

Software Requirements Specification  
Document Version 1  
The Fuel Exchange  
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## Project General Description

The Fuel Exchange is an innovative online platform designed to streamline and standardize transactions for large quantities of fuel and oil of various types. Our marketplace connects buyers and sellers, managing the entire process from start to finish. Our platform aims to make buying and selling fuel as simple as possible. Our website will allow sellers to create listings for fuel they wish to sell on a personalized dashboard and allow buyers to filter through fuel types to find what they're looking for.

## Product Features

The Fuel Exchange marketplace is designed to simplify fuel trade transactions for both parties involved. Here are some of the key features that we hope to implement in our website:

**Content Customization:** Depending on whether you are a buyer or a seller, you can pick and choose what fuels and oils you want to see, buy, or sell. As a seller, you will be given the option to select which types of oils/fuels you plan on selling and can have the option to add or remove more later. As a buyer, you will have the option to filter through the different types of oils/fuels that are available on the site to your liking.

**Profile Creation:** Users can create profiles and customize them according to the fuels/oils they want to buy. They will be able to change or edit these fuel/oil options anytime they want and will be able to change their email, password, or username whenever they wish.

**Content Interaction:** As a seller, you can create a listing for a product you wish to sell you can set the price and amount you would like to sell and create a listing that will be shown to prospective buyers, and sellers can manage their listings via their dashboard where they can edit or remove their listing. As a buyer, you will be able to see any listings made by sellers on your dashboard and be able to filter through them, interact with them, and potentially place an order for a product you might like. Bot parties will be able to look over and review the details of a transaction in the form of a receipt or analytics.

## Functional Requirements - Provider

- FR0:** The website will allow users to create profiles
- FR1:** The website will allow users to choose if they are a buyer or seller
- FR2:** The website will allow users to modify their profiles
- FR3:** The website will allow users to specify which oils/fuels they are interested in selling
- FR4:** The website will allow sellers to create listings of fuel to show up for buyers
- FR5:** The website will allow sellers to customize listing prices, quantity, and type of fuel
- FR6:** The website will allow sellers to edit or remove listings at their discretion
- FR7:** The website will allow sellers to be notified about new orders, inquiries, or updates related to their listings
- FR8:** The website will allow sellers to respond and accept or deny inquiries made by prospective buyers
- FR9:** The website will allow providers to keep track of the status of an ongoing transaction

## Functional Requirements – Customer

- FR0:** The website will allow customers to create profiles.
- FR1:** The website will allow customers to choose if they are a buyer or seller during profile creation.
- FR2:** The website will allow customers to modify their profiles.
- FR3:** The website will allow customers to specify which oils/fuels they are interested in buying.
- FR4:** The website will allow customers to filter and search for available fuel/oil listings based on their preferences (e.g., fuel type, price, location).
- FR5:** The website will allow customers to view detailed information about available listings, including price, quantity, and seller details.
- FR6:** The website will allow customers to add listings to a favorites list or save them for later.
- FR7:** The website will allow customers to place an order for a selected listing.
- FR8:** The website will allow customers to track the status of their placed orders and view past transactions.
- FR9:** The website will allow customers to communicate with sellers by sending inquiries about specific listings.
- FR10:** The website will allow customers to subscribe to recurring orders for fuel, if applicable.
- FR11:** The website will allow customers to receive notifications about order status updates or seller responses.
- FR12:** The website will allow customers to write and submit reviews after completing a transaction with a seller.
- FR13:** The website will allow customers to view reviews and ratings of sellers before making a purchase.
- FR14:** The website will allow customers to edit or delete their reviews.
- FR15:** The website will allow customers to cancel an order or subscription before it is processed.
- FR16:** The website will allow customers to update payment and billing information within their profile.

## Nonfunctional Requirements – Provider

- NFR1:** The platform should have 99% uptime to ensure availability to users at all times
- NFR2:** The system should keep track of all listings and in-progress/pending transactions
- NFR3:** Regular backups should be made by the system so no loss of data occurs

## Nonfunctional Requirements – Customer

- NFR1:** The platform should have 99% uptime to ensure continuous availability for customers to browse listings, place orders, and manage profiles.
- NFR2:** The system should provide fast and responsive loading times for browsing listings, profile management, and completing transactions.
- NFR3:** Customer data, including profile information and transaction history, should be securely stored and protected using encryption.
- NFR4:** The platform should ensure that any sensitive customer information (e.g., payment details) complies with data protection regulations like GDPR and PCI DSS.
- NFR5:** Regular backups should be conducted to ensure no customer data or transaction history is lost.
- NFR6:** The system should offer a user-friendly and intuitive interface to minimize customer learning time and maximize ease of use.
- NFR7:** The platform should send notifications promptly to keep customers updated on order statuses, inquiries, and important account information.
- NFR8:** The platform should support mobile devices to allow customers to browse, purchase, and manage their accounts on mobile browsers or apps.
- NFR9:** The system should scale to handle high traffic volumes, ensuring no downtime or slowdown during peak usage.
- NFR10:** The system should offer fast and efficient customer support to resolve issues or answer questions within 24 hours.

## Provider Use Cases: (Provider - Sam Clendenin)

### 1. Create/Modify/Withdraw Provider Profile

**Initial assumption:**

the user has not made an account yet

**Normal:**

The provider will go to the website and click sign-up where they will put in their information, select they are a seller, and create their account. The provider will be taken to their dashboard where they can access their profile and modify or delete their account.

If they choose to modify their account they will be asked for updated information and asked to confirm their changes which the system will save and update.

If they wish to delete their account they click the delete button and will be prompted to confirm their decision and then their account will be removed.

**What Can Go Wrong:**

The provider may enter invalid information or forget to put in information when making their account or modifying it. This prompts the provider to correct the mistake before proceeding. If the provider accidentally clicks delete the account, they will be able to cancel the action.

**Other Activities:**

Provider can change their profile picture or add a description to their profile that is visible to other users.

**System State on Completion:**

After creating/modifying the profile, the profile will be saved and visible to customers. After deletion, the profile will no longer be accessible to the provider or viewable to customers.

## 2. Create Service

### **Initial Assumption:**

The provider is logged into their dashboard and has access to the listing section of the dashboard.

### **Normal:**

The provider will click on the “Create” button in the listing section of the dashboard. The provider will fill out the listing details (Type of fuel, price, quantity, availability, and contact information). They will confirm the listing. The system will add the listing to the providers' dashboard and be available for buyers to see.

### **What Can Go Wrong:**

If a required field such as price or fuel type is left blank or is invalid, the system will not allow submission and will prompt the provider to complete or fix the details in question.

### **Other Activities:**

The provider can update or remove listings at any time by selecting the listing on their dashboard and clicking “Edit” or “Remove”. If they accidentally click remove they will be prompted to confirm.

### **System State on Completion:**

A new listing will be visible on the marketplace, and customers will be able to view and interact with the listing.

### 3. View Customer Statistics

**Initial Assumption:**

The provider is logged in and can access the statistics page from the dashboard.

**Normal:**

The provider navigates to the statistics tab. They then select either a listing or date range in which they want to view the statistics. The system will then display data (purchases, listing views, etc.). The provider can also filter what kinds of data they want to see.

**What Can Go Wrong:**

If the provider selects a listing or date range and there is no data for that specific case the system will display “No statistics available” to the provider.

**Other Activities:**

The provider can export their statistics data if they wish

**System State on Completion:**

The provider has been able to view their desired statistics

#### 4. Reply to Reviews

**Initial Assumption:**

The provider is logged in and can access their listings or the reviews section on the dashboard.

**Normal:**

The provider will navigate to a particular listing or the reviews section of their dashboard. The provider will be able to see the reviews left on their listings. The provider can choose a review to reply to. The provider then writes and submits a response to the review. The system then posts the reply under the original review, visible to everyone.

**What Can Go Wrong:**

If the provider hits send on the reply before they finish accidentally they can edit or delete the reply within a set amount of time. If the provider thinks the review is inappropriate they can flag the review and admins will look at the review.

**Other Activities:**

Providers can filter reviews by rating or date

**System State on Completion:**

The reply is posted with the corresponding buyer's review and is visible to the public



## Customer Use Cases

(Customer - Mishaal Khalid)

### 1. Create/modify customer profile:

**Initial Assumption:**

The customer has not created a profile yet.

**Expected:**

The customer navigates to the website and clicks the "Sign Up" button. They will be prompted to input their details, select that they are a buyer, and create a profile. Once their account is created, they will be directed to their dashboard, where they can modify or customize their profile based on the types of fuel or oil they are interested in. They will have the option to change personal information like email, username, and password.

If they wish to modify their profile, the system will request updated information and ask for confirmation to save the changes.

**What Can Go Wrong:**

The customer may input invalid or incomplete information, prompting the system to request corrections before continuing.

The customer may forget required fields during profile creation, which the system will highlight for correction.

If the customer accidentally clicks on a delete button, they will receive a prompt to confirm or cancel the action, protecting against accidental deletion.

**Other Activities**

The customer can upload a profile picture or add a bio to describe their preferences, which may be visible to sellers.

**System State on Completion:**

After profile creation or modification, the profile is saved and is visible to the customer. If deleted, the profile is no longer accessible, and all data is removed from the system.

## 2. View available services:

**Initial Assumption:** The customer wants to view listings on the marketplace.

**Expected:** The customer logs into their dashboard and uses the search or filter options to view available services based on their preferences, such as fuel type, quantity, and seller location. The customer will see listings made by sellers and can view further details about a service, including price, amount, and seller information. Reviews and ratings from other customers are also visible.

**What Can Go Wrong:**

The customer may use filters incorrectly or input invalid data (e.g., searching for an unavailable fuel type), which will return no results, and the system will notify the user to adjust the filters.

**Other Activities:**

Customers can sort listings by different parameters like price, quantity, or rating. They may save listings to a favorites list for easy access later.

**System State on Completion:**

The customer can successfully browse and interact with the listings, and their preferences for filters or saved listings will be remembered for future sessions.

### 3. Subscribe to available services:

**Initial Assumption:**

The customer has decided on a service to purchase.

**Expected:**

The customer selects a listing they are interested in and subscribes to the service by clicking a "Buy" or "Subscribe" button. They are guided through a confirmation process, including selecting payment options and confirming shipping or pickup details. Once completed, the transaction is processed, and a receipt is generated for the customer.

**What Can Go Wrong:**

The customer may encounter payment issues, such as invalid credit card details, insufficient funds, or expired payment methods. In such cases, the system will notify the customer and request valid payment information.

If the customer accidentally clicks subscribe, they will have a chance to cancel before the transaction is processed.

**Other Activities:**

The customer can set up recurring subscriptions for regular fuel deliveries if applicable. They can also track their order history and transaction details.

**System State on Completion:**

Once subscribed, the customer will receive a confirmation notification and a receipt. The service will be added to the customer's list of active subscriptions and be trackable in their account.

#### 4. Write a review:

**Initial Assumption:**

The customer has used a service and wants to provide feedback.

**Expected:**

After completing a transaction, the customer is prompted to leave a review on the service they subscribed to. They navigate to their order history, select the completed service, and write a review, including a rating (e.g., 1-5 stars) and additional comments. Once submitted, the review becomes visible to future buyers.

**What Can Go Wrong:**

The customer may not be able to submit a review if they have not completed the transaction. In such cases, the system will notify the customer that the review can only be written after the service is provided.

**Other Activities:**

Customers may also edit or delete their reviews after posting. They may "like" or mark other users' reviews as helpful.

**System State on Completion:**

The review is successfully posted and becomes visible on the service listing for future buyers. Customers can track their submitted reviews and make changes if necessary.