High Level Design Document(HLD)

MOBILE SHOP SHOPPING CART

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Document Version

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08-04-2023	1.0	Initial HLD	Aravind Ontagodi
09-04-2023	1.5	Final Draft	Aravind Ontagodi
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Content

Abstract

The Mobile Shop a Shopping Cart application is a website where users can add the items to the cart and when user clicks on the cart icon it opens the cart page where user can modify the number of items of the same product and also user can delete that item from the cart.even when user refresh the page cart items will be persisted.

1. Introduction

1.1. Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include the design features and the architecture of the project
- List and describe the non-functional attributes like:
    - Security
    - Reliability
    - Maintainability
    - Portability
    - Reusability
    - Application compatibility
    - Resource utilization
    - Serviceability

1.2. Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to middle-technical terms which should be understandable to the administrators of the system.

1.3. Definitions

Term	Description
API	Application Programming Interface
Vite	Frontend tool
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheets
JS	JavaScript
VCS	Version Control System

2. General Description

2.1. Product Perspective

The Shopping Cart Application helps the user to add the items to the cart and later the update the quantity of items in the cart and also users can delete the items from the cart

2.2. Problem Statement

Create a simple frontend where there are a couple of products and upon clicking on add to cart button the item should be added to the cart and the user can see the items added to the cart on the cart page.

2.3. Proposed Solution

The solution proposed here is the web application which uses JSON Server API to fetch the products and show them to users in the home page so that users can easily add them to the cart and when the user clicks on the cart icon it opens the cart page where items added by the user will be shown.

2.4. Further Improvements

This project can be improved by adding dummy json API. This API gives the products by category so that users can add different products to the cart.

2.5. Project Requirements

In this project we need product details which include product image, product title, product price.

- The product details can be fetched from the json-server API that we implemented and hosted using cyclic.sh serverless service.

2.6. Tools Used

In this project we are using ReactJS Library to build this application because of its ease of use and rapid development environment it provides.

- VS Code as a code editor
- Google Chrome as a web browser
- ReactJS to build Frontend of the application
- React-Router-DOM for client-side routing
- Redux for client-side state management
- Tailwind CSS to handle the styling of the elements on our website
- Github as Version Control System
- JSON Server API to fetch products from the backend

Tech Stack

2.7. Constraints

The Mobile Shop a Shopping Cart application is the user-friendly application which helps users to add the items that they like to the cart and see the added items in the separate page.

2.8. Assumptions

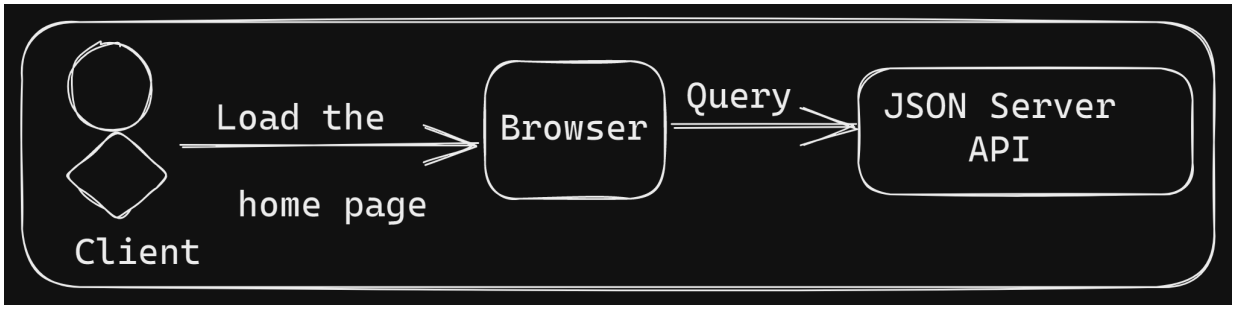
The main objective of the project is to provide users a distraction free environment to show the products to the user and easy way to add the product item to the cart. We assume that users know in advance what product they want to add to the cart.

3. Design Details

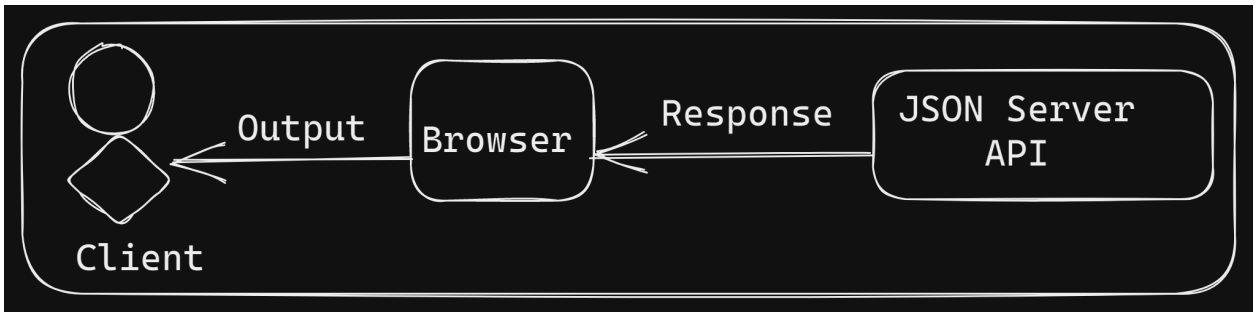
3.1. Process Flow

To add the product to the cart we take input from the users which product they want to add to the cart and latter we also give user option to modify the quantity of the product added to the cart

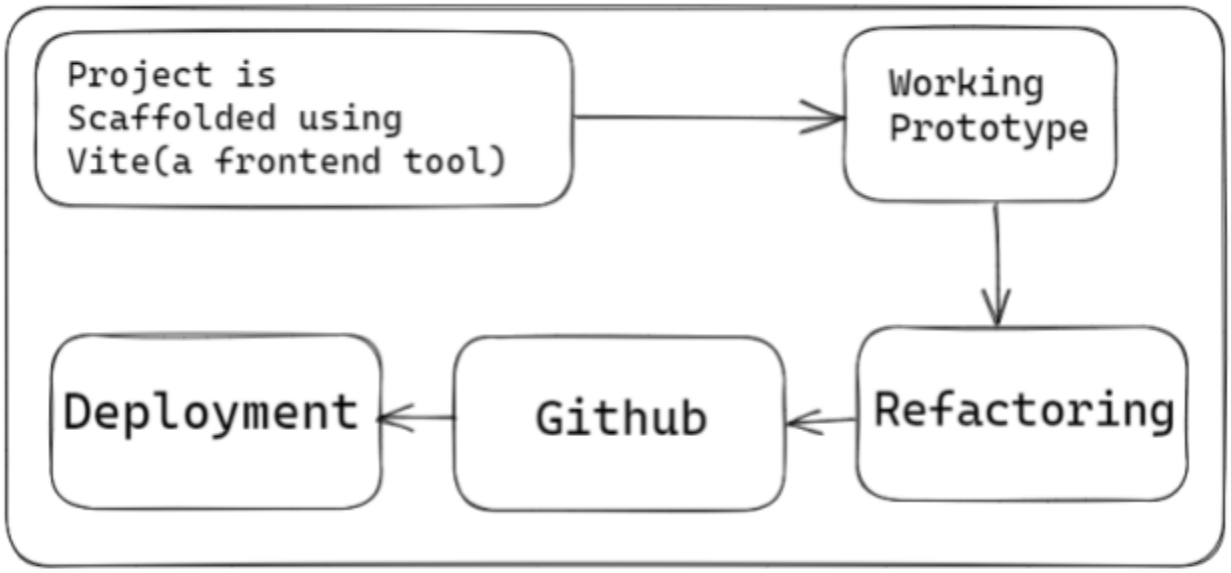
3.1.1. Client Requesting Server



3.1.2. Server Sending Response



3.2. Development Process



Development Flow

4. Performance and Accessibility

The Mobile Shop a Shopping Cart Application should be having high performance i.e., faster page loads and less payload in API calls. And it should be following good practices for accessibility.

4.1. Reusability

The code written and the components used should have the ability to be reused with no problems.

4.2. Application Compatibility

This project should be cross platform supporting i.e., we should support mobile and desktops also. To resolve this, we are adapting mobile first development while building our application.

4.3. Resource utilization

When any task is performed, it will likely use all the processing power available until that function is finished.

4.4. Deployment

For this application we choose Netlify for hosting our application because of its ease of use and its comparatively cheaper when compared to its alternatives

5. Conclusion

The Mobile Shop a Shopping cart application provides an easy way to add the product to the cart with a simple UI(User Interface) to navigate between the pages.