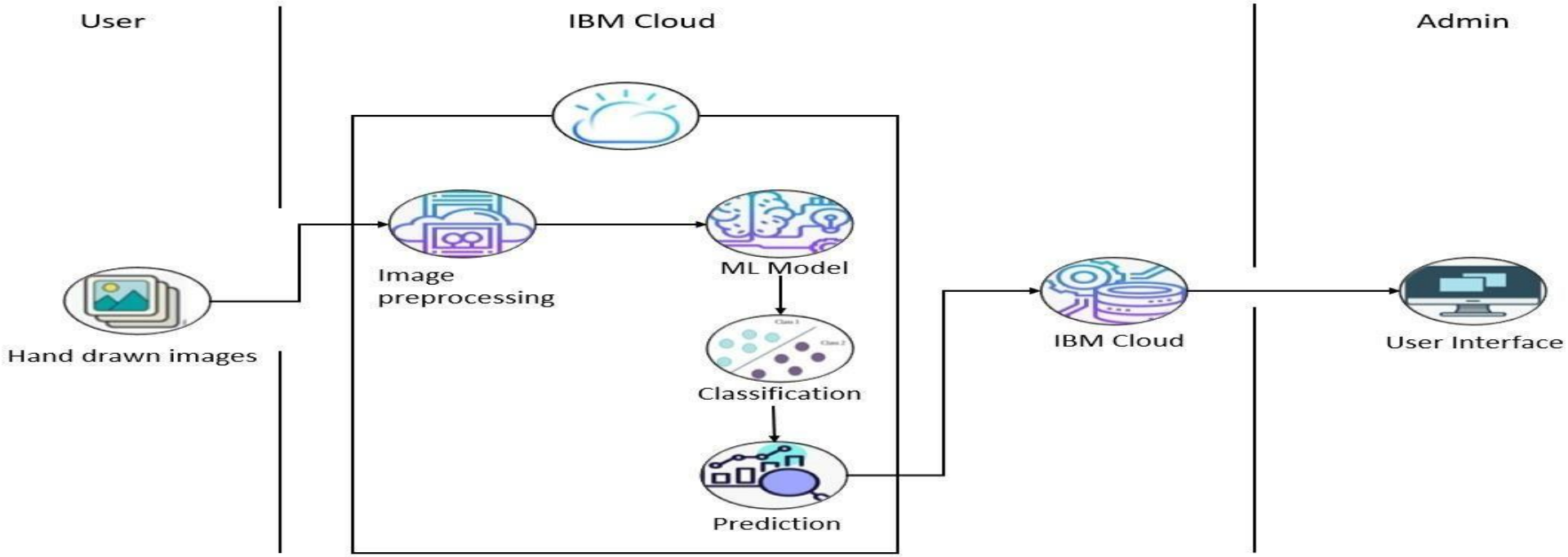

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript .
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Local Filesystem
8.	External API	Purpose of External API used in the application	Aadhar API.
9.	Machine Learning Model	Purpose of Machine Learning Model	Random Forest classifier (ML), Decision tree classifiers, Support Vector Machines (SVM), Label encoding and One-hot encoding, K Nearest Neighbor (KNN) algorithm, XG boost algorithm(Gradient boosting)
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local Server Configuration: Local System Cloud Server Configuration: IBMWatson (Cloud)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Numpy, Pandas, metrics, XG boost, Python Flask (Web), Scikit learn(Sklearn) , Tensor flow
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptions, Decryptions
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	MySQL – As it can store huge amountof data
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM Watson – Can easily be accessed
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Flask – Handle multiple requests