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

Date	03 October 2022
Team ID	PNT2022TMID35625
Project Name	Project - car resale value prediction
Maximum Marks	4 Marks

Technical Architecture:

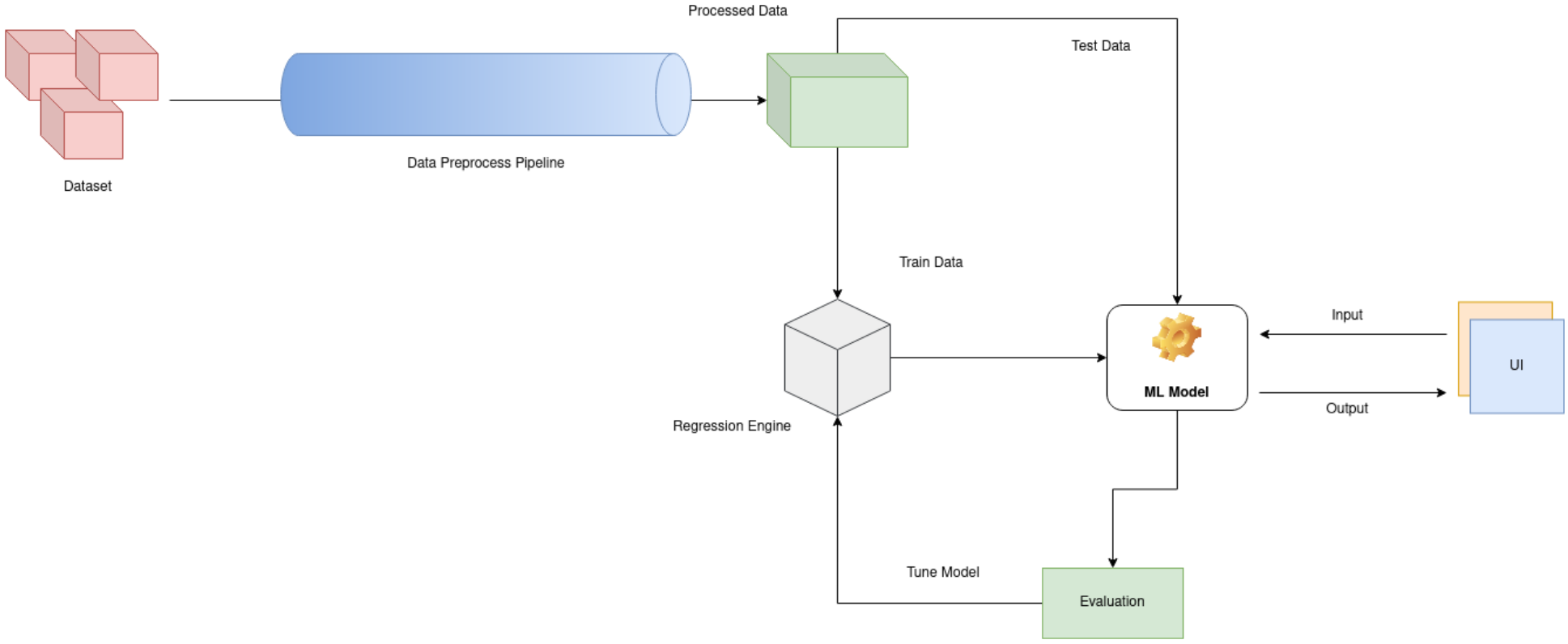

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The application interacts with Web UI	HTML, CSS
2.	Application Logic-1 **Data Pre-Processing**	Clean the dataset in order to remove the duplicate values, fill the missing values and replace the German words with English words	Python
3.	Application Logic-2 **Build Python Flask**	Load the model and initialize the Flask app. To fetch the parameter values from UI, and return the prediction	Python
4.	Application Logic-3 **Build an HTML page**	values are taken in the form from the user and on click of the submission it has to redirect to URL for **“y_predict”**which returns the predicted resale value	HTML, CSS
5.	Cloud Database	Database Service on Cloud	IBM Cloudant
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	External API used in the application	IBM Weather API, etc.
8.	Machine Learning Model	To improve the predictive accuracy and to control overfitting	Random forest regressor Python
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Heroku Platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To establish a connection between the flask and html page	Python Flask
2.	Security Implementations	To protect the user information as well as their car details.	SHA-256, Encryptions.
3.	Scalable Architecture	This model can be viewed and accessed in both computer as well as mobile phone	Web UI
4.	Availability	The model can be available anywhere at any time	IBM cloud
5.	Performance	The model performance has high accuracy and portable from one machine to another machine	HTML,CSS.