SOFTWARE REQUIREMENTS SPECIFICATION

CARGO VAULT

A B2B Ecommerce Web Application

Group-12

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1. Introduction:

The web application is mainly developed for the usage of the B2B model in the business. Cargo Vault mainly focuses on the problem of small-scale producers i.e. lack of marketing and business relations, resulting in conventional deals. This web application provides a vast number of deals to the producers as well as buyers in accordance with their required choice of attributes like quality, quantity, price, distance, etc, thereby increasing and diversifying the factor of demand and supply of various products all over the supply chain.

1.1 Purpose:

This document contains various attributes required by the people listed below:
- UI/UX designers.
- Developers building the application.
- Testers try various aspects of the application.

1.2 Project scope:

This document applies to the Cargo Vault web application. The web application provides users to connect with the various marketplaces of the world. The web application contains additional benefits like transaction history, the user interface to add products, etc. The administrator can monitor the user's roles by giving them the role of vendor or customer after verifying the documents provided by them at the verification page.

The web application initially lands on the homepage and offers users to log in to perform the respective functions available for them.

The project is expected to be completed in the duration of three months.

1.3 Definitions, Acronyms, and Abbreviations

B2B	Business to Business model
B2C	Business to Consumer model
NOC	No Objection Certificate
PAN	Permanent Account Number (Issued by the Govt of India)
GSTIN	Good and Service Tax Identification number
TIN	Tax Identification Number
B-User	Buyer type business entity.
P-User	Producer type business entity.

2. System Description:

➢ The main aim of this web application is to improve the feasibility of connecting the business and providing a secure gateway for their transactions.

➢ This application consists of various details of the user and consists of various modules in the application that are a seller and consumer modules.

➢ The application consists of various roles admin, seller, and consumer they assigned based on the proof provided by them during the verification stage. The admin consists of rights to access the entire application.

➢ The application is easy to use and user-friendly.

2.1 Functions:
● Registering and creating an account to browse all the products to buy
● Adding to Cart: The user can add all the wished products to buy to the cart from where the user can buy.

- Buying: The user can increase the quantity for the desired quantity according to the availability of the product in Cargo Vault
- Billing: The Users will get the billing information based on the product buying and are needing to give the billing address and delivery address.
- Canceling: The User can cancel the order according to the return policy of the seller who is selling that particular product.

2.2 User characteristics:
- Users need to create an account and need to sign in with a username and password. They must fill in the required details and then submit the form. The requests are sent to the admin in a sequence of lists. If the admin approves the application the users can avail of the services.
- Admin needs to log in to the account. Therefore the admin can edit the details like view, add, update and delete operations. The cargo vault is monitored by the admin and maintains the privacy policy, information, terms, and conditions.

2.3 Constraints:
- To avail the services of the Cargo Vault the users have to create an account
- The admin verifies the uploaded documents and checks the application form submission
- The admin can reject the documents for the submitted requests if accepted the services will be granted to the users

3. Functional Requirements:

3.1 General Details and Purpose:
Cargo Vault is a dynamic web application that provides producer-to-business (p2b) or business-to-business (b2b) deals and relations along with a few other add-on services like logistics, advertising, and negotiation.

3.2 Users and Authentication:
Users for this application are divided into three different entities,

1. producer type business entity
2. buyer type business entity
3. administration entity

A producer type entity requires a high level of authentication,
- In the case of a small-scale unregistered business entity, users are expected to provide a few mandatory legal documents like valid Identity/Address proof, PAN, TIN & GSTIN.
- In the case of a legally registered business entity, along with the aforementioned documents the users are expected to provide the Certificate of incorporation, No objection certificate (NOC), and No-disclosure agreement.
- In both cases, the user will further be verified in person by a Cargo Vault agent who will record various other attributes depending on the type of product.

A buyer-type business entity requires a moderate level of authentication, users under this category are expected to provide a few mandatory legal documents like valid Identity proof, Address proof, and PAN.

An administration entity is affiliated with Cargo Vault and is only accessible to the admin team with their given valid credentials.

3.3 Functions, Interfaces & Data:
- Authenticated P-Users and B-Users could view and access the features and data available over the web application respectively.
- Data provided to both users is transparent and is filtered according to their desired set of attributes. Cargo Vault does not share or outsource the data to any third party under any circumstances.
- All types of products and businesses are sorted according to the attributes like ratings, reviews, relevance, quality, etc, which remain only under the users' jurisdiction. Cargo Vault does not interfere with or manipulate the entity's preferences under any circumstances.
- Add-ons like logistics, advertising, and negotiation completely remain under the users' choice. Cargo Vault never forces the users to get an add-on as a compulsion.
- Advertisements are watermarked and are shown to the users based on the product's relevance, range, and type.

4. External Interface Requirements:

4.1 User Interface
The user must find the interface interactive and easy to navigate between various functions provided to the user. The main functions provided are-
- Login for the user is provided and after the successful login, the user is navigated to their respective pages based on their respective role.
- For the successful login, validation checks are present to confirm whether the user has entered the correct credentials or not.
- The users are provided with the search option to search for the items they are looking for.
- The users are provided with highly secured payment gateways for the payment settlements between them.
- The users are also provided with logs that are the items they have sold or bought using the web application.

4.2 Software Interface
To perform various functions, this software needs to interact with various other software. So certain software interface requirements need to be fulfilled which are listed as follows:-
- The database is required to store the various data and is provided by MongoDB.
- The payment gateways are provided by API calls of Razorpay and PayPal.
- The software used for the frontend is React, Material UI, etc.
- The middleware used is NodeJS.

5. Technical Requirements (Non-Functional):

5.1 Compatibility

It can be accessed from any web browser on devices like mobile phones(android, ios), tablets(android, ios), and laptops or computers(any OS like MAC, Windows, Linux) that are connected to the internet.

5.2 Performance

Most of the components of the application are rendered on the server-side thereby speeding up page load times which improves the user experience.

5.3 Scalability

Usage measures the number of simultaneous users or connections possible. There shouldn't be any artificial limits on usage. We will make sure that the user's limit and maximum stored data are relevant to the user-uploaded content, site reports, and some types of marketing data.

5.4 Security

JWT and OAuth provide a robust and safe client and server connection while sharing security information and user-authentication credentials. Money transactions are monitored and maintained through third-party, safe, and trustworthy payment gateways like Stripe, RazorPay, and PayPal and users are free to choose their desired gateway.

5.5 Maintainability

We, as developers, provide maintainability by constantly modifying software to meet new client expectations and address customer problems. This includes correcting errors, optimizing existing functionality, and modifying code to avoid future problems.

5.5.1 Bug fixing includes searching for and resolving faults for the software to work smoothly.
5.5.2 Capability development entails improving the program to provide additional features requested by clients.
5.5.3 Replacement includes removing undesirable functions to increase adaptability and efficiency.

5.5.4 Security vulnerabilities - repairing security flaws identified in the source code or third-party code, particularly open source components

5.6 Usability

It has simple UI/UX and users can comfortably operate through the web application. The search results show the optimized results and it has options like buy or sell in which users can navigate through the application and the buyer can pay the needed amount or the seller can receive the required amount from the buyer.

5.7 Multi-Lingual Support

Google translate can be enabled to change the language of the web application to whatever language the user wishes for. Everything in the website is in simple language and can be understood and changeable to any language required

5.8 Availability

The web application can be accessed by the user at any time which is 24/7 and all the features and functionalities will be available with it.