Project Phase-II

Technology Stack (Architecture & Stack)

Date	11-11-2023
Team ID	Team – 591770
Project Name	Accurate body fat prediction using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

The architectural diagram is given below as per the information in table1 & table2.

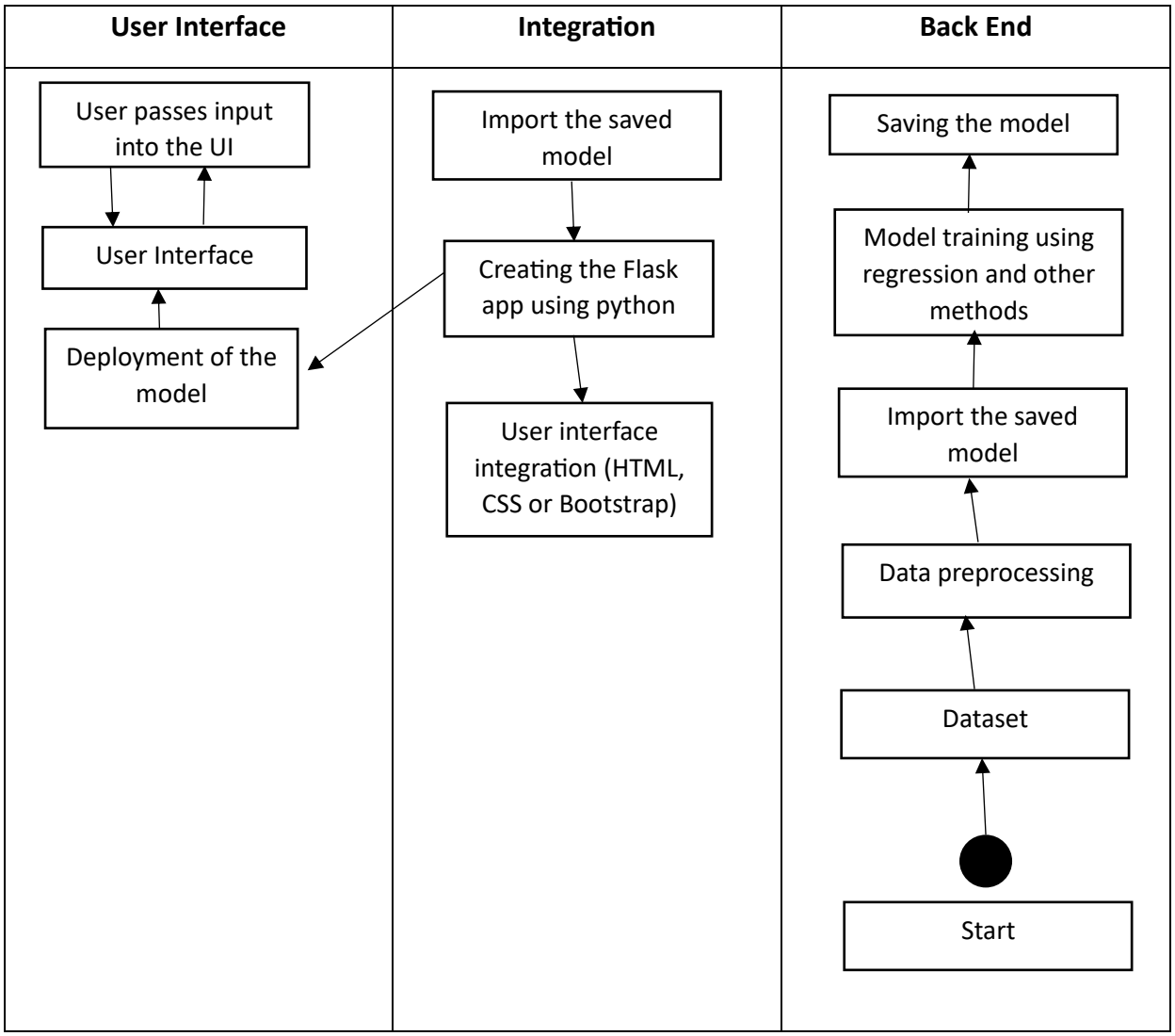

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	User can interact with the body prediction tool using web UI	HTML, CSS, Javascript, React Js etc.
2	Frame Work	Used to create a web application, integrating frontend and back end.	Python Flask
3	Machine Learning model	By analyzing features such as height, weight, age, and other relevant metrics, the model learns patterns from training data and can then make predictions for individuals not present in the training set. This type of model can be used for personalized health monitoring, fitness planning, and in medical contexts for evaluating body composition	Linear regression, Random Forest regression, ANN etc.
4	Infrastructure	Application deployment on cloud:	

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Availability	Application developed is standardized, can be accessible on a wide range of devices as it is web based.	HTML, CSS, JavaScript etc.
2	Open-Source frameworks	Flask is used for integrating frontend and backend of the application.	Python Flask
3	Performance	As the application is web-based the performance can be stable and availability of the application is also high.	HTML, CSS, JavaScript etc.

References:

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8863283/
- https://www.kaggle.com/datasets/fedesoriano/body-fat-prediction-dataset