Project Design Phase-II

**Requirements Analysis (Functional, Operational, Technical)/Flow Charts**

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| Date | 02 Nov 2023 |
| Team ID | NM2023TMID04730 |
| Project Name | Application to make the Gas filling Station easy using CRM |

**Functional Requirements:**

Following are the functional requirements of the analysis phase

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| **FR No.** | **Functional Requirement** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration and Authentication | 1. Users should be able to create accounts with their personal information 2. Users should have the ability to reset their passwords if forgotten |
| FR-2 | Fuel Selection and Payment | 1. The application should provide a clear interface for payment, including options for credit/debit cards, mobile wallets, and in-app payment. 2. Users should receive electronic receipts after successful transactions. |
| FR-3 | Wait Times and Queue Management | 1. A virtual queue system should be implemented, allowing customers to reserve a spot in the queue. 2. The system should estimate and display real-time wait times for customers at the gas station. |
| FR-4 | Real-time Pricing and Promotions | 1. Real-time fuel prices and promotions should be retrieved and displayed to users 2. Users should receive alerts for price changes or special promotions. |
| FR-5 | Inventory Management | 1. Gas station owners should be able to monitor the inventory levels of different fuel types 2. Automated alerts should be generated when restocking is required.. |

**Operational Requirements:**

Following are the Operational requirements of the analysis phase

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| **OR No.** | **Operational Requirement** | **Description** |
| OR-1 | Employee Management | Gas station managers should be able to schedule and manage staff efficiently. The system should provide tools for employee shift management and task assignment. |
| OR-2 | Maintenance Alerts | The system must monitor equipment and generate alerts when maintenance is needed.  Alerts should be sent to maintenance staff or gas station owners. |
| OR-3 | Queue Management | The system should monitor the virtual queue, notifying customers about their turn and estimated wait times. Notifications can be sent through the app or other communication channels. |
| OR-4 | Data Analytics | The application should collect and analyze data on customer behaviour and preferences. Insights should be generated to help with decision-making and customer engagement. |

**Technical Requirements:**

Following are the Technical requirements of the analysis phase

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| **TR No** | **Technical Requirements** | **Description** |
| TR-1 | Database Management | Implement a robust and secure database to store customer information, transaction data, and inventory details. Ensure data is stored, accessed, and updated securely. |
| TR-2 | Security Measures | Implement encryption and security protocols to protect customer data and financial transactions.  Use industry-standard security practices to prevent data breaches. |
| TR-3 | API Integrations | Connect with payment gateways, mapping services, and CRM systems through APIs. Ensure smooth and secure data exchange between the application and external services. |
| TR-4 | Scalability | Design the application to be scalable, allowing for growth in the number of users and gas stations.  Scalability should include both hardware and software components to handle increased demand. |

**Flow Chart: **