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

Date	03 October 2022
Team ID	PNT2022TMID14160
Project Name	Project - Car Resale value Prediction
Maximum Marks	4 Marks

Technical Architecture:

The following architectural diagram and the data from tables 1 and 2 are included in the deliverable.

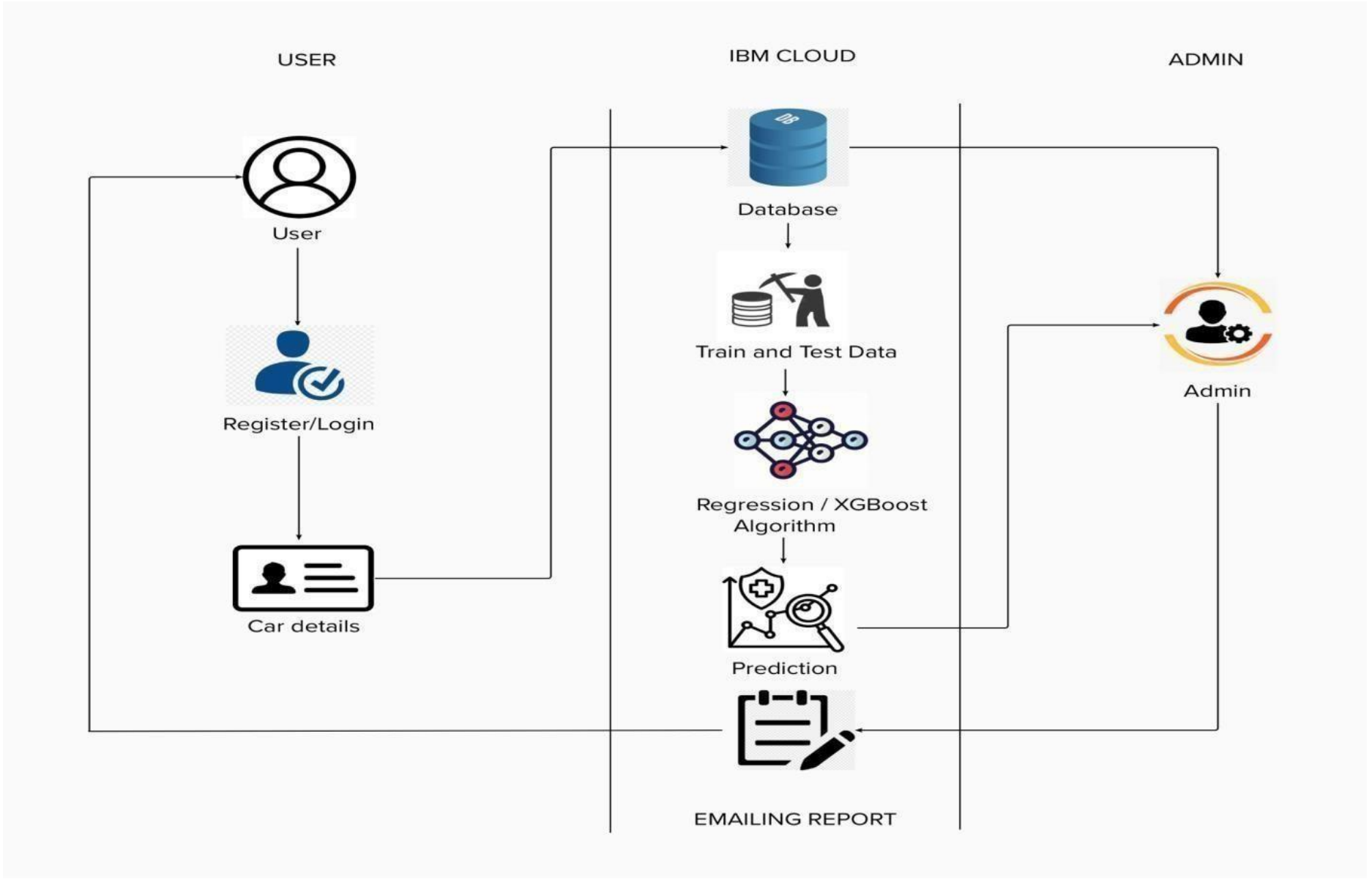
USER
IBM CLOUD
ADMIN
User
Register/Login
Car details
Database
Train and Test Data
Regression / XGBoost Algorithm
Prediction
EMAILING REPORT
Admin

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user interacts with the application through Web Ul.	HTML, CSS, JavaScript, Flask - Python framework, etc.
2.	Application Logic-1	Before enjoying the functionalities provided by the website, the user needs to register. Registration is meant to be done initially. Once an account is created, the login can be made using username and password	Flask
3.	Application Logic-2	After logging in, users can provide all the necessary details that are involved in predicting the resale value of the car. The details will be given to the trained ML model for making predictions. The predicted output will be displayed to the user.	Regression model (Machine learning
4.	Application Logic-3	This allows the users to enter their feedback. The provided feedback will be stored in the databases. This database helps in listing all the feedback provided by the user.	Database, Python, Flask
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Machine Learning Model	To Improve the predictive accuracy and control over fitting	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 an connection between the flask and Python Flask an HTML page..	Python Flask
2.	Security Implementations	To Protect the user information as well as their car SHA-256, Encryptions details.	SHA-256, Encryptions
3.	Scalable Architecture	The model can be viewed and accessed in both computer as well as mobile phone.	Web UI, Mobile Android app
4.	Availability	The model can be available anywhere at any time	IBM Cloud
5.	Performance	The model performance has high accuracy and with portable from one machine to another machine	HTML, CSS