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

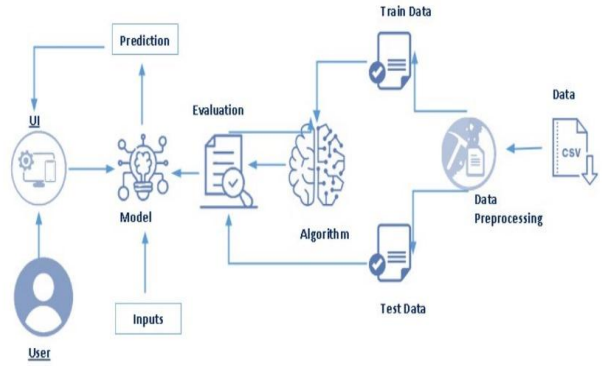
Date	01 November 2023
Team ID	Team-592158
Project Name	Project - Predicting the Unpredictable: A Look into the World of Powerlifting
Maximum Marks	4 Marks

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**

Architecture



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.	Powerlifting score	The score of powerlifters at their peak performance	Regression, python and flask
2.	Age	The age of powerlifters	Regression, python and flask
3.	Weight	The weight of powerlifters	Regression, python and flask
4.	Fitness	The fitness level of powerlifters	Regression, python and flask
5.	Psychology	The psychology of powerlifters	Regression, python and flask
6.	Regression algorithm	The regression algorithm used to predict the powerlifting score	Regression, python and flask
7.	Local deployment	The local deployment method used to deploy the model	Regression, python and flask

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python, Flask, scikit-learn, XGBoost

2.	Security Implementations	Use of HTTPS, authentication, and authorization	Python, Flask
3.	Scalable Architecture	Deploy the model on a cloud platform	Python, Flask, AWS/Azure

S.No	Characteristics	Description	Technology
4.	Availability	Use a load balancer to distribute traffic across multiple instances of the model	Python, Flask, AWS/Azure
5.	Performance	Use a caching mechanism to store the results of frequently made predictions	Python, Flask

References:

Python: https://www.w3schools.com/python/python_intro.asp

Flask: https://flask.palletsprojects.com/)

scikit-learn: https://scikit-learn.org/

XGBoost: https://towardsdatascience.com/a-brief-introduction-to-xgboost-3eaee2e3e5d6