Project Design Phase-II

Solution Requirements (Functional & Non-functional)

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| Date | 17 October 2022 |
| Team ID | PNT2022TMID03254 |
| Project Name | Project - Machine Learning Based Vehicle Performance Analyzer |
| Maximum Marks | 4 Marks |

# Functional Requirements:

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form Registration through Google O-Auth |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Vehicle Data Collection | User input through a Form Sending the data to the server |
| FR-4 | Query Processing | Predict the expected mileage using the ML model Look for newer cars that are similar to the current  model. |
| FR-5 | Report Generation | Show the expected mileage, graph the expected mileage throughout time.  Suggest similar car models from the database. |

# Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | This application does not require any new specialized hardware to collect data. It tries to  estimate mileage through data that the user can collect manually. |
| NFR-2 | **Security** | Protected against all forms of web-based threats  including but not limited to the OWASP Top 10 vulnerabilities, ensuring Confidentiality, Integrity and Availability (CIA Triad). |
| NFR-3 | **Reliability** | The application will give near perfect predictions  regarding the efficiency and the remaining life span of the car and it will be devised such that the false positives will not affect the users badly in any way. |
| NFR-4 | **Performance** | This application can support a reasonably large  number of users accessing the services |

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|  |  | simultaneously, with little to no noticeable effect on the performance. |
| NFR-5 | **Availability** | Ensuring that the application would be available to all the users at all the time, minimizing the  downtime of the services. |
| NFR-6 | **Scalability** | This application can be extended for all the vehicles,  not only for cars. |