Project Design Phase-I

Solution Architecture

Date	2nd November,2023
Team ID	Team-593183
Project Name	Car Purchase Prediction using ML
Maximum Marks	4 marks

Solution architecture:
Designing a solution architecture for a car purchase prediction project involves planning, researching and finalizing components of the system to achieve our project goals effectively and efficiently.
Overview of the possible solution architecture is:-

- **User Interface(UI)-** A user friendly, web based interface is to be developed that will allow users to interact with the system, where they will input data, view recommendations, read community reviews and access all other contents.
- **Backend Server-** Handles user requests, stores and processes data. This will run core application logic.
- **Database-** Used to store data, create a relational database for structured data, if data is unstructured, we have to create a NoSQL database.
- **Machine Learning Engine-** The backbone of the project is a machine learning engine, a scalable, highly accurate and actively functioning machine learning model has to be chosen, with some of the important frameworks like sci-kit or tensorflow.
- **Data collection and Integration-** The data collected from the users and marketplaces must be integrated into machine learning models.
- **Community Engagement Platform-** A platform where users can share their car ownership experiences, write reviews, and engage in discussions.
- **User Feedback and survey module**- A google forms link can be provided or a form can be created using HTML,CSS,JS.

- **Educational Content Module**- This can contain articles, videos and other tools to educate users.
- **Backup and Disaster Recovery**- implement regular data backups and a disaster recovery plan to ensure data integrity and system availability in case of unforeseen incidents.
- **Accessibility and Voice Interfaces-** accessibility features and voice interfaces are added to ensure that the platform is usable by a diverse range of users, including those with disabilities.

A Use case Diagram to explain the full architecture and functionality of the application:-