Project Planning Phase

Date	**20 October 2023**
Team ID	**Team-592746**
Project Name	**Car purchase prediction using ML**
Maximum Marks	**20 Marks**

Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Project setup & Infrastructe	USN-1	As a software engineer, I want to set up the development environment with the necessary tools and frameworks to initiate the car purchase prediction project.	1	High	SANMATHI PRIYA K R
Sprint-1	development environment	USN-2	As a data scientist, I want to collect a diverse dataset of historical data related to car purchases, encompassing variables such as age, salary, gender, and previous purchase details. This dataset will be used to train and enhance the accuracy of the car purchase prediction model.	2	High	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH
Sprint-2	Data collection	USN-3	As a data analyst, I want to preprocess the collected car purchase dataset by handling missing values, encoding categorical variables, and splitting it into training and validation sets to prepare the data for machine learning model training.	2	High	SANMATHI PRIYA K R SRIJA BASAK

Sprint-2	data preprocessing	USN-4	As a data scientist, I want to explore and evaluate various machine learning architectures (e.g., decision trees, logistic regression,SVM,Random forest) to determine the most suitable model for accurately predicting car purchases.	3	High	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH
Sprint-3	model development	USN-5	As a data scientist, I want to train the selected machine learning model using the preprocessed dataset and monitor its performance on the validation set for accurate car purchase predictions.	4	High	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH
Sprint-3	Training	USN-6	As a machine learning engineer, I want to implement data augmentation techniques (e.g., feature engineering, synthetic data generation) to enhance the robustness and accuracy of the car purchase prediction model.	6	medium	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH

Sprint-4	model deployment & Integration	USN-7	As a software developer, I want to deploy the trained machine learning model as an API or web service, making it accessible for car purchase prediction. Additionally, I aim to integrate the model's API into a user-friendly web interface that allows users to input their details and receive accurate predictions for potential car purchases.	1	medium	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH
Sprint-5	Testing & quality assurance	USN-8	As a quality assurance engineer, I want to conduct comprehensive testing of the car purchase prediction model and the associated web interface to detect and report any issues or bugs. Additionally, I aim to fine-tune the model's hyperparameters and optimize its performance based on user feedback and testing results.	1	medium	SANMATHI PRIYA K R SRIJA BASAK GIRISH WAGH

Project Tracker, Velocity & Burndown Chart:

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	3	1 Days	17 Oct 2023	17 Oct 2023	3	17 Oct 2023
Sprint-2	5	5 Days	18 Oct 2023	23 Oct 2023	5	25 Oct 2023
Sprint-3	10	7 Days	23 Oct 2023	30 Oct 2023	10	28 Oct 2023
Sprint-4	1	3 Days	30 Oct 2023	2 Nov 2023	1	4 Nov 2023
Sprint-5	1	7 Days	2 Nov 2023	9 Nov 2023	1	9 Nov 2023

Velocity:

we have a 29-days sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

Sprint duration - 29 days

Story points per day is 29/20 = 1.45

Burndown Chart:

Sprint	Sprint End Date(planned)	Sprint Release Date(actual)
Sprint 1	17-Oct-23	17-Oct-23
Sprint 2	23-Oct-23	25-Oct-23
Sprint 3	30-Oct-23	28-Oct-23
Sprint 4	2-Nov-23	4-Nov-23
Sprint 5	9-Nov-23	9-Nov-23