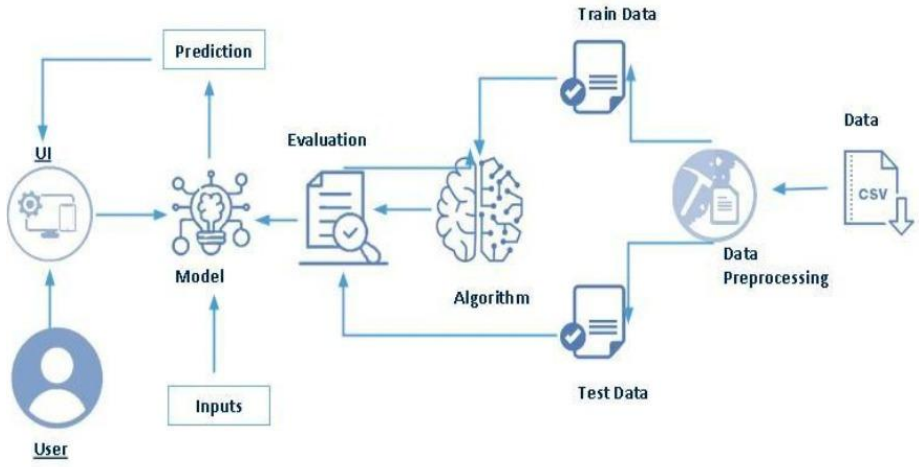
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	Team-591658
Project Name	Machine Learning approach for Employee Performance Prediction
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table2



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	It is used to create UI	HTML, CSS, Bootstrap
2.	Application Logic-1	Logic for a process in the application	Python
5.	Database	Collect data based on problem statement	Kaggle, Finder, CSV
7.	File Storage	File storage requirements	Local System, Google Drive, Kaggle
8.	Framework	Used to create website/web application, integrating frontend with backend	Python Flask
9.	Regression Model	Model used to perform regression	XGBoost
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	Open-source frameworks used	Python Flask
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:

https://www.kaggle.com

https://scikit-learn.org/

https://xgboost.readthedocs.io/en/latest/tutorials/param_tuning.html

https://stackoverflow.com