

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

Date	15 October 2022
Team ID	PNT2022TMID13905
Project Name	Car Resale Value Prediction
Maximum Marks	4 Marks

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User interface	Through website, the user will predict the Car resale value by interacting with the prediction model.	HTML, CSS, JavaScript, Bootstrap.
2.	Database	The location where data can be stored and accessed while the application is running.	Mysql
3.	Cloud Database	User for interaction components while using python flask.	IBM Cloud DB
3.	API	Used to call the function in order to access the execution in another framework	Python flask
4.	Application Logic	Logic for each and every process in the application	Python
5.	Machine Learning Model	This model is developed to predict the car resale value using random forest regressor algorithms	Sklearn, Algorithms – Random Forest Regressor

6.	Data processing	The provided data is transformed into the format suitable for the ML model.	Pandas, Numpy, Matplotlib, Seaborn
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Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Backend Framework, CSS Styling framework, Relational Database	Python Flask, Mysql, CSS3, IBM Cloud DB
2.	Security Implementations	Email verification and authentication. Authentication and authorization using Json object by comparing the data exists in database.	Direct verification using Backend Framework
3.	Scalable Architecture	Support for Multiple Sample prediction using Excel File	Pandas, Numpy
4.	Availability	Hosting the website on cloud hosting platforms will make it available.	IBM Cloud Hosting
5.	Performance	Multiple prediction requests should be handled concurrently without impacting prediction speed and accuracy.	Load Balancers, Distributed Servers

Technical Architecture:

