Project Planning Phase

Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	SPSGP-600765
Project Name	Car purchase Prediction Using ML
Maximum Marks	4 Marks

Technical Architecture:

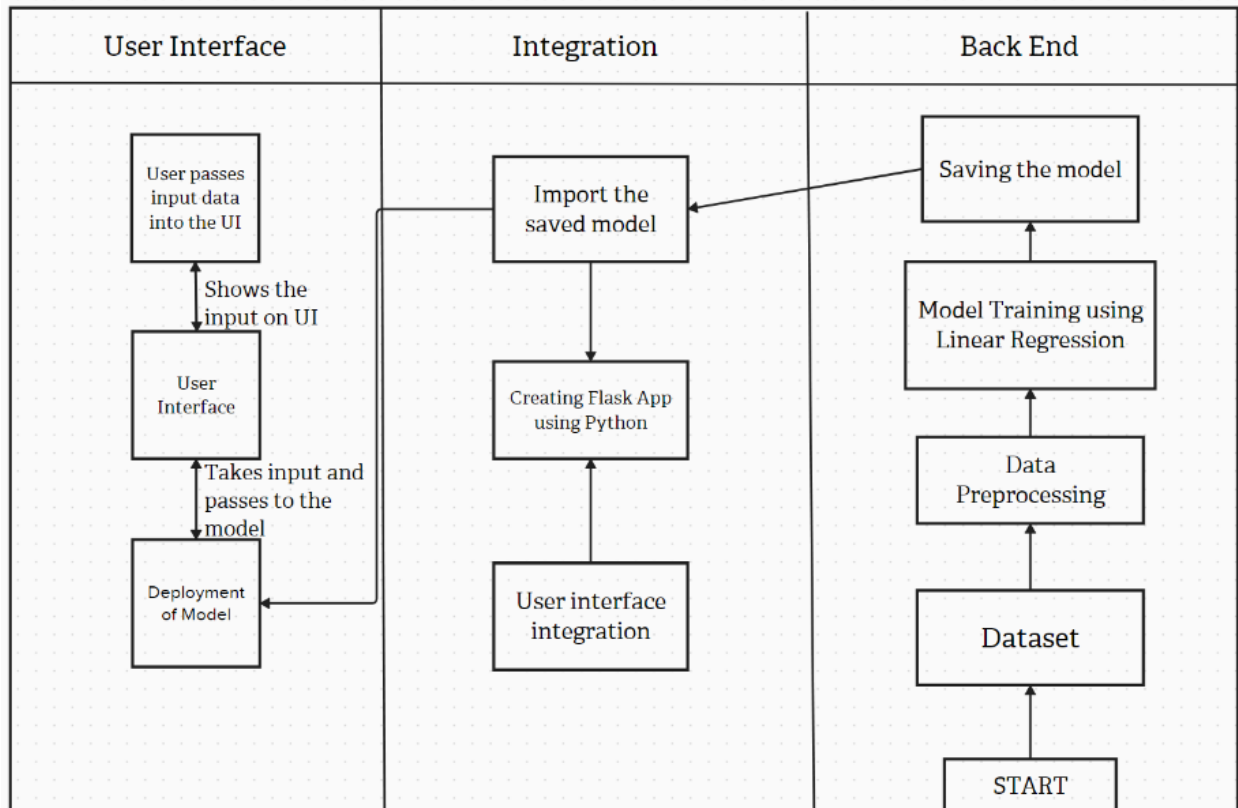The Deliverable shall include the architectural diagrams below and the information as per the table1& table 2.

Table-1 : Components &Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI	HTML, CSS, JavaScript / Angular Js /ReactJs etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Database	Collect the Dataset Based on the Problem Statement	File Manager, MySQL, NoSQL, etc.
4.	File Storage/ Data	File storage requirements for Storing the dataset	Local System, Google Drive Etc
5.	Frame Work	Used to Create a web Application, Integrating Frontend and Back End	Python Flask,Django etc
6.	Deep Learning Model	Purpose of Model	Logic regression, ridge regression etc.
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal ServerConfiguration: Cloud Server Configuration :	Local, CloudFoundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open source frameworks used are scikit-learn,tensor flow,keras,pytorch,pandas,sea born and mathplotlib and jupyter notebook.	Python's Flask
2.	Security Implementations	Security implementations used are Data Encryption, Secure APIs,Authentication and Authorization,Input Validation,Regular Security Audits and Penetration Testing.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Scalable Architectures used are microservices	Technology used

S.No	Characteristics	Description	Technology
4.	Availability	Load balancers are essential for distributed systems, as they help to improve performance, reliability, and scalability. Distributed systems can scale to meet high demand by adding additional servers to the pool. This can lead to significant performance improvements, especially for applications that can be parallelized.	Technology used

S.No	Characteristics	Description	Technology
5.	Performance	Designing a used car price detection project that can handle a high volume of requests per second (RPS) efficiently requires careful consideration of various factors, including optimizing performance, implementing caching mechanisms, utilizing Content Delivery Networks (CDNs).	Technology used

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