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

Date	31 October 2022
Team ID	PNT2022TMID12773
Project Name	Detecting Parkinson's Disease using Machine Learning
Maximum Marks	4 Marks

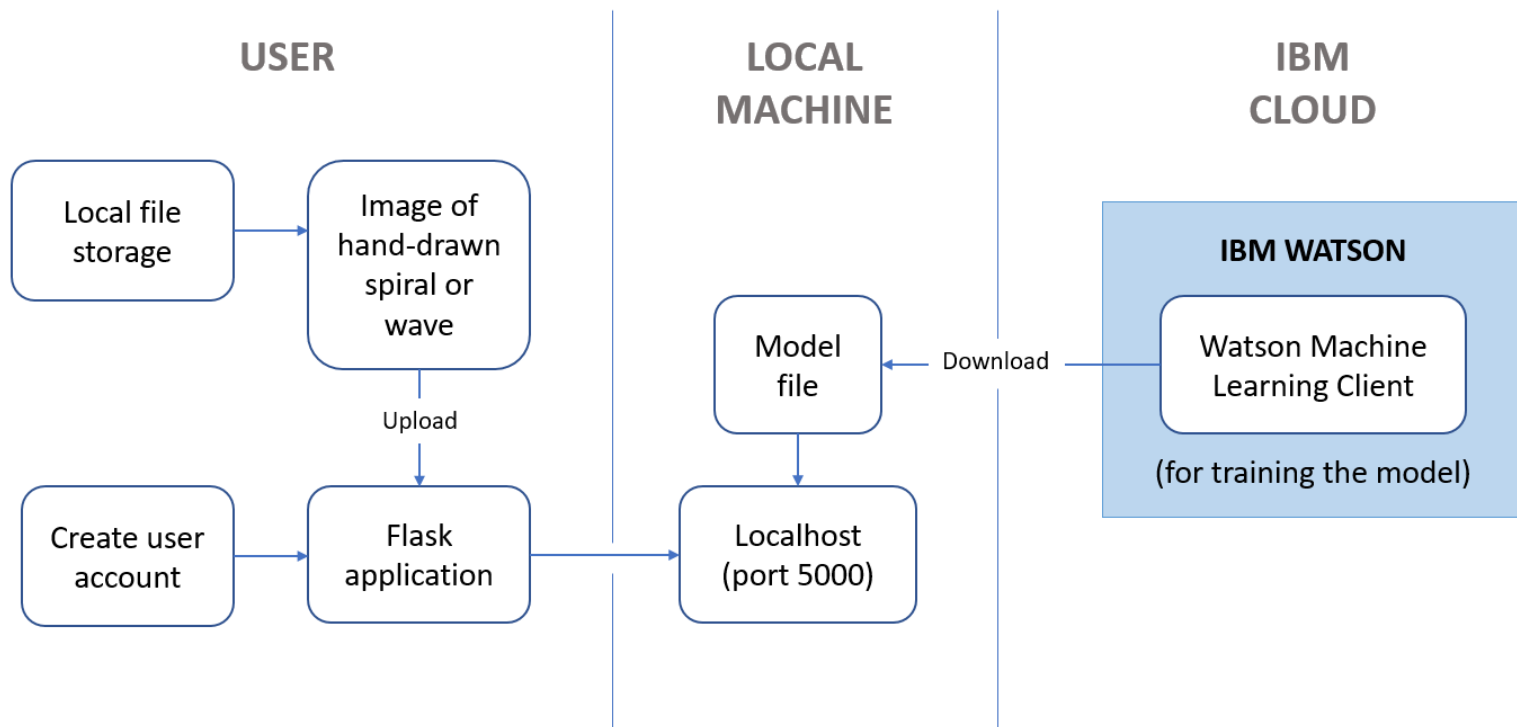**Application: Detecting Parkinson's Disease using Machine Learning**

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with a Web UI	HTML, Flask framework
2.	Application Logic - 1	Logic for a process in the application	Python (Flask)
3.	Application Logic - 2	To execute the machine learning model on cloud	IBM Watson Machine Learning Client
4.	Cloud Database	Database Service used for storing user data, images uploaded	MySQL
5.	File Storage	To store the image file of the spiral / wave drawing	Local Filesystem
6.	Machine Learning Model	To detect whether the image is drawn by a person with Parkinson's or not	Random Forest Classifier
7.	Infrastructure	Application Deployment on Cloud	Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Flask, Pickle, Sklearn, OpenCV
2.	Scalable Architecture	Cloud native applications are hyper-scalable	IBM Watson, Kubernetes
3.	Availability	Using containerized workloads, scales clusters	Kubernetes
4.	Performance	Serve upto 100 requests per sec, Use of kubeCDN	Kubernetes

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d