SOFTWARE REQUIREMENT SPECIFICATION

Yumzy

1. INTRODUCTION

A software requirements specification (SRS) is a description of a software system to be developed. It lays out **functional** and **non-functional** requirements, and may include a set of use cases that describe user interactions that the software must provide.

1.1 Purpose

This document presents a detailed explanation of the objectives, features, user interface and application of Yumzy in real life. It will also describe how the system will perform and under which it must operate. In this document it will also be shown the user interface. Both the stakeholders, users and the developers of the system can benefit from this document.

1.2 Intended Audience and Document Overview

This document is intended for different types of readers such as customers, stakeholder, system designer, system developer and tester. By reading this document a reader can learn about what the project is implemented for and how it will present its basic ideas. This document has a sequential overview of the whole project so if a reader reads the document from top to bottom, he will get a clear idea about the project.

1.3 Process Involved:

The following use cases of the "Yumzy" conceptualization are in scope.

- Unregistered Users also Can view (You can click skip option and view the restaurant)
- Register to Application
- Food item Available- various types of indian cuisines, american cuisines and coffee
- Search for food items easily
- Category of food item- Rajasthani, Gujarati, Maharashtrian, Punjabi, South Indian, Bengali, American, Coffee
- Cart feature
- Date and time of food item delivery will be notified by the system
- The admin can add/delete Suppliers and delivery boys.

- Allows the customers to maintain a cart.

1.4 Existing System

The current system for shopping is to visit the Restaurant manually and from the available list of food items, choose the item the customer wants and buying the item by making a payment of the price of the item.

- It is less user-friendly.
- User must go to Restaurant and select food item.
- It is difficult to identify the required food items.
- Description of the food item is limited.
- It is a time-consuming process
- Not in reach of distant users.

1.5 New System

In the proposed system customer need not go to the Restaurant for buying the food item. He can order the food item he wish to buy through the website or portal. The Restaurant owner will be admin of the system. Restaurant owner can appoint suppliers who will help owner in managing the customers and food item orders. The system also recommends a home delivery system for the purchased food item.

2. OVERALL DESCRIPTION

2.1 Product Perspective:

This software will help the user to connect to the restaurant, through this system a shop owner can reach other areas, helps to make an order for those who are unable to go to the restaurant, it keeps record and payment details so, owner can make good decisions, and provides a great variety to the user.

2.2 Product Scope:

This system can be implemented to any Restaurant in the locality or to multinational branded Restaurants having retail outlet chains. The system recommends a facility to accept the orders 24X7 and a home delivery system which can make customers happy. If Restaurants are providing an online portal where their customers can enjoy easy Restaurant from anywhere, the Restaurants wont be losing any more customers to the trending online Restaurants such as Flipcart or ebay. Since the application is available and always available.

2.3 User Classes and characteristics:

There are four types of actors and one cooperating system Characteristics. There are several users of this system:

ADMIN/ADMINISTRATOR:

Who can make changes in interface of application. He is the super user of this application. Only admin have access into this admin page. Admin may be the owner of the Restaurant. The administrator has all the information about the users and about all food item.

CUSTOMER:

With no any special training to operate the software

SUPPLIER/RESTAURANT:

Will get order from user and prepare food

DELIVERY BOY:

Gets information and takes food from the restaurant and delivers to user door

2.4 Use Case Diagrams

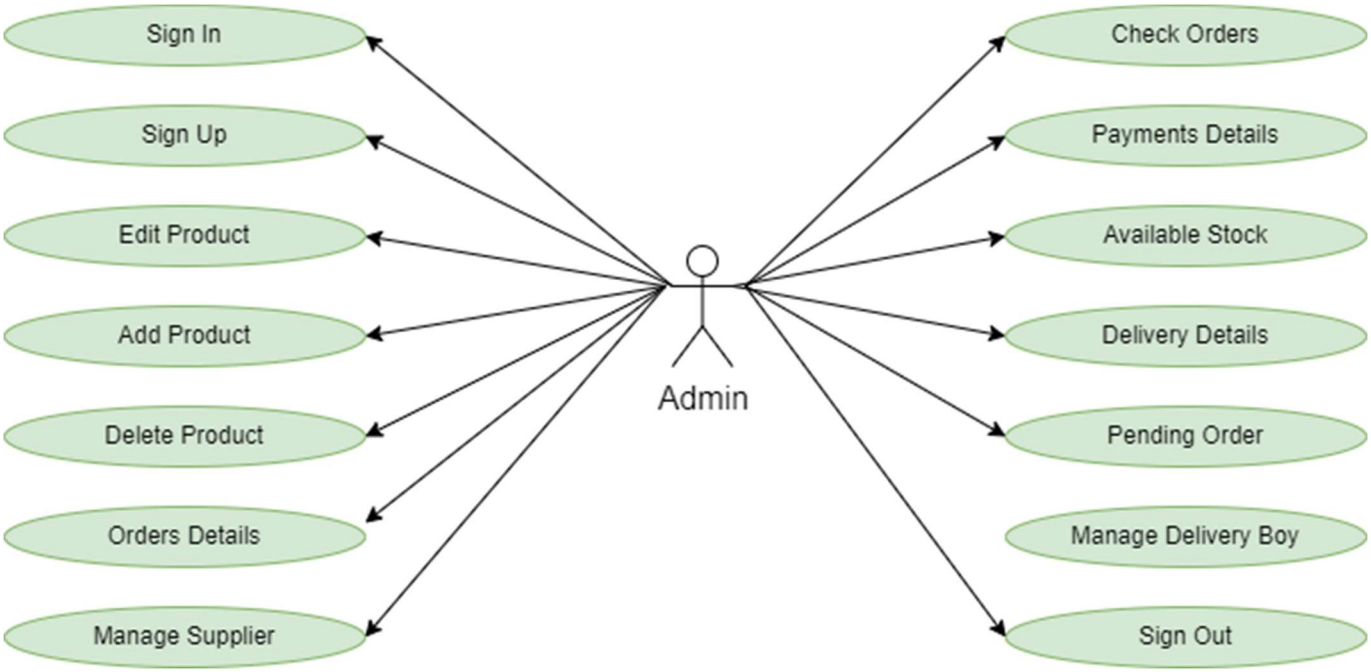


Figure 1: Admin Use Case Diagram

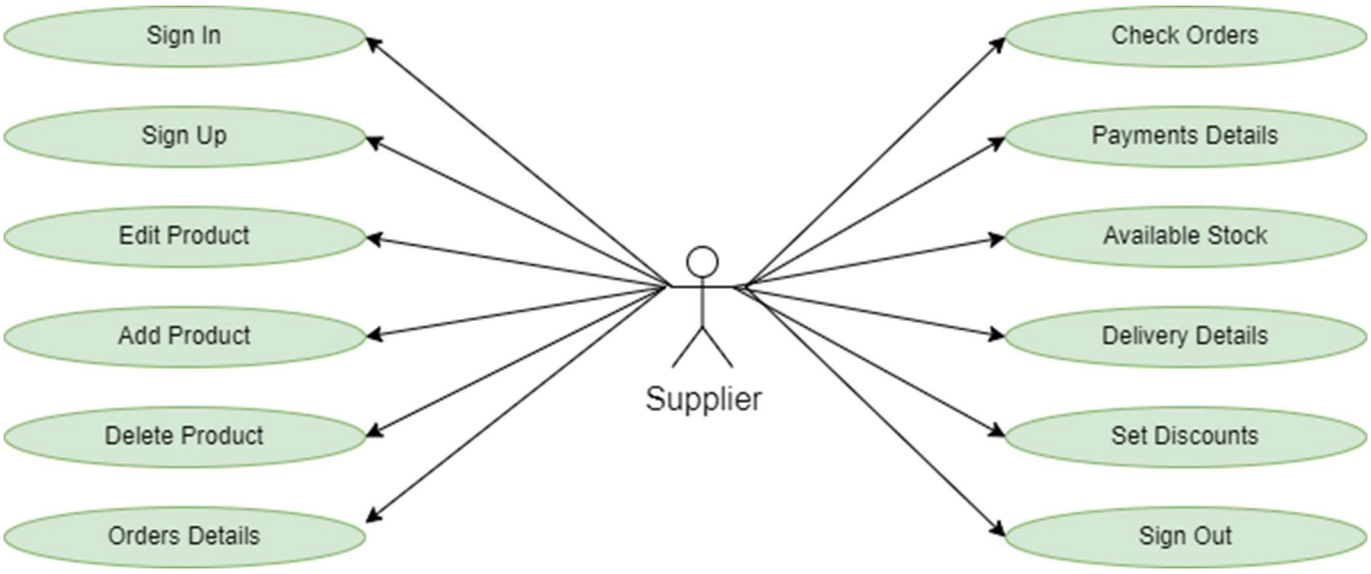


Figure 2: Supplier Use Case Diagram

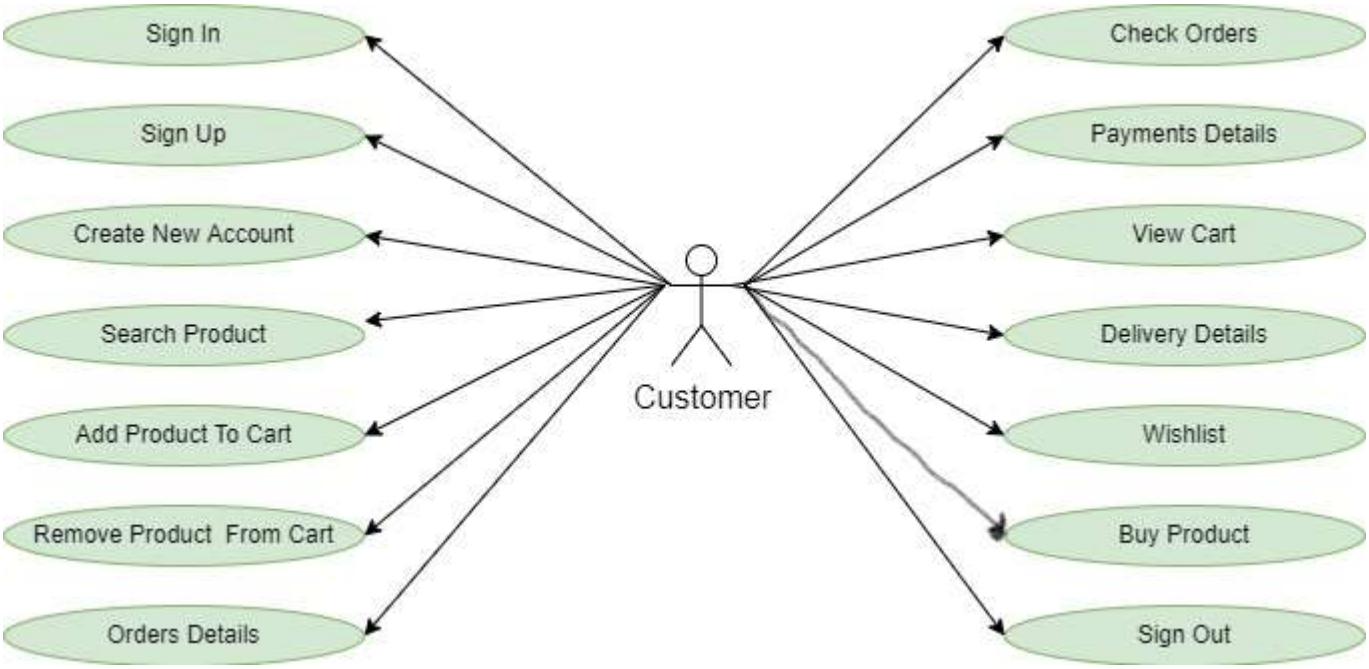


Figure 3: Customer Use Case Diagram

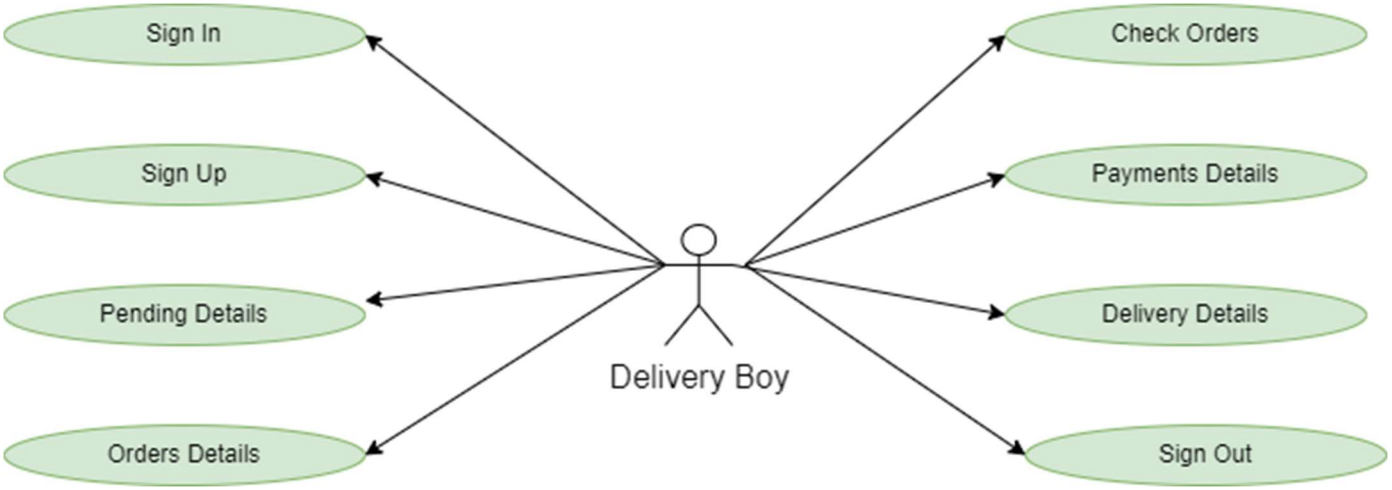


Figure 4: Customer Use Case Diagram

3. SPECIFIC REQUIREMENTS

3.1 Functional Requirements

This subsection presents the identified functional requirements for the subject Yumzy. Initially, general requirements that pertain to the whole system are given. Where possible, subsequent requirements have been demarcated based on their relevance to the users of the system, that is, Customers, Restaurants, Admins and Delivery boys.

3.1.1 General:

The following are the identified functional **general** requirements that directly relate to the entire Yumzy System.

Requirement	Description
G1	A server shall host the Yumzy App and provide system data processing and storage capability.
G2	A surface app page shall provide a customer with all customer system functionality.
G3	The App shall provide a User/Restaurant with all user/restaurant system functionality (according to access control).
G4	A display shall provide a Delivery Boy with all Delivery boy system functionality.
G5	The App shall be capable of interfacing with a register to facilitate the accurate processing of a payment

3.1.2 Administrator:

The administrator is the super user of this application. Only admin have access into this admin page. Admin may be the owner of the Restaurant. The administrator has all the information about the users and about all food item.

This module is divided into different sub modules.

1. Manage Suppliers
2. Manage Food item
3. Manage Users
4. Manage Orders
5. Manage Delivery Boy

The following are the identified functional **Admin** requirements that directly relate to the entire Yumzy System.

Requirement	Description
A1	Admin shall able to Manage users
A2	Admin shall able to Manage providers/suppliers
A3	Admin shall able to Mange accounts
A4	Admin shall able to CRUD food items for restaurant
A5	Admin shall to manage restaurant details
A6	Admin shall to manage restaurant ratings
A7	Admin shall able to manage Delivery boy details
A8	Admin shall able to display top dishes with highest ratings

3.1.3 Suppliers/Restaurant:

The following are the identified functional **Restaurant** requirements that directly relate to the entire Yumzy System.

Requirement	Description
R1	Restaurant shall able to CRUD food items from menu
R2	Restaurant shall be able to receive orders from customers
R3	Restaurant shall be able to view the orders which has been ordered by customers
R4	Restaurant shall be able to receive acknowledgement from Delivery Boy
R5	Restaurant shall be able to view the payment
R6	Restaurant shall able to receive acknowledgements on delivered orders
R7	Restaurant shall able to give offers on food items

3.1.4 Customer:

The following are the identified functional **Customer** requirements that directly relate to the entire Yumzy System.

Requirement	Description
C01	Customer Shall be able to login or skip from registration to enter the menu dashboard

C02	Customer can search the food item as per his wish in specific category.
C03	Customer shall be able to order foods and add to cart
C04	Customer shall be able to remove orders from cart
C05	Customer shall be able to navigate between menu and can add items to cart
C06	Customer has a privilege to his order and can see his order details.
C07	Customer shall be able to see his order history
C08	Customer shall be able to cancel the order
C09	Customers can buy food items from his cart by making payment.
C10	Customer can have a wish list for future buying food item he can add food item in the wish to list.

3.1.5 Delivery Boy:

The following are the identified functional **Delivery boy** requirements that directly relate to the entire Yumzy System.

Requirement	**Description**
D1	Delivery Boy shall be able to sign in, sign out and the delivery boy is added by the admin.
D2	Delivery boy shall able to see the pending order details after signing into his account.
D3	Delivery boy shall able to see the delivered order details after signing into his account.
D4	Delivery boy shall able to see the payment history of his delivery food item.
D5	Delivery boy shall able to reach the restaurant and check with order details
D6	Delivery boy shall able to receive customer details from restaurant
D7	Delivery boy shall able to pick up and deliver order to customer

3.2 NON-FUNCTIONAL REQUIREMENTS

This subsection presents the identified non-functional requirements for the Yumzy App. The subcategories of non-functional requirements given are safety, security, interface, human engineering, qualification, operational and maintenance.

3.2.1 Safety

The following are the identified non-functional **safety** requirements that directly relate to the entire Yumzy System.

Requirements	Description
S1	The system shall log every state and state change of action, tablet and display to provision recovery from system failure.
S2	The system shall be capable of restoring itself to its previous state in the event of failure (e.g. a system crash or power loss).
S3	The system shall be able to display a menu at all times to facilitate manual order taking should the need arise.
S4	The system shall utilize periodic 120-second keep-alive messages between mobile and the server to monitor app operational status

3.2.2 Human Engineering Requirements

The following are the identified non-functional **Human engineering requirements** that directly relate to the entire Yumzy System.

Requirements	Description
H01	Any element of the system will take no longer than 10-seconds to restart.
H02	Admin must not dismiss an engaged menu unless the customer requests it.

3.2.3 Efficiency Requirement

The following are the identified non-functional **Efficiency Requirement** that directly relate to the entire Yumzy System.

Requirements	Description
E1	When an online food delivery portal is implemented, the customers can purchase food item in an efficient manner.

3.2.4 Reliability Requirement

The following are the identified non-functional **Reliability Requirement** that directly relate to the entire Yumzy System.

Requirements	Description
R1	The system should provide a reliable environment to both customers and owner.
R2	All orders should be reaching at the admin without any errors.

3.2.5 Usability Requirement

The following are the identified non-functional **Usability Requirement** that directly relate to the entire Yumzy System.

Requirements	Description
U1	The Web application is designed for user friendly environment and should be ease of use.

3.2.6 Implementation Requirement

The following are the identified non-functional **Implementation Requirement** that directly relate to the entire Yumzy System.

Requirements	Description
I1	The System is Implemented using React in frontend with Spring Boot as backend and it will be used for database connectivity.
I2	The Systems Database part is developed using MySQL.
I3	Responsive web designing is used for making the website compatible for any type of screen.

3.2.7 Delivery Requirement

The following are the identified non-functional **Delivery Requirement** that directly relate to the entire Yumzy System.

Requirements	Description
D1	The whole system is expected to be delivered in four months of time with a weekly Evaluation by the project guide.

3.3 PERFORMANCE REQUIREMNET

The following are the identified non-functional **Performance requirements** that directly relate to the entire Yumzy System.

Requirements	Description
P1	The server shall be capable of supporting no less than 200 concurrent connections from any combination of computers, tablets and displays.
P2	The server shall be capable of supporting an arbitrary number of active orders, that is, no orders shall be lost under any circumstances.

3.4 HARDWARE & SOFTWARE REQUIREMNETS

3.4.1 Hardware Requirements

Hardware requirements for insurance on internet will be same throughout which are as follows:

RAM	2 GB
Hard disk	320 GB
Processor	Dual Core

3.4.2 Software Requirements

Client side:

Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

Server side:

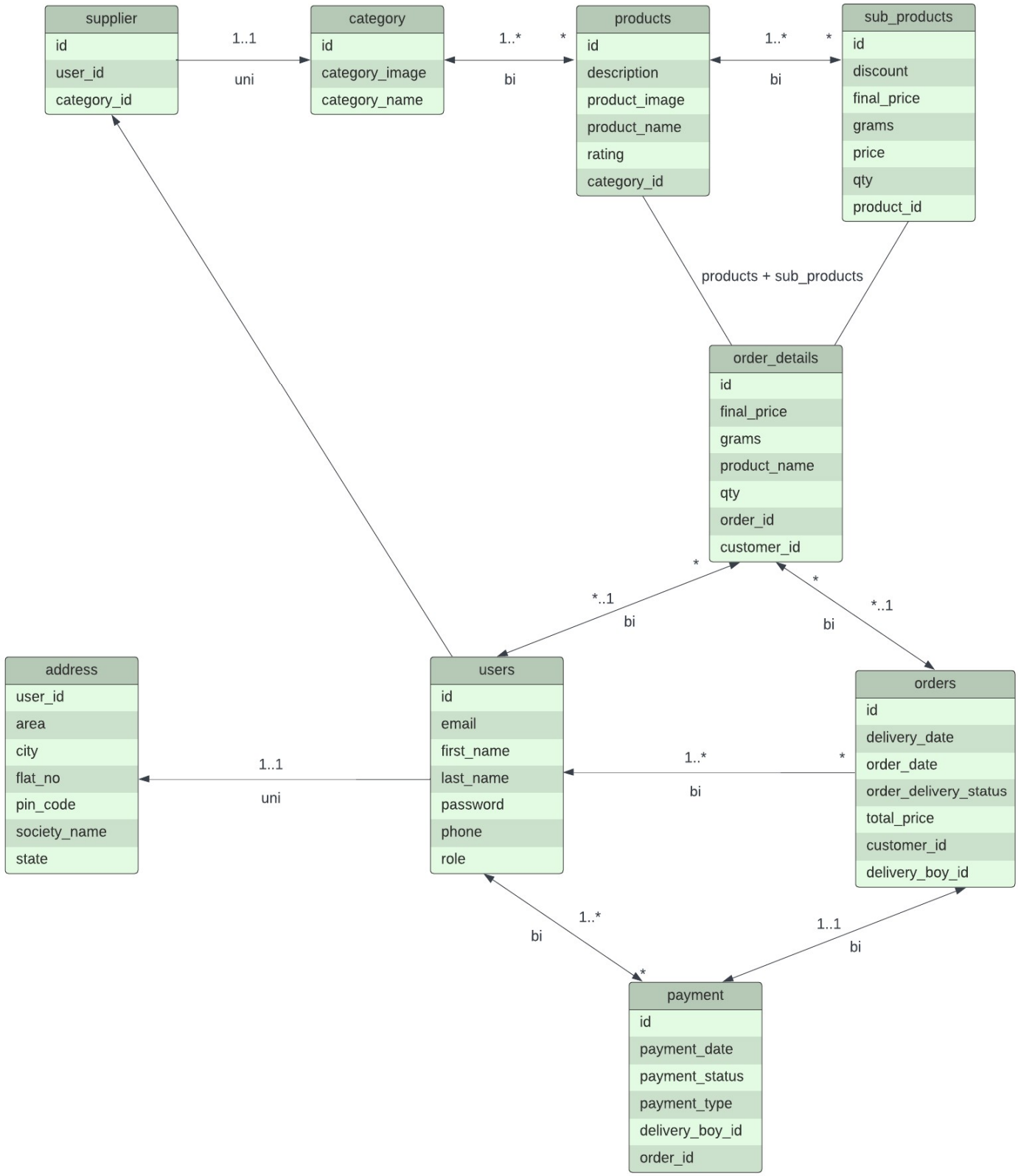
Web Server	TOMCAT
Server side Language	Spring Boot
Database Server	MYSQL
Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

4 SYSTEM DESIGN SPECIFICATION

4.1 ER Diagram

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is:

- It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables.
- It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.
- In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.


supplier
id
user_id
category_id
1..1
uni
category
id
category_image
category_name
1..*
*
bi
products
id
description
product_image
product_name
rating
category_id
1..*
*
bi
sub_products
id
discount
final_price
grams
price
qty
product_id
products + sub_products
order_details
id
final_price
grams
product_name
qty
order_id
customer_id
*
*..1
bi
*
*..1
bi
address
user_id
area
city
flat_no
pin_code
society_name
state
1..1
uni
users
id
email
first_name
last_name
password
phone
role
1..*
*
bi
orders
id
delivery_date
order_date
order_delivery_status
total_price
customer_id
delivery_boy_id
1..*
bi
*
1..1
bi
payment
id
payment_date
payment_status
payment_type
delivery_boy_id
order_id

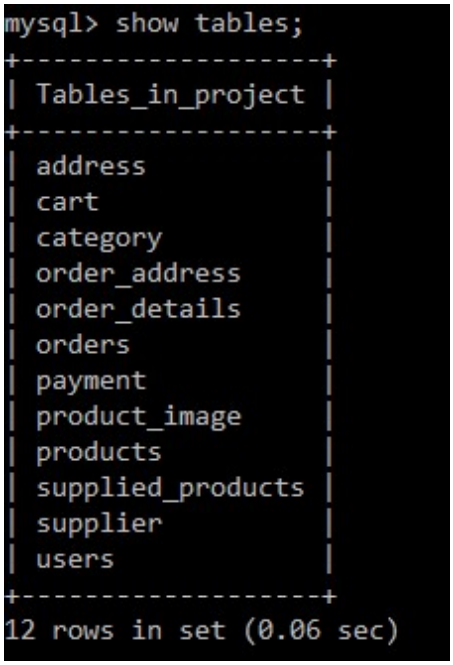
5.2 Database Design

The data in the system has to be stored and retrieved from database. Designing the database is part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates. The MS Access database has been chosen for developing the relevant database.

5.3 Table Structure

5.3.1 Tables



5.3.2 Address

```
mysql> desc address;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| user_id      | int         | NO   | PRI | NULL    |       |
| area         | varchar(20) | YES  |     | NULL    |       |
| city         | varchar(20) | YES  |     | NULL    |       |
| flat_no      | int         | NO   |     | NULL    |       |
| pin_code     | varchar(20) | YES  |     | NULL    |       |
| society_name | varchar(20) | YES  |     | NULL    |       |
| state        | varchar(20) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
7 rows in set (0.02 sec)
```

5.3.3 Cart

```
mysql> desc cart;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| id           | int          | NO   | PRI | NULL    | auto_increment |
| description  | varchar(100) | YES  |     | NULL    |                |
| discount     | int          | NO   |     | NULL    |                |
| final_price  | double       | NO   |     | NULL    |                |
| grams        | int          | NO   |     | NULL    |                |
| price        | double       | NO   |     | NULL    |                |
| product_id   | int          | NO   |     | NULL    |                |
| product_name | varchar(20)  | YES  |     | NULL    |                |
| qty          | int          | NO   |     | NULL    |                |
| rating       | int          | NO   |     | NULL    |                |
| user_id      | int          | NO   |     | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
11 rows in set (0.01 sec)
```

5.3.4 Category

```
mysql> desc category;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| id            | int         | NO   | PRI | NULL    | auto_increment |
| category_name | varchar(20) | YES  |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
```

5.3.5 Order Address

```
mysql> desc order_address;
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| id           | int         | NO   | PRI | NULL    | auto_increment |
| area         | varchar(20) | YES  |     | NULL    |                |
| city         | varchar(20) | YES  |     | NULL    |                |
| flat_no      | int         | NO   |     | NULL    |                |
| order_id     | int         | NO   |     | NULL    |                |
| pin_code     | varchar(20) | YES  |     | NULL    |                |
| society_name | varchar(20) | YES  |     | NULL    |                |
| state        | varchar(20) | YES  |     | NULL    |                |
| user_id      | int         | NO   |     | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
9 rows in set (0.00 sec)
```

5.3.6 Order Details

```
mysql> desc order_details;
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| id           | int         | NO   | PRI | NULL    | auto_increment |
| final_price  | double      | NO   |     | NULL    |                |
| grams        | int         | NO   |     | NULL    |                |
| product_name | varchar(20) | YES  |     | NULL    |                |
| qty          | int         | NO   |     | NULL    |                |
| order_id     | int         | NO   | MUL | NULL    |                |
| customer_id  | int         | NO   | MUL | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```

5.3.7 Orders

```
mysql> desc orders;
+----------------------+--------------+------+-----+---------+----------------+
| Field                | Type         | Null | Key | Default | Extra          |
+----------------------+--------------+------+-----+---------+----------------+
| id                   | int          | NO   | PRI | NULL    | auto_increment |
| delivery_date        | date         | YES  |     | NULL    |                |
| order_date           | date         | YES  |     | NULL    |                |
| order_delivery_status | varchar(255) | YES  |     | NULL    |                |
| total_price          | double       | NO   |     | NULL    |                |
| customer_id          | int          | NO   | MUL | NULL    |                |
| delivery_boy_id      | int          | NO   | MUL | NULL    |                |
+----------------------+--------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```

5.3.8 Products

```
mysql> desc products;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| id           | int          | NO   | PRI | NULL    | auto_increment |
| description  | varchar(100) | YES  |     | NULL    |                |
| discount     | int          | NO   |     | NULL    |                |
| final_price  | double       | NO   |     | NULL    |                |
| grams        | int          | NO   |     | NULL    |                |
| price        | double       | NO   |     | NULL    |                |
| product_name | varchar(20)  | YES  |     | NULL    |                |
| qty          | int          | NO   |     | NULL    |                |
| rating       | int          | NO   |     | NULL    |                |
| category_id  | int          | NO   | MUL | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
10 rows in set (0.00 sec)
```

5.3.9 Product Image

```
mysql> desc product_image;
+--------------------+-------------+------+-----+---------+----------------+
| Field              | Type        | Null | Key | Default | Extra          |
+--------------------+-------------+------+-----+---------+----------------+
| id                 | int         | NO   | PRI | NULL    | auto_increment |
| image              | longblob    | YES  |     | NULL    |                |
| image_content_type | varchar(30) | YES  |     | NULL    |                |
| product_name       | varchar(20) | YES  | UNI | NULL    |                |
+--------------------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

5.3.10 Payment

```
mysql> desc payment;
+-----------------+-------------+------+-----+---------+----------------+
| Field           | Type        | Null | Key | Default | Extra          |
+-----------------+-------------+------+-----+---------+----------------+
| id              | int         | NO   | PRI | NULL    | auto_increment |
| payment_date    | date        | YES  |     | NULL    |                |
| payment_status  | varchar(20) | YES  |     | NULL    |                |
| payment_type    | varchar(20) | YES  |     | NULL    |                |
| delivery_boy_id | int         | NO   | MUL | NULL    |                |
| order_id        | int         | YES  | MUL | NULL    |                |
+-----------------+-------------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

5.3.11 Supplied Product

```
mysql> desc supplied_products;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| id           | int          | NO   | PRI | NULL    | auto_increment |
| description  | varchar(100) | YES  |     | NULL    |                |
| discount     | int          | NO   |     | NULL    |                |
| final_price  | double       | NO   |     | NULL    |                |
| grams        | int          | NO   |     | NULL    |                |
| price        | double       | NO   |     | NULL    |                |
| product_name | varchar(20)  | YES  |     | NULL    |                |
| qty          | int          | NO   |     | NULL    |                |
| rating       | int          | NO   |     | NULL    |                |
| category_id  | int          | NO   | MUL | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
10 rows in set (0.00 sec)
```

5.3.12 Supplier

```
mysql> desc supplier;
+-------------+------+------+-----+---------+----------------+
| Field       | Type | Null | Key | Default | Extra          |
+-------------+------+------+-----+---------+----------------+
| id          | int  | NO   | PRI | NULL    | auto_increment |
| user_id     | int  | YES  | MUL | NULL    |                |
| category_id | int  | YES  | MUL | NULL    |                |
+-------------+------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

5.3.13 Users

```
mysql> desc users;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | int         | NO   | PRI | NULL    | auto_increment |
| email      | varchar(30) | NO   | UNI | NULL    |                |
| first_name | varchar(20) | NO   |     | NULL    |                |
| last_name  | varchar(20) | NO   |     | NULL    |                |
| password   | varchar(20) | NO   |     | NULL    |                |
| phone      | varchar(20) | YES  |     | NULL    |                |
| role       | varchar(20) | YES  |     | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```