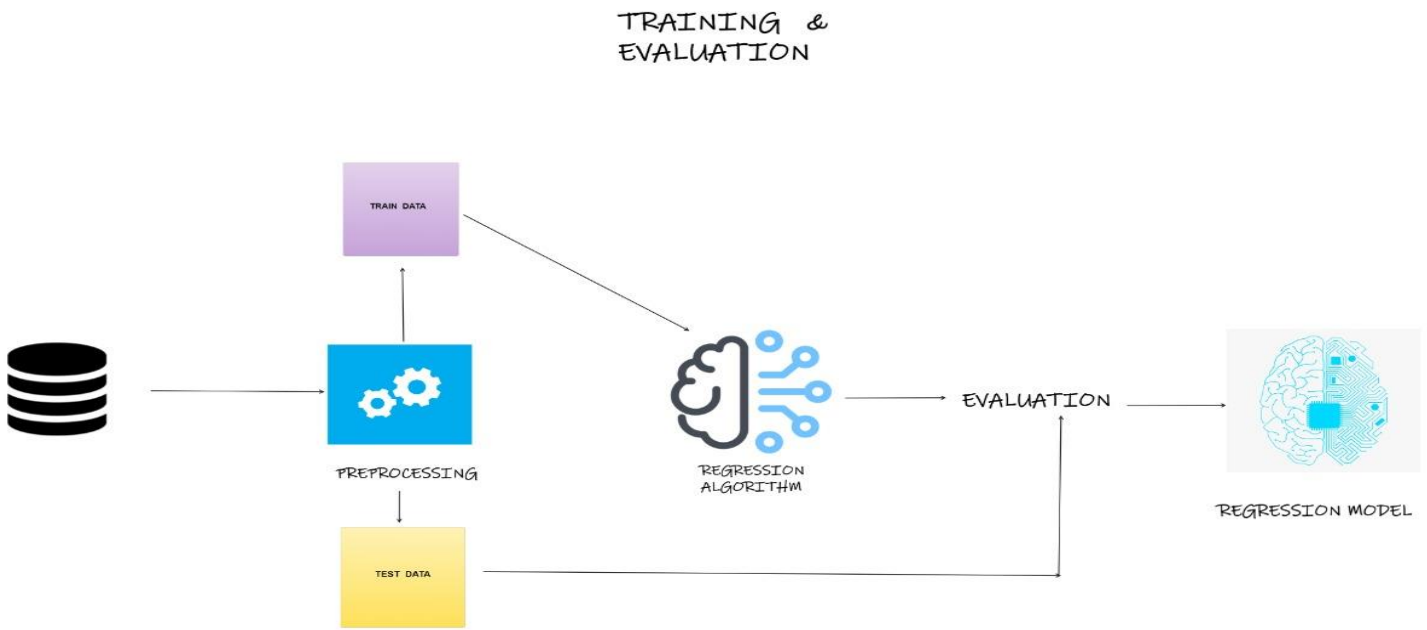
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID21521
Project Name	Project - Car Resale Value Prediction
Maximum Marks	4 Marks

Technical Architecture:

Reference: https://www.microsoft.com/en-in/microsoft-365/microsoft-whiteboard/digital-whiteboard-app



MODEL DEPLOYMENT

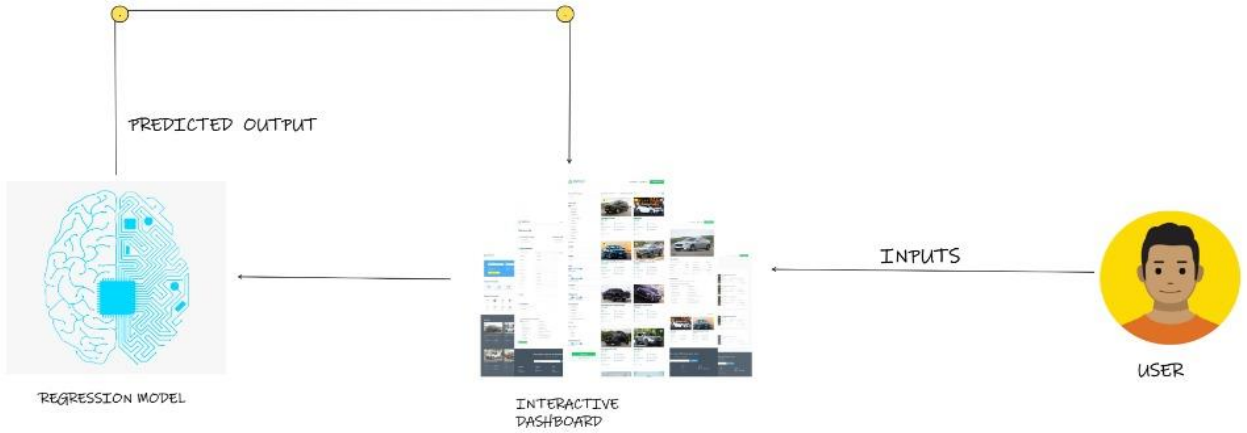


Table-1 : Components & Technologies:

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 pre-processing the data	Use various techniques and models to pre process the data.
3.	Application Logic-2	Logic for predicting the car resale value by incorporating a good machine learning model	Using python for doing ML models
4.	Application Logic-3	Logic for producing the result for the user about the car resale value	HTML,Python,Angular JS,React JS
5.	Database	To handle database of the car inputs.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on cloud platforms to reduce loads if it increases.	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage for storing the car details	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	It is used to collect and pre-process the data.	IBM API's, etc.
9.	External API-2	For producing the result in the website	Application
10.	Machine Learning Model	It is used to process the data and give the output for car resale value prediction	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Deploy the service on cloud to reduce the cost of the system:	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	It should support higher workloads at ease	ML models
4.	Availability	It has to have load-balancing if the load increases.	Servers
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Load Balancing servers and thick client side website must be given.

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