

Software Requirements Specification

for

SHAKE FACTORY ONLINE FOOD DELIVERY

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Revision History

I. Introduction

1.1 Purpose

The topic of online food delivery has gained increasing importance in recent years due to several factors. One of the main reasons is the growing trend of consumers preferring to order food online for its convenience and accessibility. The COVID-19 pandemic has also further accelerated this trend as people increasingly prefer to order food online to avoid crowded places and reduce the risk of infection.

However, with the increasing popularity of online food delivery, several challenges have emerged for companies operating in this space. These challenges include ensuring timely and accurate deliveries, maintaining food quality during transportation, providing a user-friendly website and app for customers, and managing relationships with restaurant partners. As a result, the topic of online food delivery has become an important area of focus for businesses, researchers, and policymakers alike, with ongoing discussions on how to improve the efficiency and sustainability of the industry.

1.2 Document Conventions

Document Naming Convention:

SHAKE FACTORY ONLINE FOOD DELIVERY WEBSITE_SRS_v1.0_20230611.docx

Document Structure:

- Cover Page: Project Title: SHAKE FACTORY ONLINE FOOD DELIVERY WEBSITE
- Document Title: Software Requirement Specification

Formatting and Styling:

- Font: Times New Roman
- Font Size: 12pt for body text, 14pt for headings.
- Alignment: Justified for body text, left-aligned for headings.
- Bullet Points and Numbering: Consistent use of bullet points and numbering for lists and sublists.
- Tables and Figures: Consistent formatting, captions, and numbering.

1.3 Intended Audience and Reading Suggestions

The intended audience for shake factory, an online food delivery platform, includes:

- **Customers:** Individuals or households looking to order food online for delivery or takeout. This audience consists of a wide range of people with diverse tastes, preferences, and dietary requirements.
- **Delivery Partners:** Individuals who are interested in becoming delivery partners or drivers for shake factory's food delivery service. This audience may include people seeking flexible work opportunities, those with their own vehicles, or individuals looking for additional income streams.

- **Administrators and Managers:** Individuals responsible for managing and maintaining the shake factory website. This audience includes system administrators, managers, or operators who oversee order management, payment processing, customer support, and overall system operations.
- **Developers and IT Staff:** Technical personnel involved in the development, maintenance, and support of the online food delivery system. This audience includes developers, software engineers, IT administrators, or database administrators responsible for ensuring the system's functionality, security, and scalability.
- **Customer Support Representatives:** Representatives responsible for providing assistance and support to customers using the online food delivery system. This audience includes customer support agents or representatives who handle order inquiries, resolve issues, and provide guidance to customers.

1.4 Project Scope

The Shake Factory is an online food delivery website that specializes in delivering a wide variety of delicious milkshakes and beverages to customers' doorsteps. The primary purpose of the Shake Factory online food delivery website is to provide a convenient and hassle-free way for customers to order their favorite milkshakes, beverages, delicious foods from the comfort of their homes or workplaces. The website aims to offer a delightful and satisfying experience to customers by providing a diverse menu of milkshakes with various flavors, toppings, and customizable options. The Shake Factory focuses on using high-quality ingredients to create indulgent and refreshing milkshakes and foods that cater to different tastes and preferences.

The Objectives Of The Shake Factory :

- **Convenience:** The website aims to make the process of ordering milkshakes and food quick and easy, allowing customers to satisfy their cravings without the need to visit a physical store.
- **Wide Selection:** The Shake Factory offers an extensive range of milkshake flavors, burgers, sandwiches etc. including classic options, seasonal specials, and unique combinations, to cater to diverse preferences and keep customers excited.
- **Customization:** The website allows customers to personalize their milkshakes by choosing their preferred flavors, toppings, and extras, ensuring a tailored experience that meets individual preferences.
- **Timely Delivery:** The Shake Factory emphasizes prompt and reliable delivery services to ensure that customers receive their orders in a timely manner, maintaining the freshness and quality of the milkshakes.

- **User-Friendly Interface:** The website is designed to provide a seamless and user-friendly interface, enabling customers to easily browse the menu, place orders, track deliveries, and make payments with convenience.

Benefits

- **Convenience:** Online food delivery offers the convenience of ordering food from a wide range of restaurants without leaving the comfort of your home or office. It saves time and effort by eliminating the need to travel or wait in long queues.
- **Time-Saving:** Online food delivery eliminates the need for meal preparation and cooking, saving time for individuals with busy schedules or those who prefer not to cook. It allows for quick and efficient meal solutions, especially during hectic days.
- **Accessibility:** Online food delivery services make food accessible to a broader audience, including people with limited mobility, disabilities, or those residing in remote areas. It ensures that everyone has access to a wide range of food choices.
- **Reviews and Ratings:** Our platforms obviously include customer reviews and ratings for restaurants, which help customers make informed decisions about where to order from. These reviews provide insights into the quality, taste, and service of different establishments.

Goals

- **Customer Satisfaction:** The primary goal of our online food delivery services is to ensure customer satisfaction. This includes providing a seamless ordering experience, delivering food in a timely manner, maintaining quality standards, and addressing customer concerns effectively.
- **Operational Efficiency:** Our Online food delivery system strive to optimize our operational processes to ensure efficient order management, dispatching, and delivery. This includes streamlining logistics, optimizing routes, and leveraging technology to minimize delivery times.
- **Brand Loyalty and Retention:** Building brand loyalty and retaining customers is a crucial goal for our online food delivery service. This is achieved by offering exceptional customer experiences, personalized recommendations, loyalty programs, and special promotions to encourage repeat orders

1.5 References

1. Software requirements specification - Wikipedia
2. <https://eatanceapp.com/blog/advantages-of-online-food-ordering-system/>

2. Overall Description

2.1 Product Perspective

The Shake Factory online food delivery website is a new, self-contained product specifically designed for the Shake Factory brand. It serves as a dedicated platform for customers to browse Shake Factory's menu, place orders, make payments, and track deliveries. The website aims to enhance customer convenience and streamline the process of ordering Shake Factory's signature shakes and other food items.

Originating from the increasing popularity of online food delivery services and the desire to expand Shake Factory's reach, the online food delivery website is a strategic initiative taken by Shake Factory to tap into the growing market of online food ordering. By offering a user-friendly and efficient platform, Shake Factory aims to cater to the preferences of customers who prefer ordering food online rather than visiting physical stores. The Shake Factory online food delivery website can be considered a new, self-contained product that complements Shake Factory's existing physical stores. It is not a replacement for any existing systems but rather a digital extension of Shake Factory's operations, allowing customers to enjoy their products through an online ordering experience.

2.2 Product Features

The Shake Factory online food delivery website offers several major features and functions that enhance the user experience and enable smooth food ordering and delivery. Here are the key features of the Shake Factory online food delivery website:

1. User Registration and Authentication:

- Users can create an account or log in using their credentials.
- Registration allows users to save delivery addresses, track orders, and receive personalized recommendations.

2. Menu Browsing and Selection:

- Users can browse through Shake Factory's menu, including various shakes, desserts, and food items.
- The website provides detailed descriptions, images, and pricing for each menu item.

3. Menu Filter Management

- Users can Filter their food by selecting what food they want according to their preferences.
- The website provides options for special offers, Dietary filters, Nutrition information, Recommended items, Items availability status, Item review and rating etc.

4. Cart Management:

- Users can add items to their cart, view the selected items, adjust quantities, and remove items if necessary.
- The cart displays the total order amount, including taxes and delivery charges.

5. Order Placement and Tracking:

- Users can place orders by specifying the delivery location and preferred payment method.
- The website provides real-time order tracking, allowing users to monitor the status and estimated delivery time.

6. Secure Payment Processing:

- The website offers secure payment options, such as credit/debit cards, digital wallets, or cash on delivery.
- Users can securely enter their payment details and complete the transaction.

7. Order History and Reordering:

- Users can view their order history, including previous orders, order details, and invoices.
- The website allows users to easily reorder their favorite items with a single click.

8. Ratings and Reviews:

- Users can provide ratings and reviews for Shake Factory's menu items, delivery experiences, or overall service quality.
- These ratings and reviews help other users make informed decisions and provide feedback to Shake Factory.

9. Promotions and Special Offers:

- The website displays ongoing promotions, discounts, or special offers on selected menu items.

10. Delivery Staff Support:

- The website offers Delivery Staff support options, He will deliver your favourite food to your door step.

2.3 User Classes and Characteristics

There will be three users for this system. The Customers, System administrator, and Delivery staff. These user classes represent the different roles and interactions within the Shake Factory online food delivery website. Each class may have distinct requirements and usage patterns, and catering to their specific needs is crucial for a smooth and satisfactory user experience.

1. Customers/Users:

- **Characteristics:** These are users who have created an account on the Shake Factory website.
- **Usage Pattern:** They use the website to browse the menu, place orders, track deliveries, and access personalized features

2. System Administrators:

- **Characteristics:** These are the technical personnel responsible for managing and maintaining the Shake Factory website and its backend systems.
- **Usage Pattern:** They use administrative tools and interfaces to configure website settings, monitor performance, and ensure security.
- **Requirements:** Access to system settings, analytics, security controls, and tools for system maintenance.

3. Delivery Staff:

- **Characteristics:** These are the personnel responsible for delivering orders from Shake Factory to customers.
- **Usage Pattern:** They use the website or associated apps to receive order details, track deliveries, and update delivery status.
- **Requirements:** Efficient order dispatching, real-time location tracking, optimized delivery routes, and communication tools.

2.4 Operating Environment

Hardware Requirements:

- Processor: 12th Gen Intel(R) Core(TM) i5-1235U 1.30 GHz
- RAM:8 GB
- Operating System: Windows 11

Software Requirements:

- MongoDB Server
- IDE: Visual Studio

Programming Languages:

- Front End: React Js
- Backend: Node js, MongoDB
- Deployed Frontend Using Vercel and Backend using Render

2.5 Design and Implementation Constraints

CO-1: Technology Stack:

The website need to be built using specific technologies or frameworks,in our case we built the website with the help of React JS,Node js And MongoDB.

CO-2: Scalability:

The website may need to accommodate a growing number of users and orders over time.The system architecture and database design should consider scalability to ensure smooth performance and accommodate future growth.

CO-3: Security:

The website should adhere to industry-standard security practices to protect user data, including secure transmission and storage of sensitive information

CO-4: User Experience (UX):

The website should prioritize a user-friendly and intuitive interface to enhance the user experience.

CO-5: Mobile Responsiveness:

The website should be designed to be mobile-responsive, ensuring optimal user experience on different devices and screen sizes.

2.6 User Documentation

Shake Factory online food delivery website is mainly used by the admin or the people who are working under shake factory. Thus every employee in the café will be given a detail explanation on how the website will work or an overview of the website's features, functionalities and how to navigate through different sections and they will have good knowledge about it. This website is a user friendly so that User can operate the website with the minimal knowledge of ecommerce.

2.7 Assumptions and Dependencies

- Users have access to a reliable internet connection: The website assumes that users have a stable internet connection to access and use the online food delivery service effectively.
- The user should have basic computer knowledge. They should be trained to handle the features provided by the system.
- One assumption about the product is that it will always be used on mobile phones that have enough performance.
- 24X7 uptime server connection required.
- The website depends on the integration of a secure and reliable payment gateway service to facilitate online transactions.

- The website depends on a robust and scalable database management system to store and retrieve user profiles, order details, and other relevant data.

3.System Features

Our System Features provide users with a convenient and efficient way to browse and order food from Shake Factory. They also enhance the user experience by allowing users to track their orders and provide feedback. The online payment feature ensures secure transactions, while user registration and login enable personalized interactions. Overall, these features contribute to a seamless and satisfying food delivery experience for Shake Factory's customers.

3.1 USER REGISTRATION AND LOGIN

3.1.1 Description and Priority

- Description: Users can create an account and login to access personalized features, such as order history, saved addresses, and payment preferences.
- Priority: High

3.1.2 Stimulus/Response Sequences

- Response Sequence: The website should allow users to register with their email address and create a password. Upon successful registration, users should be able to login using their credentials.

3.1.3 Functional Requirements

- Provide a registration form with necessary fields (name, email, password).
- Validate and store user registration details securely.
- Implement a login mechanism with authentication

REQ 1:User Registration

- Validation: Validate user input to ensure the entered data is in the correct format and meets any specified criteria (e.g., email format, password strength).
- Unique Email: Check if the entered email address is unique and not already associated with an existing user account.

REQ 2: User Login

- Login Form: Provide a login form where users can enter their email address or username and password to access their account.
- Remember Me: Provide an option for users to select "Remember Me" to keep them logged in for a longer period, enhancing convenience.

3.2 MENU BROWSING AND ORDERING

3.2.1 Description and Priority

Description: Users can browse the Shake Factory menu, view item details, customize orders, and add items to the cart for purchase.

Priority: High

3.2.2 Stimulus/Response Sequences

Response Sequence: Users should be able to browse menu categories, view item descriptions, select options (e.g., size, toppings), and add items to the cart. They should also have the ability to customize orders, such as specifying special instructions or dietary preferences.

3.3.3 Functional Requirements

REQ 1: User Registration And Authentication:

- Users should be able to create accounts and log in securely.
- User authentication and authorization mechanisms should be in place to ensure data privacy and security.

REQ 2: Menu Presentation:

- The online platform should display the Shake Factory's menu in an organized and visually appealing manner.
- Menu items should be categorized logically (e.g., drinks, flavors, toppings, etc.) to facilitate easy browsing.
- Each menu item should have a name, description, price, and any relevant dietary information (e.g., vegetarian, gluten-free, etc.).

3.2 ONLINE PAYMENT

3.3.1 Description and Priority

- Description: Users can securely make online payments for their orders using various payment methods.
- Priority: High

3.3.2 Stimulus/Response Sequences

- Response Sequence: After reviewing the order and confirming the delivery address, users should be able to choose from available payment options, enter payment details, and complete the transaction securely.

Functional Requirements:

- Integrate with secure payment gateways (e.g., stripe, credit card processors).
- Support various payment methods (e.g., credit/debit cards, digital wallets).
- Encrypt and securely transmit payment information

REQ 1: Payment Gateway Integration:

- Integrate with one or more secure and reliable payment gateway providers (e.g., PayPal, Stripe) to facilitate online transactions.
- Support multiple payment methods, such as credit/debit cards, and net banking.

REQ 2: Payment Information Capture:

- Provide a secure form for users to enter their payment details, such as card number, expiration date, CVC, and billing address.
- Validate and verify the entered payment information to prevent errors and minimize fraud risks.

4.External Interface Requirements

4.1 User Interfaces

1. Responsive Design: The website should be designed to be responsive and accessible on various devices, including desktop computers, laptops, tablets, and smartphones. The user interface should adapt to different screen sizes and resolutions, ensuring a consistent experience across devices.
2. Intuitive Navigation: The website should have a clear and user-friendly navigation menu or toolbar that allows users to easily browse different sections and pages of the website. The navigation should be logically organized, making it effortless for users to find what they are looking for, such as menus, promotions, and account settings.
3. Attractive Visual Design: The user interface should have an appealing and visually engaging design that reflects the brand identity of Shake Factory. The use of high-quality images, color schemes, typography, and graphical elements can contribute to an inviting and appetizing atmosphere.
4. Menu Display: The menu section should present the available food items in an organized and visually appealing manner. Users should be able to view item names, descriptions, prices, and accompanying images. The menu can be categorized into different sections (e.g., appetizers, mains, desserts) to facilitate easy browsing.

5. **Item Customization:** Users should be able to customize their food orders according to their preferences. The user interface should provide options for selecting sizes, toppings, side dishes, and any additional customizations available for each menu item. Clear visual indicators and interactive elements should guide users through the customization process.
6. **Cart and Checkout:** The user interface should include a visible and easily accessible shopping cart that displays the selected items, quantities, and total cost. Users should have the ability to modify the cart contents, such as adding or removing items, adjusting quantities, and applying coupon codes or discounts. The checkout process should be streamlined and guide users through the steps required for payment and order confirmation.
7. **User Account Management:** Users should have a dedicated section to manage their accounts, including registration, login, profile settings, order history, and address management. The user interface should provide a clear and intuitive interface for users to update their personal information, manage communication preferences, and view past orders.
8. **Feedback and Reviews:** The user interface should allow users to provide feedback and reviews for the Shake Factory's food items and overall service. Users should have the option to rate the items, leave comments, and view the average ratings and reviews provided by other customers. This can help in building trust and transparency.
9. **Help and Support:** The user interface should include a help and support section where users can access frequently asked questions (FAQs), contact customer support, and find relevant information regarding delivery policies, refunds, and terms of service. This section should be easily accessible and provide clear instructions on how to seek assistance when needed.

4.2 Hardware Interfaces

- Processor: 12th Gen Intel(R) Core(TM) i5-1235U 1.30 GHz
- RAM:8 GB
- Operating System: Windows 11

4.3 Software Interfaces

- MongoDB Server
- IDE: Visual Studio

Programming Languages:

- Front End: React Js
- Backend: Node js, MongoDB
- Deployed Frontend Using Vercel and Backend using Render

4.4 Communications Interfaces

- Website Interface: Users interact with the website's user interfaces, such as menus, cart, and order tracking, to place orders, customize items, and view order updates.
- SMS and Email Notifications: Users receive order confirmations, updates on order status, delivery notifications, and promotional offers via SMS or email.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

This section lists the performance requirements expected from this Project:

- The users shall be able to add any records fewer than 5 seconds.
- The users shall be able to view any records fewer than 10 seconds.
- The users shall be able to download videos within 20 -40 seconds.
- The navigation between pages shall take fewer than 5 seconds.
- The application shall be able to do a validation check on the information provided in the user-authentication form and the place-order form to avoid false or incomplete information.

5.2 Safety Requirements

No safety requirements have been identified.

5.3 Security Requirements

- A customer needs to require logging in to the System for all operations except viewing a items.
- The system shall permit only administrator to create or edit items.

5.4 Software Quality Attributes

If the connection between the user and the system is broken prior to an order being either confirmed or canceled, the System shall enable the user to recover an incomplete order.

- **RELIABILITY**

It is tested for all the constraints at development stage

- **AVAILABILITY**

This system will only available till the system on which it is installed is running.

- **SECURITY**

This system is provided with authentication without which no customer can pass. So only the legitimate customers are allowed to use the application. If the legitimate customers share the authentication information then the system is open to outsiders.

- **MAINTAINABILITY**

there will be no maintenance required for the website. The database is provided by the end-user and therefore is maintained by this customer.

- **PORTABILITY**

The system works anywhere with the internet connection

6. Other Requirements

USER EXPERIENCE REQUIREMENTS:

- Specify the desired user experience, including intuitive navigation, responsive design, and visually appealing interface.
- Define any specific accessibility requirements to ensure compliance with accessibility standards and provide equal access to users with disabilities.

Appendix A: Glossary

- JS(Java script): React.js is a popular JavaScript library for building user interfaces. It was developed by Facebook and is widely used for creating dynamic and interactive web applications. React.js follows a component-based architecture, where the user interface is divided into reusable and independent components, making it easier to manage and maintain complex UIs.
- IDE(Integrated Development Environment): An Integrated Development Environment (IDE) is a software application that provides a comprehensive set of tools and features to assist developers in writing, testing, and debugging code. It is designed to enhance the development process by providing an integrated and streamlined workflow.
- CVC(Card Verification Code): CVC stands for Card Verification Code. It is a security feature commonly found on credit and debit cards. The purpose of the CVC is to provide an additional layer of protection against fraudulent transactions, especially for online or card-not-present transactions.

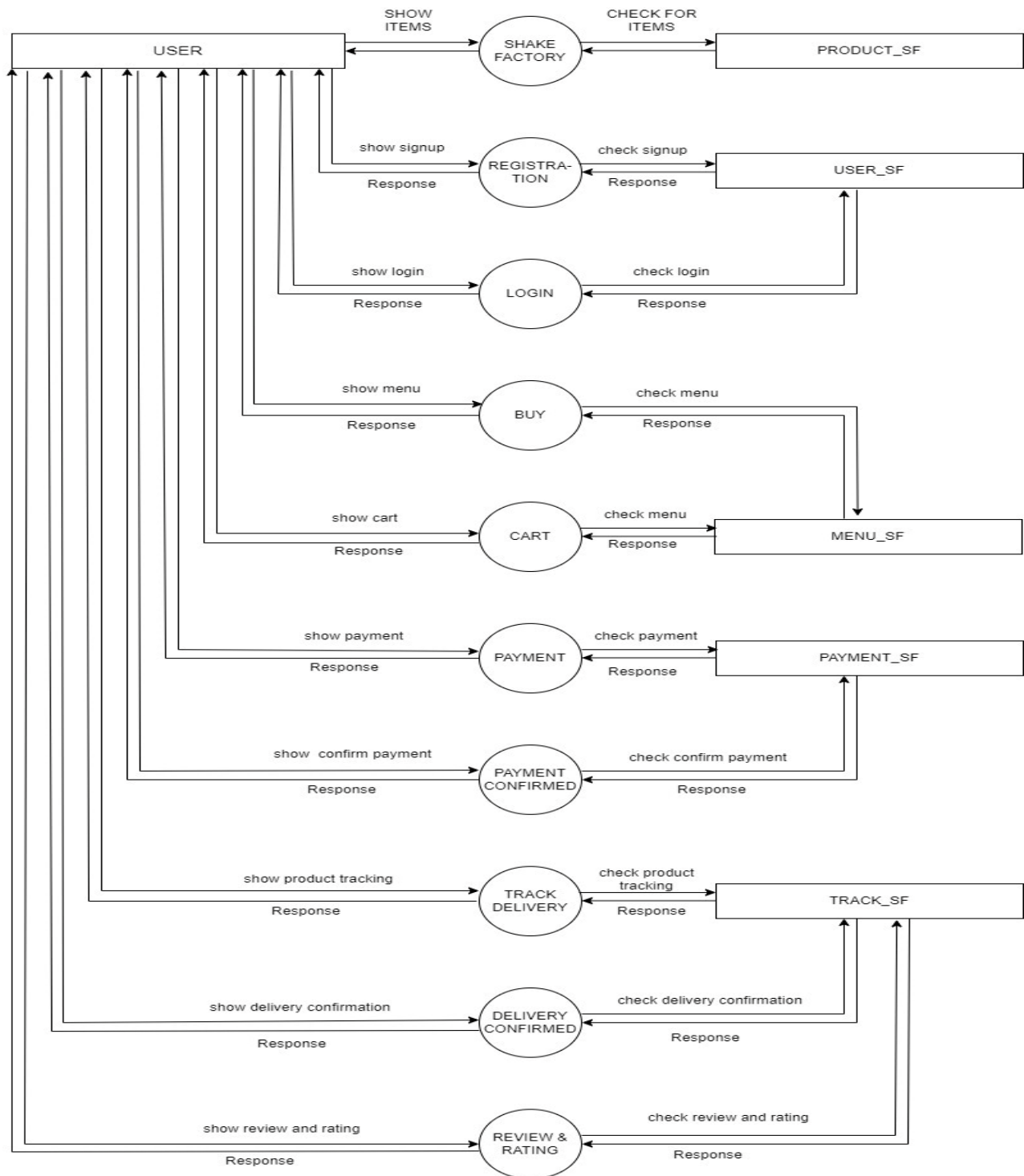
- **DB(Data Base):** A database is an organized collection of data that is structured and stored in a systematic manner, allowing for efficient storage, retrieval, and management of information. It serves as a central repository for storing and organizing data, providing a way to structure, organize, and access large amounts of information.
- **RAM(Random Access Memory):** RAM is a type of computer memory that is used to temporarily store data and instructions that are actively being processed by the CPU (Central Processing Unit). It provides fast and temporary storage for data that the CPU needs to access quickly.
- **UX(User Experience):** UX, or User Experience, refers to the overall experience a user has while interacting with a product. It encompasses the user's emotions, perceptions, and responses throughout their interaction with the application or website.
- **UI(User Interface):** UI, or User Interface, focuses on the visual and interactive elements of a product. It includes the design, layout, and presentation of the user interface, such as buttons, menus, forms, and other graphical elements.

Appendix B: Analysis Models

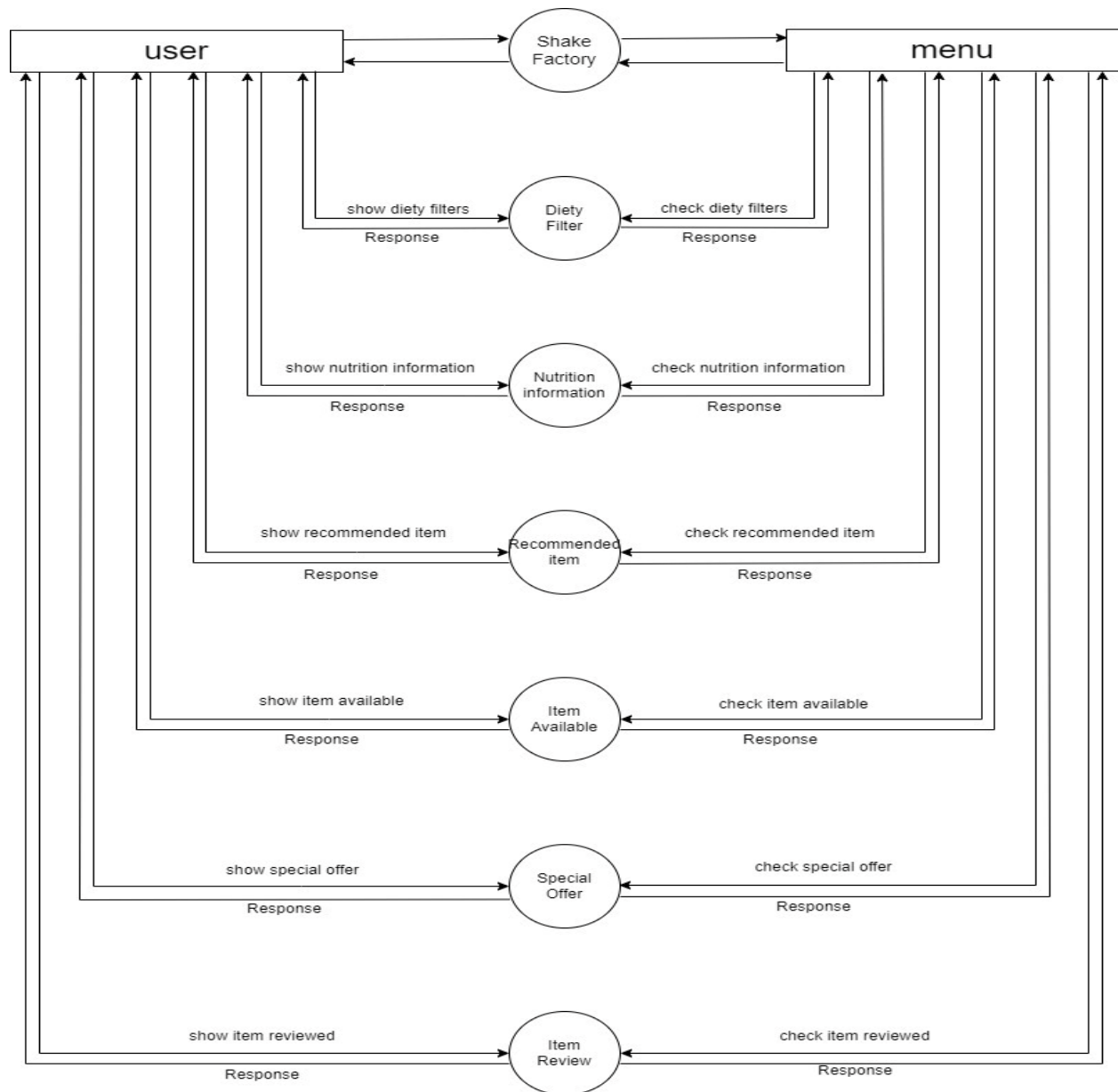
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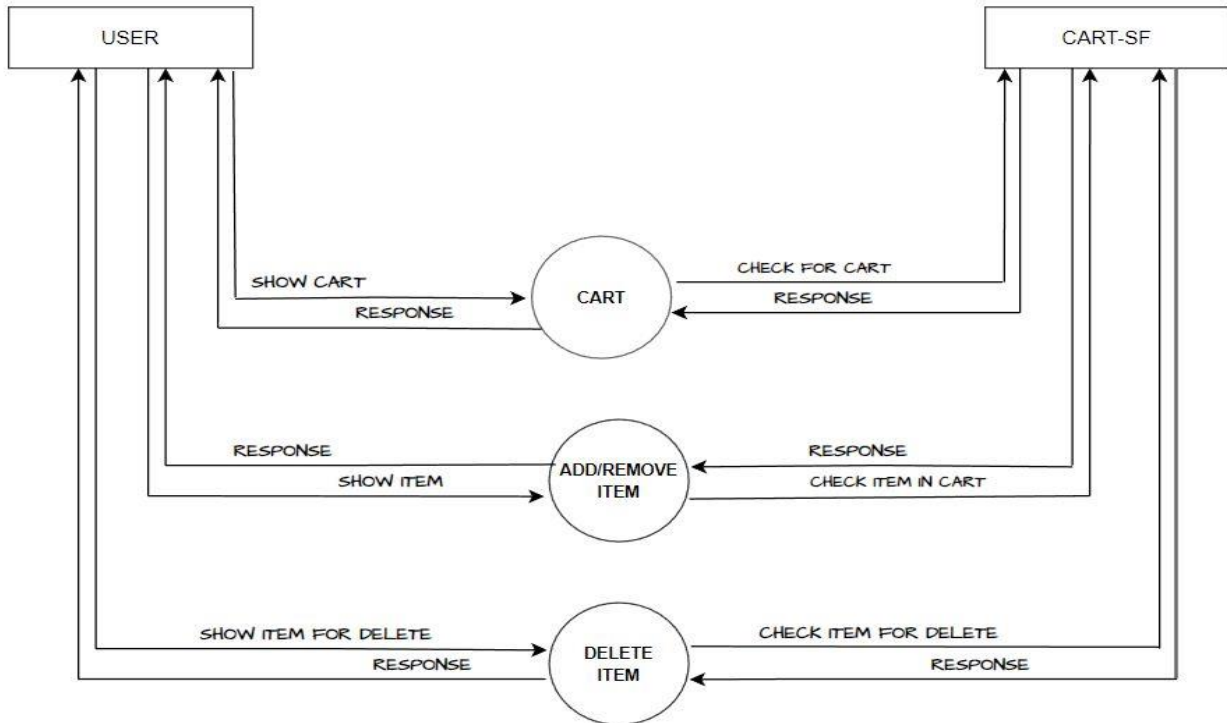
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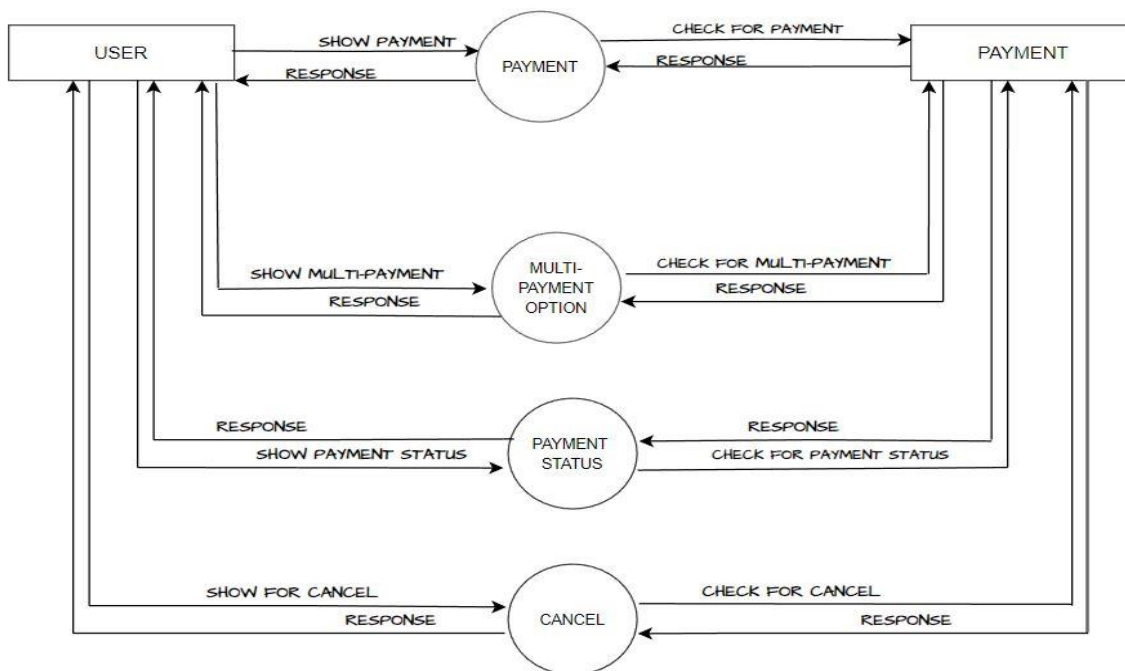
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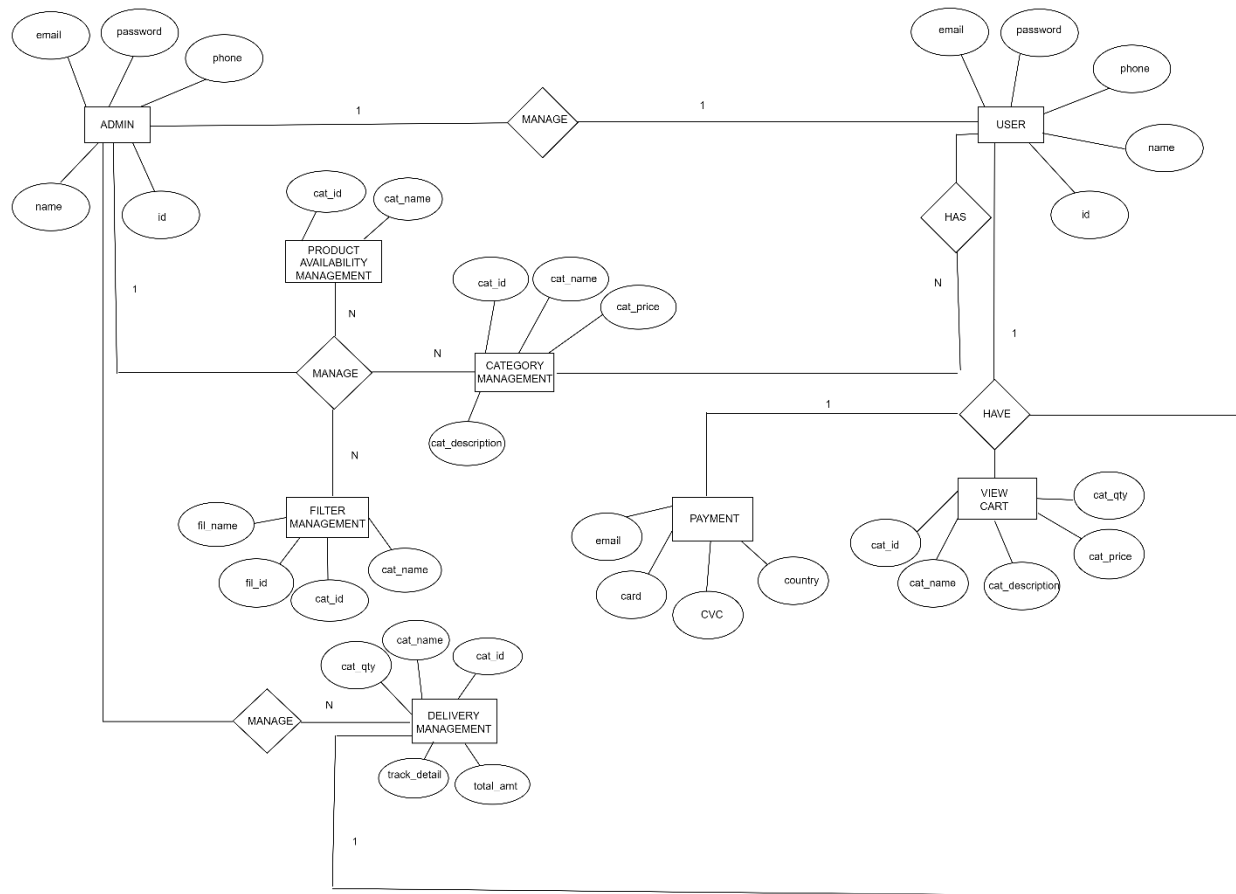
DFD-LEVEL-3



DFD-LEVEL-4



E-R DIAGRAM



Appendix C: Issues List

- **Scope Changes:** As the project progresses, new requirements may arise or existing requirements may need to be modified. These changes may be the result of evolving business needs, user feedback, or external factors. Managing scope changes effectively is important to keep the project on track