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

Date	13 October 2022
Team ID	PNT2022TMID18356
Project Name	Detecting Parkinson's Disease Machine Learning
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: Order processing during pandemics for offline mode

Reference: https://link.springer.com/chapter/10.1007/978-981-33-6912-2_22
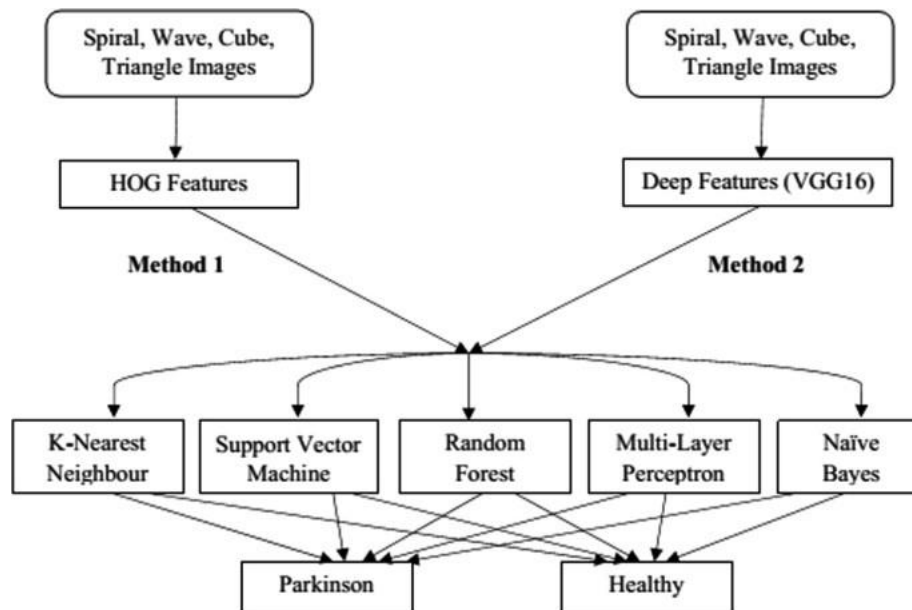
Guidelines:

1. Get the Image from the user (From Storage / Live Drawing)
2. Use HOG or Deep features method for better classification
3. Use Several best Algorithm techniques like KNN , SVM , Random Forest , Multilayer Perception , Native Bayes etc., to get accurate result
4. By Testing and get compared with trained result it predict and detect the Diagram Pattern
5. Finally the Machine Learning will predict with more efficiency

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 / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / 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, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

References:

[1] DraganaMiljkovic et al, "Machine Learning and Data Mining Methods for Managing Parkinson's Disease" LNAI 9605, pp 209-220, 2016.

[2] Arvind Kumar Tiwari, "Machine Learning based Approaches for Prediction of Parkinson's Disease," Machine Learning and Applications- An International Journal (MLAU) vol. 3, June 2016.

[3] Dr. Anupam Bhatia and RaunakSulekh, "Predictive Model for Parkinson's Disease through Naive Bayes Classification" International Journal of Computer Science & Communication vol. 9, March 2018..

[4] M. Abdar and M. Zomorodi-Moghadam, "Impact of Patients' Gender on Parkinson's disease using Classification Algorithms" Journal of AI and Data Mining, vol. 6, 2018.

[5] Md. Redone Hassan et al, "A Knowledge Base Data Mining based on Parkinson's Disease" International Conference on System Modelling& Advancement in Research Trends, 2019