1. Vision & Scope Document
   1. Problem Statement
      1. Project Background

Drivers of hundreds of vehicles are allegedly selling large quantities of fuel oil to a syndicate every day on the Dhaka-Chattogram highway in the Parihalpara area of Cumilla.

Hundreds of drivers of vehicles owned by private, government, semi-government, various companies or corporations are coming here every day to sell fuel oil from cars for extra income.

According to sources, even though the owners buy a liter of diesel from the petrol pump at Tk 109, the drivers are selling it at Tk 70 per liter. Sources, who did not want to be named, said the two shops are open 24 hours a day to buy stolen fuel. A minimum of 10 liters and a maximum of 15/20 liter of oil is being sold every day by drivers. That despite the trade of stolen oil from hundreds of vehicles every day, law enforcement agencies have been silent for unknown reasons.

* + 1. Stakeholders

1. Admin

2. Development Team

* + 1. Users

1. Admin
2. Accountence
3. Fuel Staton Owner
4. Fuel Stations workers
5. Customers

1.1.4. Risks

1. Changing Requirements
2. Server Down issue
3. Hardware Burn
4. Poor Communication
5. Not enough educated workers
6. Security Vulnerabilities
7. Team Member Leaves

1.1.5. Assumptions

During the estimation session, we updated some of the features.

1.2. Visions of the Solution

1.2.1. Vision Statement

The vision of the Amar Fuel Automation System is to transform traditional fuel stations into IoT-based, technologically advanced establishments. Our software and hardware solution aims to combat the rampant trade of stolen oil by drivers and fuel station workers, creating a connected ecosystem that ensures transparency, security, and efficiency. By integrating online payment gateways and enabling automation, our system seeks to revolutionize the fuel station industry in Bangladesh, making it a game-changing project.

1.2.2. List of Features

1. Automatic Data Entry System
   1. Sell Data From Fuel / Gas Dispenser
   2. Fuel Tank Level Monitoring [Automatic Tank Gauging (ATG)]
   3. Dispenser Online / Offline Activity
   4. Products Received / Sell Entry

1. Fuel Point of Sale
   1. Fuel Sell inventory
   2. Lubricant and other products inventory
   3. Credit / Cash Customer Add
2. Product Sale/Return
3. HalKhata
   1. Receive Payment
   2. Due/Receivable
   3. All Transaction
   4. Bill List
4. Customers Data
   1. Customers
   2. Customer Statement
5. Shift Report
   1. Shift Start and Ending Report
   2. Shift Closing + SMS to Manager
6. Fuel Stock
   1. Stock In (ATG)
   2. Stock Adjustment
   3. Physical Stock
7. Report
   1. Sell Report
   2. Stockin Report
   3. Expence Report
   4. Stock Details
   5. Profit / loss Report
8. Summary Report
   1. Daily StockIn
   2. Tank Wise Report
   3. Monthly Income / Expense
   4. Tank Summary
   5. Year Income/Expense
9. Fuel & Nozzel Setup
   1. Fuel Name Setups
   2. Tank Setup
   3. Nozzel Setup
10. Product Setup
    1. Product Group
    2. Category
    3. Brands
    4. Warehouse
    5. Add Products

1.3. Scope of the Project

The scope of the Amar Fuel Automation System project encompasses the development, implementation, and maintenance of a comprehensive software and hardware solution. The system targets fuel station owners and customers, with a primary focus on credit customers. The key features and functionalities of the system include:

2.1 Fuel Station Owner Module:

1. Development and deployment of user-friendly software for fuel station owners to control and monitor fuel dispensers and tanks.
2. Integration of hardware components to enable real-time observation and control of fuel dispensers and tank levels.
3. Implementation of an IoT-based infrastructure for seamless connectivity and data exchange.
4. Incorporation of robust security measures to prevent fuel theft and unauthorized access.
5. Integration with surveillance systems to enhance security and deter illicit activities.
6. Online payment gateway integration to facilitate secure and convenient transactions.
7. Automation capabilities to reduce labor costs and enhance operational efficiency.

2.3. Customer Module:

1. User-friendly interface for credit customers to access fuel services and manage their accounts.
2. Real-time monitoring of fuel consumption, credit limits, and transaction history.
3. Mobile application support for easy fuel ordering, tracking, and payment processing.
4. Integration with online payment gateways for secure and convenient transactions.
5. Personalized notifications and alerts to credit customers for transaction updates and low credit balances.
6. Quick and efficient customer support channels for dispute resolution.