Chapter 1

Introduction

1.1 Background

The web application aims to provide a platform for small shops to list and sell their products online, reaching a larger customer base and offering a convenient delivery service. It includes modules for customers, shops, delivery, and administrator control, allowing small shops to manage their inventory, sales, and improve their business operations. The application offers a user-friendly interface and secure online shopping experience, supporting and promoting local small businesses as an alternative to giant e-commerce websites.

1.2 Objective

This application help the small shops to list and sell their products online. This platform will provide small shops with an opportunity to reach a larger customer base and offer a convenient delivery service for customers

1. provide a platform for small shops to list and sell their products online.
2. enable small shops to reach a larger customer base
3. provide a delivery service for customers to receive products at their doorstep
4. provide a competitive alternative to giant e-commerce websites
5. offer a user-friendly and easy to navigate interface for both customers and small shops.

1.3 Project Description

This web application aims to provide small shops with a platform to list and sell their products online, reaching a larger customer base and offering a convenient delivery service. The application will include modules for customers, shops, delivery, and administrator control, allowing small shops to manage their inventory, sales, and improve their business operations. The application will have a user-friendly interface and secure online shopping experience, supporting and promoting local small businesses as an alternative to giant e-commerce websites. The proposed system is designed to overcome the challenges faced by small shops in the current system, by providing a comprehensive solution for small shops to sell their products online, manage their inventory and sales data, and reach a larger customer base. The application will also provide customers with a convenient and easy way to purchase products, and offer a delivery service for products to be delivered at the customer's doorstep

Chapter 2

General Background

2.1 Existing System

The existing system for shops to sell their products typically involves physical storefronts and traditional retail operations. Customers would need to visit the store in person to browse and purchase products. Additionally, some small shops may have their own websites to sell their products online. But they may face challenges such as high costs of building and maintaining an e-commerce website, difficulty in managing online payments and delivery, and lack of visibility and reach compared to giant e-commerce websites.

2.2 Proposed System

To overcome the challenges faced by shops in the current system, the proposed web application offers a comprehensive online platform for small shops to list and sell their products. This system includes several modules that handle different functionalities to improve the overall shopping and selling experience.The customer module allows customers to browse products, view product details and images, and add items to their cart. They can also choose from different payment options and view their previous orders and track their current orders.The delivery module is responsible for delivering products to customers. Customers can select their preferred delivery option and track the status of their delivery in real-time, and shops can manage and schedule deliveries through this module, ensuring timely and efficient delivery of products.The shops module lists all the products available for purchase on the application. Small shops can add, edit or delete the products and manage their inventory.The proposed system aims to provide a comprehensive solution for small shops to sell their products online, reach a larger customer base, manage their inventory and sales data, and offer a convenient delivery service. It also provides customers with an easy and user-friendly interface to purchase products and supports and promotes local small businesses.

2.3 Module Description

Module List

- Admin
- User
- Shop
- Delivery

2.3.1 Admin

The administrators are authenticated to the website by providing the credentials which they got at the time of registration. Administrator can manage the shop, user, and Delivery. The admin can also read complaints from users. They should able to Block / UnBlock shops and Delivery.

- Login
- Manage user
- Manage delivery
- Manage report

2.3.2 User

The Users Module is a can registration, login, and profile management. This module will allow customers to create an account, log in, and manage their personal information such as name, address, email, and phone number. The Users can browse products, view product details and images, add items to their cart and proceed to checkout,where they can select their preferred shipping and payment options. They will also be able to view the total cost of their purchase including shipping, tax and other charges.

- Login
- Register
- View product
- Manage cart
- Order product

2.3.3 Shop

The Shop owners can small shops to list and manage their products for sale. This module will give shop owners the ability to add new products, edit existing products, and manage the inventory.Shops will be able to add and edit product details such as name, description, images, price, and stock levels.

- Login
- Register
- Add product
- Remove product
- Edit product
- View order
- Manage order
- Pass order

2.3.4 Delivery

The Delivery Module of the application is responsible for delivering products to customers. The module will also allow Delivery boys to set up delivery zones when registering in MINISHOP. The delivery module will integrate with the customer and shop modules, ensuring that the customer's order and delivery details are accurate and up-to-date. It will also provide customers with an easy and convenient way to receive their products and give shop owners the ability to manage the delivery process efficiently.

- Login
- Register
- Add product
- Remove product
- Edit product
- View order
- Manage order
- Pass order

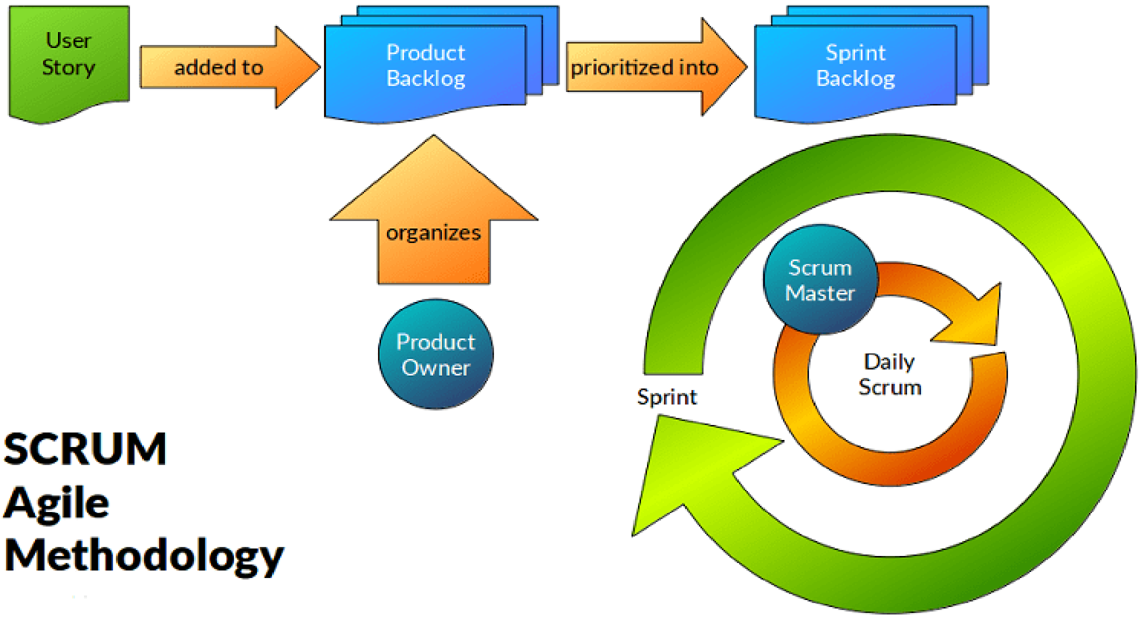
Chapter 3

Methodology

3.1 Agile software development

After the initial studies it is found that agile model of software development is suitable and is the best method for the development of this system. Agile methodology focused on the client satisfaction through continuous delivery. Also it sets a minimum number of requirements and turns them in to a deliverable product. As this project has many individual requirements which can be delivered in parts and the user can gradually improve their work efficiency. Agile methodology has a family of methods of which scrum is selected for the development of this project. Scrum is process framework that has been used to manage complex product devel- opment. It is not a process or technique for building products rather it is a framework within which various processes can be employed. Also it is a suitable method to support the devel- opment process. It focuses on lean software development and has in building better software effectively and efficiently.

Agile is one of the most widely used and recognized software development framework. The methodology those experts agreed upon was described as 'lightweight' and fast. Agile is also about being the adaptive and continuous improvement, as much as it is about constant feedback and speed of delivery.



It is used as continuous integration and testing process in SDLC of a project. Agile means the ability to change and adapt to the situation. Unlike other SDLC, in agile, development and testing happens concurrently. The nature of agile methodology allows the user to introduce changes whenever they want. Also, it allows the customer to view their product during the production process and can suggest an upgradation. Larger projects are not easily implemented due to the anonymity of development time. The development process is iterative and short. In this methodology, both the developers and testers work together.

3.1 Scrum Framework

For the team-based development environment Scrum framework of an agile methodology is used. Scrum consists of mainly three roles: scrum master, product owner, and scrum team. Scrum master is the one who sets up the team and sprint meetings. Product Owner is the per- son that prioritize the product backlog and scrum team is the team that manages the work and organize themselves to complete a sprint.

The major rules in scrum methodology are

1. **The product owner (PO)** : Who represents the stakeholder and the business.
2. **The scrum master** : Ensures the process followed, removes obstructions, and protects the development system

3. **Development team**: Cross functional, self organizing team who actually do the actual analysis, design implementation and testing process.

Agile scrum methodology has several benefits. First, it encourages products to be built faster, since each set of goals must be completed within each sprint’s time frame. It also requires frequent planning and goal setting, which helps the scrum team focus on the current sprint’s objectives and increase productivity.

3.3 User Story

A key component of agile software development is putting people first, and user-stories put actual end users at the center of the conversation. Stories use non-technical language to provide context for the development team and their efforts. After reading a user story, the team knows why they are building what they're building and what value it creates. A user story is a tool used in agile software development to capture a description of a software feature from an end- user perspective. The user story describes the type of user, what they want and why. A user story helps to create a simplified description of a requirement. User stories are one of the core components of an agile program. They help provide a user-focused framework for daily work. which drives collaboration, creativity, and a better product overall. The user story of system is given in Table

3.4 Sprint

A sprint is a short, time-boxed period when a scrum team works to complete a set amount of work. Sprints are at the very heart of scrum and agile methodologies, and getting sprints right will help your agile team ship better software with fewer headaches.

Milestones	Completion Date
User Stories Collection	5/09/2022
Product Backlog	12/09/2022
High level Sprint Planning	22/09/2022
UI and Database Design	26/09/2022
Sprint 1	10/10/2022
Sprint 2	17/10/2022
Sprint 3	25/10/2022
Sprint 4	02/11/2022
Sprint 5	07/11/2022
Sprint 6	10/11/2022

Table 3.2: Major Milestones

Chapter 4

System Analysis and Design

4.1 Unified modeling Language

UML is a way of visualizing a software program using a collection of diagrams. The notation has evolved from the work of Grady Booch, James Rumbaugh, Ivar Jacobson and the Rational Software Corporation to be used for object-oriented design, but it has since been extended to cover a wider variety of software engineering projects. Today, UML is accepted by the Object Management Group(OMG) as the standard for modelling software development. UML stands for Unified Modeling Language.UML 2.0 helps extend the original UML specification to cover a wider portion of software development efforts including agile practices. Improved integration between structural models like class diagrams and behavior models like activity diagrams.

4.1.1 Activity Diagram

The basic purposes of activity diagrams are similar to other four diagrams. It captures the dynamic behavior of the system. Other four diagrams are used to show the message flow from one object to another but activity diagram is used to show message flow f activity to another. Activity only used for visualizing the dynamic nature of a system, but they are also used to construct the executable system by using forward and reverse engine missing thing in the activity diagram is the message part.

4.1.1 Class Diagram

A class diagram in the Unified Modeling Language (UML) is a type of static structure dia- gram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

4.1 Data Flow Diagrams

Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation.

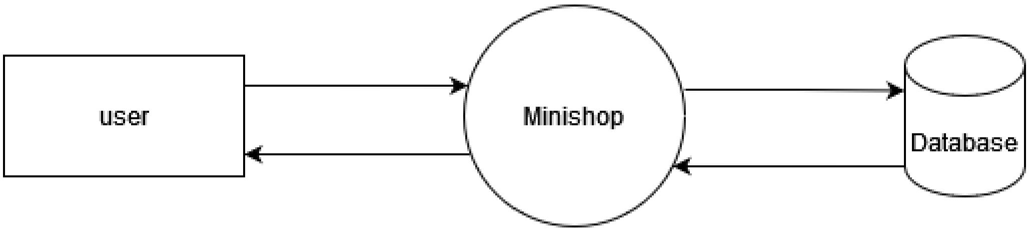


Figure 4.1: DFD 0

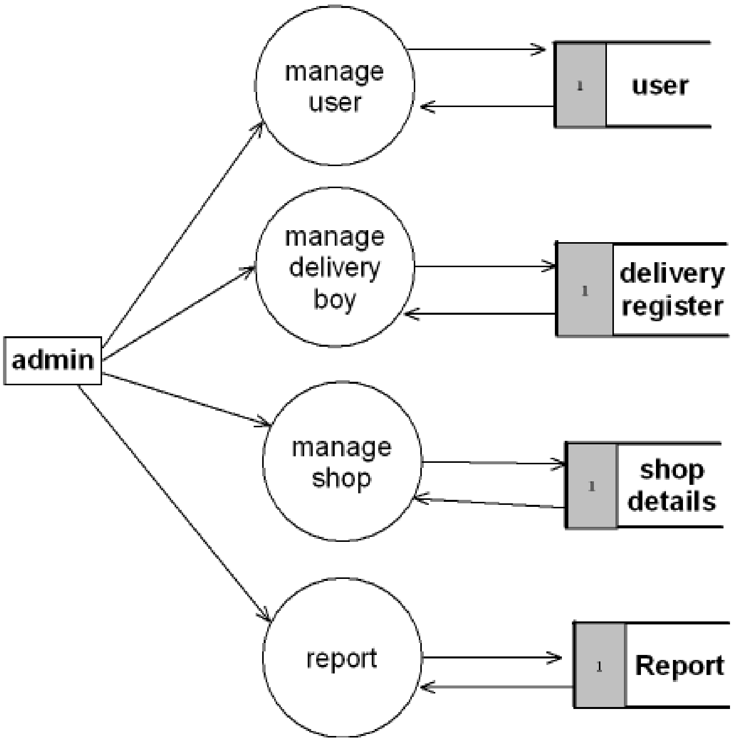


Figure 4.2: DFD 1

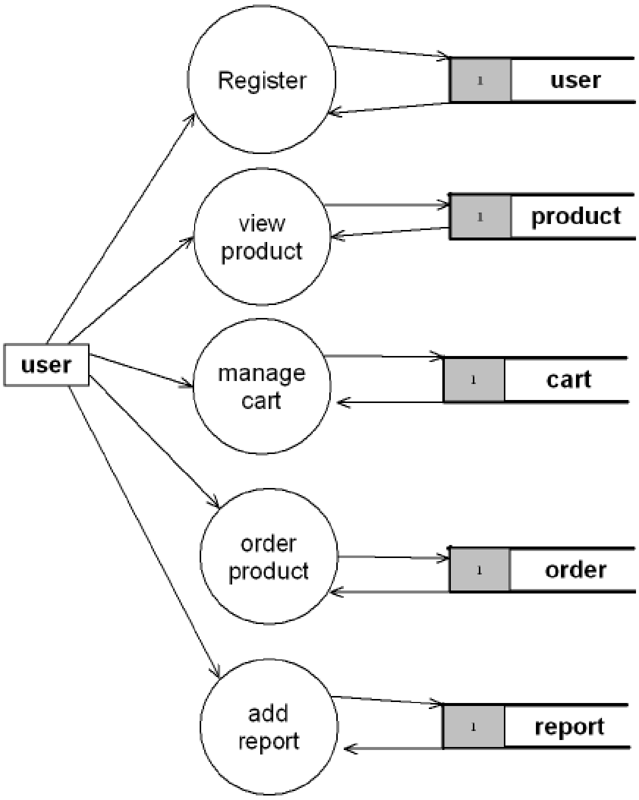


Figure 4.3: DFD 2

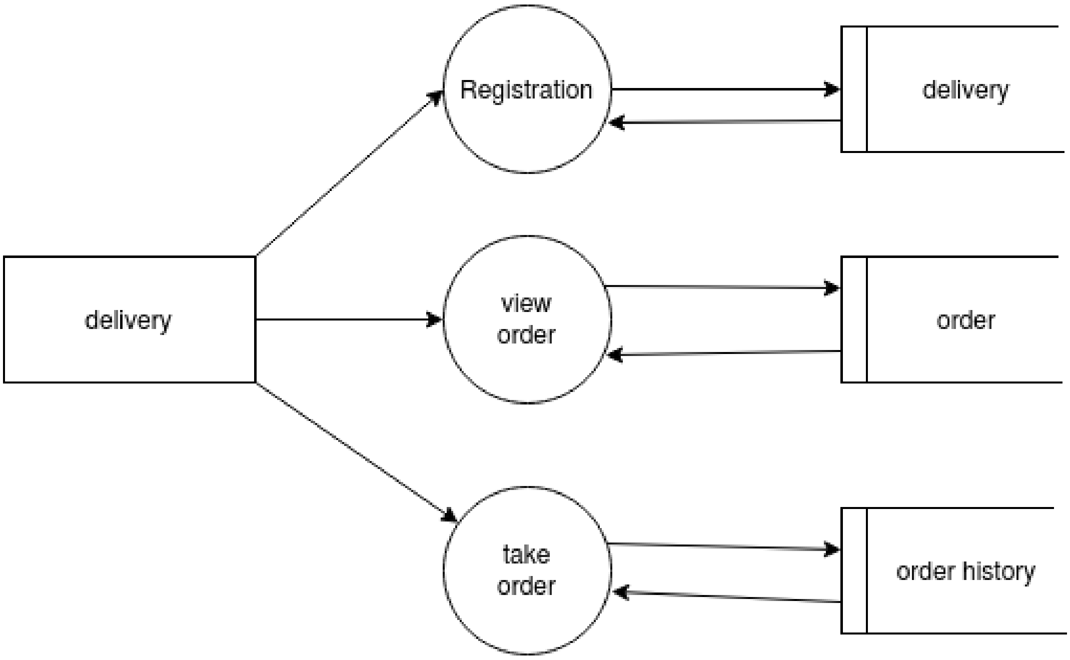


Figure 4.4: DFD 3

Chapter 5

Tools and Platforms

5.1 Python

Python is an interpreted high level programming language for general purpose programming. Created by Guido van Rossum and first released in 1991, Python has a design philosophy that emphasizes code readability, notably using significant whitespace. It provides constructs that enable clear programming on both small and large scales. In July 2018, Van Rossum stepped down as the leader in the language community after 30 years. Python features a dynamic type system and automatic memory management. It supports multiple programming paradigms, including object oriented, imperative, functional and procedural, and has a large and comprehensive standard library.

Python interpreters are available for many operating systems. Python, the reference imple- mentation of Python, is open source software and has a community based development model, as do nearly all of Python's other implementations. Python and Python are managed by the nonprofit Python Software Foundation.

5.1.1 Python Environment

A Python environment is a child/offshoot of a parent python distribution which allows you to use the packages in the parent distribution as well as to install packages that are only visible to the child distribution.

5.1.2 Python Language

Python is a powerful high level, object oriented programming language created by Guido van Rossum. It has simple easy to use syntax, making it the perfect language for someone trying to learn computer programming for the first time.

Python is a general purpose language. It has wide range of applications from Web devel- opment (like: Django and Bottle), scientific and mathematical computing (Orange, SymPy, NumPy) to desktop graphical user Interfaces (Pygame, Panda3D).

5.1.3 Python tools

It is used by the developers to create Python code. They include Python compiler, Python interpreter, classes, libraries etc.

5.2 Django Framework

Django is a high level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the has- sle of web development, so you can focus on writing your app without needing to reinvent the wheel. It is free and open source, has a thriving and active community, great documentation, and many options for free and paid for support.

5.3 Bootstrap

Bootstrap is a free, open source HTML, CSS, and JavaScript framework for quickly building responsive websites. Initially, Bootstrap was called Twitter Blueprint and was developed at Twitter. It supports responsive design and features predefined design templates that you can use out of the box, or customize for your needs with your own code

5.4 JavaScript

JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. While it is most well-known as the scripting language for Web pages, many non-browser environments also use it, such as Node.js, Apache CouchDB and Adobe Acrobat. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative (e.g. functional programming).

5.5 Database

5.5.1 SQLite

SQLite is a relational database management system (RDBMS) contained in a C library. In contrast to many other database management systems, SQLite is not a client–server database engine. Rather, it is embedded into the end program.

SQLite is a C-language library that implements a small, fast, self-contained, highreliability, full-featured, SQL database engine. SQLite is the most used database engine in the world. SQLite is built into all mobile phones and most computers and comes bundled inside countless other applications that people use every day. SQLite is an embedded SQL database engine. Unlike most other SQL databases, SQLite does not have a separate server process. SQLite reads and writes directly to ordinary disk files. A complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file. The database file format is crossplatform - you can freely copy a database between 32-bit and 64-bit systems or between bigendian and little-endian architectures. These features make SQLite a popular choice as an Application File Format. SQLite database files are a recommended storage format by the US Library of Congress. for fopen().

5.5.2 Uses of SQLite

1. **Database for the Internet OfThings:** SQLite is popular choice for the database engine in cell phones, PDAs, MP3 players, set-top boxes, and other electronic gadgets. SQLite has a small code footprint, makes efficient use of memory, disk space, and disk band- width, is highly reliable, and requires no maintenance from a Database Administrator.

2. **Application File Format:** Rather than using fopen() to write XML, JSON, CSV, or some proprietary format into disk files used by your application, use an SQLite database. You'll avoid having to write and troubleshoot a parser, your data will be more easily accessible and cross-platform, and your updates will be transactional.

3. **Website Database:** Because it requires no configuration and stores information in ordi- nary disk files, SQLite is a popular choice as the database to back small to medium-sized websites.

Chapter 6

Implementation

The implementation is one phase of software development. Implementation is that stage in the project where theoretical design is turned into working system. Implementation involves plac- ing the complete and tested software system into actual work environment. Implementation is concerned with translating design specification with source code. The primary goal of imple- mentation is to write the source code to its specification that can be achieved by making the source code clear and straight forward as possible. Implementation means the process of converting a new or revised system design into operational one. The three types of implementation are:-implementation of a computerized system to replace a manual system, implementation of a new system to replace existing one and implementation of a modified system to replace an existing one

The implementation is the final stage and it is an important phase. It involves the individual programming; system testing, user training, and the operational running of developed pro- posed system that constitute the application subsystem. The implementation phase of the software development is concerned with translating design specification in the source code. The user tests the developed system and the changes are according to the needs. Before im- plementation, several tests have been conducted to ensure no errors encountered during the operation. The implementation phase ends with an evaluation of the system after placing it into operation of time.

Chapter 7

Results and Conclusion

7.1 conclusion

The **Mini shop** is developed using python Django. proposed system aims to provide small shops with an online platform to list and sell their products, reach a larger customer base, and offer a convenient delivery service. It includes several modules such as customer, shop, delivery, and administrator control, allowing small shop owners to manage their inventory, sales, and improve their business operations. The application will have a user-friendly interface, secure online shopping experience, and support and promote local small businesses as an alternative to giant e-commerce websites. The proposed system is designed to overcome the challenges faced by small shops in the current system, by providing a comprehensive solution for small shops to sell their products online, manage their inventory and sales data, and reach a larger customer base. The application also provides customers with a convenient and easy way to purchase products and will offer a delivery service for products to be delivered at the customer's doorstep. The project is designed to empower small businesses and make the online market accessible to them.

7.2 Scope of future Work

On Road Vehicle breakdown assistance can be added with more features like live weather reports and availability ambulance services, hotel services based on the user’s location will ease. By adding more inputs for the services like Tow and Flat tire providers, the precision and availability of the data for requested details can be improved. Current system is designed and developed in web application, which can be done in other technologies.

References

[1] S. X. Wu and W. Banzhaf, “The use of computational intelligence in intrusion detec- tion systems: A review,” Appl. Soft Comput., vol. 10,no. 1, pp. 1–35, 2010.

[2] http:/www.codeproject.com/Articles/704600/An-Introduction\ to-agile-methodology

[3] https://www.fullstackpython.com/)

[4] https://www.codecademy.com/learn/introduction-to-javascript

Appendix

Database Design

User

Field Name	Data Type	Constraints
user_id	varchar(20)	Primary key
name	varchar(30)	Not null
email	varchar(30)	Unique
password	varchar(30)	Not null
Phone	int	Unique
DOB	Date	Not null

Table A. 1: Login

Shop

Field Name	Data Type	Constraints
shop_id	varchar(20)	Primary key
shop_name	varchar(30)	Not null
address_id	varchar(20)	Foreign key
Owner_name	varchar(20)	Not null
email	varchar(30)	Not null,Unique
password	varchar(30)	Not null
phone	int	Unique
status	varchar(10)	Not null

Table A. 1: Login

Delivery

Field name	Data Type	Constraints
id	varchar(20)	Primary key
userauth_id	varchar(20)	Foreign key
name	varchar(30)	Not null
email	varchar(30)	Unique
Phone	int	Unique
region	varchar(20)	Foreign key
DOB	Date	Not null

Table A. 1: Login

Admin

Field Name	Data Type	Constraints
userid	varchar(30)	Primary key
username	varchar(20)	Unique
password	varchar(20)	Not null
email	varchar(30)	Not null

Table A. 1: Login

Product

Field Name	Data Type	Constraints
product_id	varchar(30)	Primary key
shop_id	varchar(30)	Foreign key
name	varchar(30)	Not null
category_id	varchar(30)	Foreign key
description	varchar(30)	Not null
image	varchar(30)	Not null
price	float	Not null

Table A. 1: Login

Category

Field name	Data Type	Constraints
category_id	varchar(20)	Primary key
shop_id	varchar(20)	Foreign key
category_name	varchar(30)	varchar(20)

Cart

Table A. 1: Login

Field Name	Data Type	Constraints
card_id	varchar(20)	Primary key

product_id	varchar(20)	Foreign key
quantity	int	Not null

Table A. 1: Login

Order

Field Name	Data Type	Constraints
order_id	varchar(20)	Primary key
product_id	varchar(20)	Foreign key
quantity	varchar(20)	int
status	int	Not null
Address_id	varchar(20)	Foreign key
status	varchar(20)	Not null

Table A. 1: Login

Order history

Field Name	Data Type	Constraints
id	varchar(20)	Primary key
Order_id	varchar(20)	Foreign key
date	Date	Not null
type	varchar(20)	Not null
delivery_id	varchar(20)	Foreign key

Table A. 1: Login

Region

-

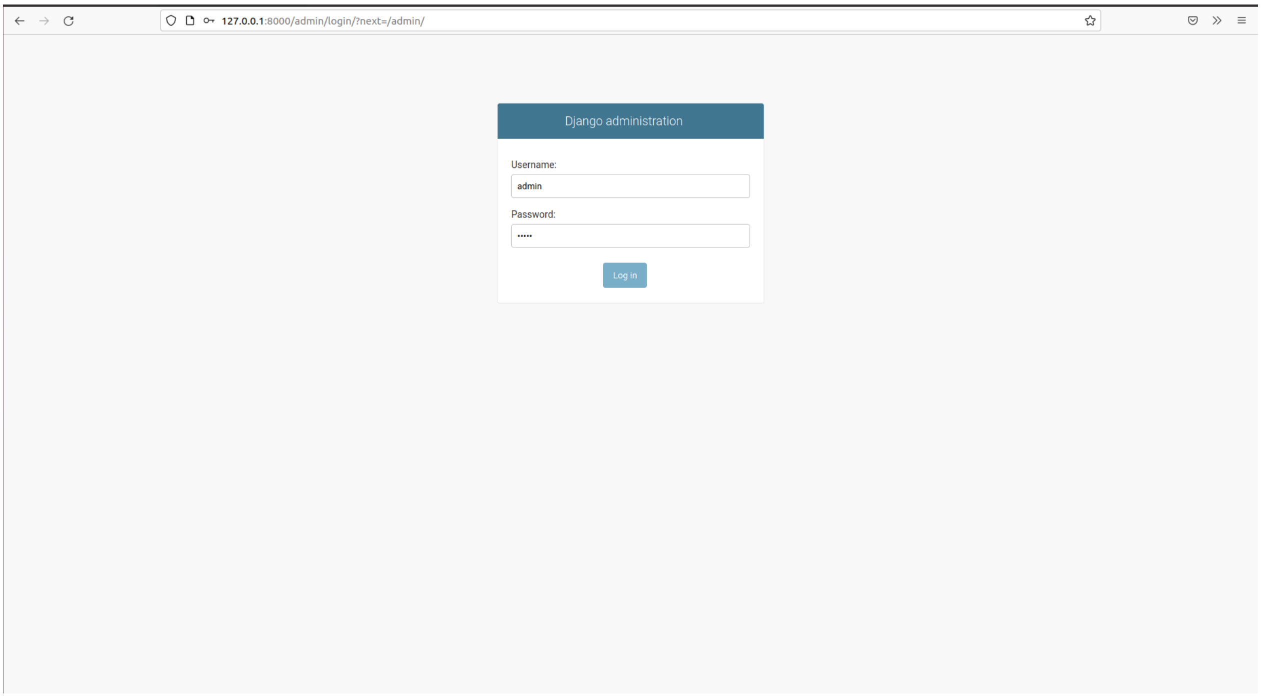
-

Field Name	Data Type	Constraints
region_id	varchar(20)	Primary key
region_name	varchar(30)	Not null

Table A. 1: Login

Field Name	Data Type	Constraints
Address_id	varchar(20)	Primary key
House_name	varchar(20)	Not null
city	varchar(20)	Not null
Post office	varchar(20)	Not null
Pin code	int	Not null
district	varchar(20)	Not null
state	varchar(20)	Not null
region	varchar(20)	Foreign key

Screen Shots



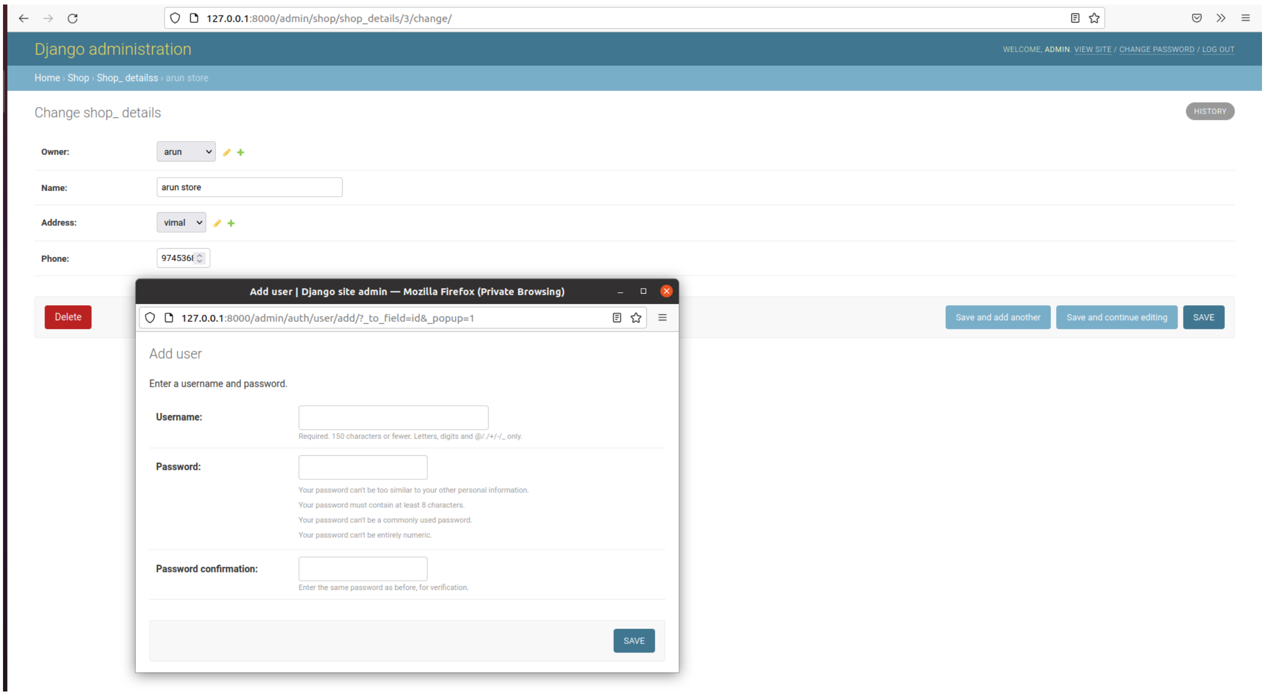
127.0.0.1:8000/admin/login/?next=/admin/

Django administration

Username: admin

Password: •••••

Figure A. 1: Admin Login



127.0.0.1:8000/admin/shop/shop_details/3/change/

Django administration

WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Shop › Shop_ detailss › arun store

Change shop_ details

Owner: arun

Name: arun store

Address: vimal

Phone: 9745368

Add user | Django site admin — Mozilla Firefox (Private Browsing)

127.0.0.1:8000/admin/auth/user/add/?_to_field=id&_popup=1

Add user

Enter a username and password.

Username:

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password:

Your password can't be too similar to your other personal information.

Your password must contain at least 8 characters.

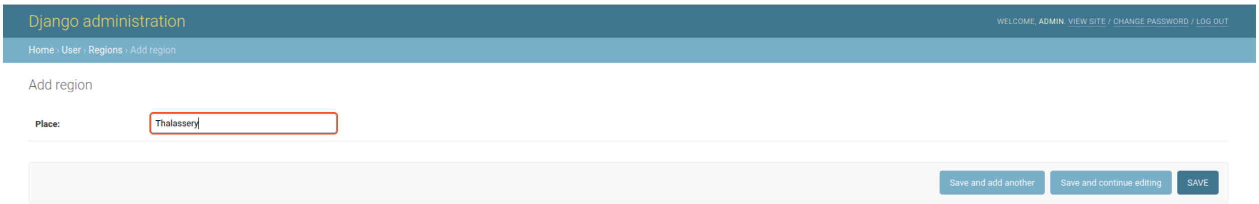
Your password can't be a commonly used password.

Your password can't be entirely numeric.

Password confirmation:

Enter the same password as before, for verification.

Figure A. 2: Manage Shop

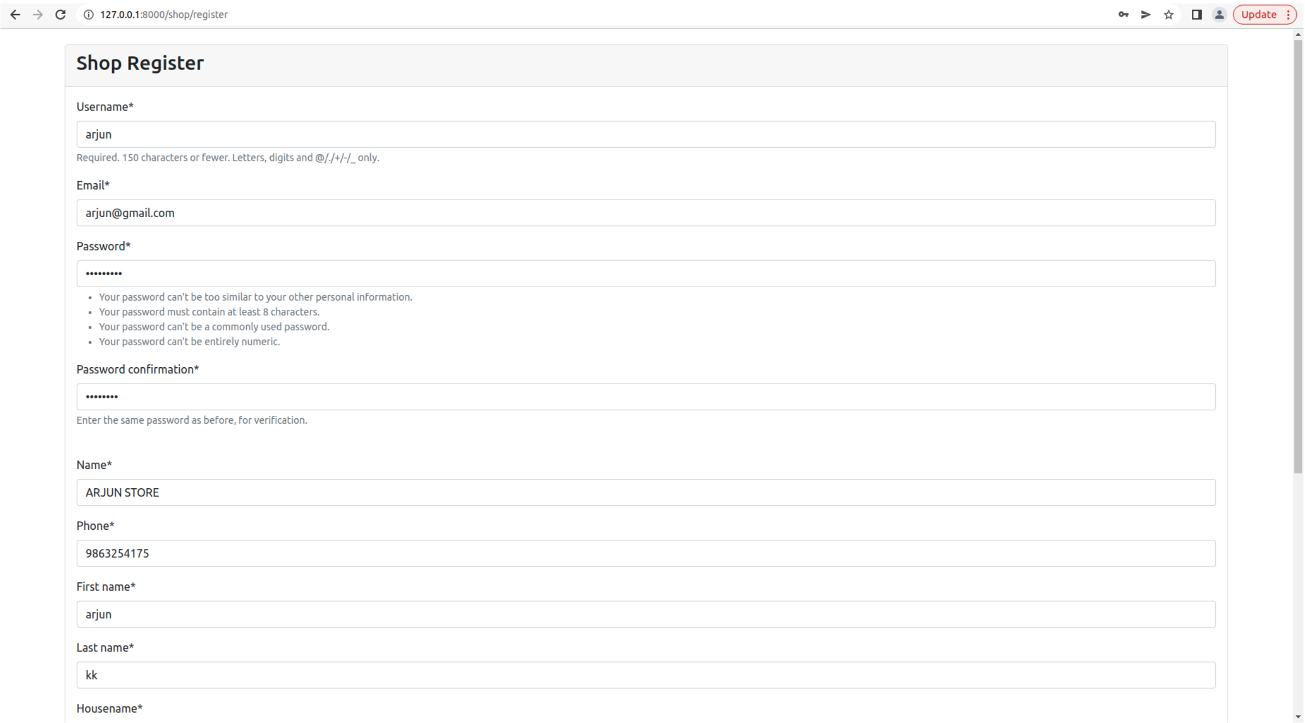

Django administration
WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT
Home › User › Regions › Add region

Add region

Place: Thalassery

Save and add another
Save and continue editing
SAVE

Figure A. 3: Add Region



Shop Register

Username*

arjun

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email*

arjun@gmail.com

Password*

•••••••••

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation*

••••••••

Enter the same password as before, for verification.

Name*

ARJUN STORE

Phone*

9863254175

First name*

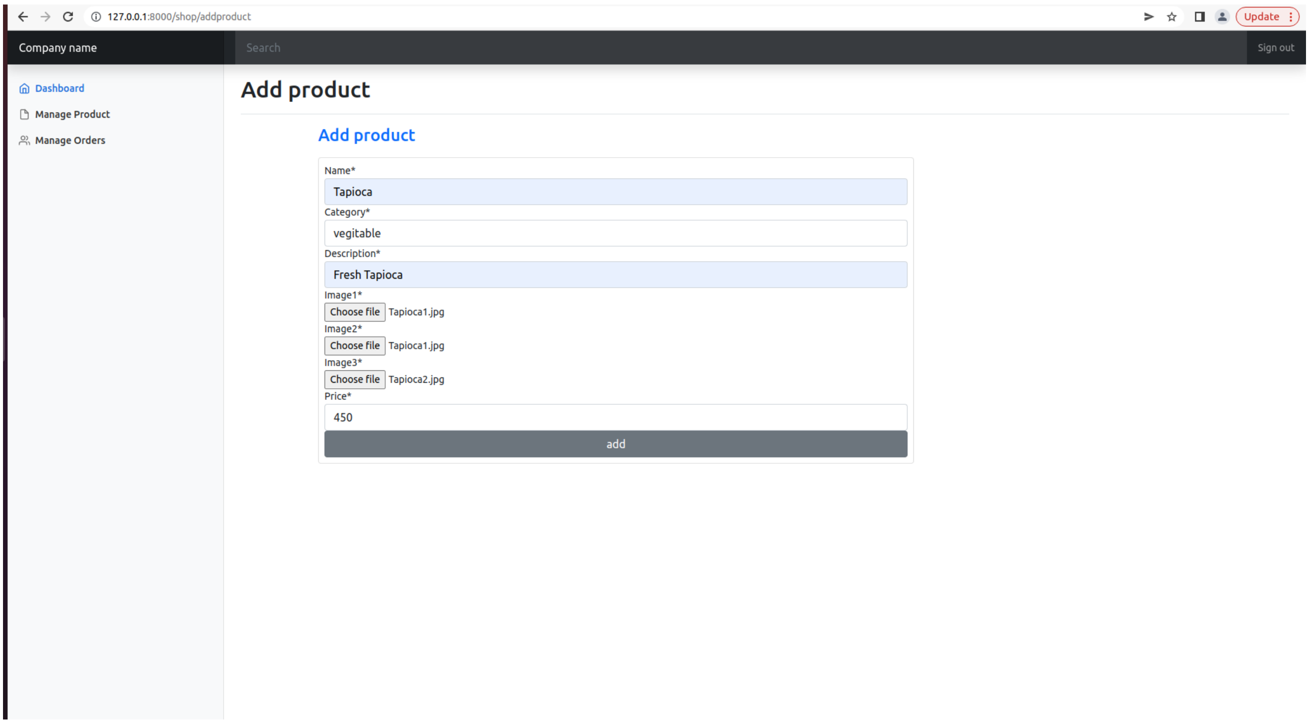
arjun

Last name*

kk

Housename*

Figure A. 4: Shop Register



Add product

Add product

Name*
Tapioca

Category*
vegitable

Description*
Fresh Tapioca

Image1*
Choose file Tapioca1.jpg

Image2*
Choose file Tapioca1.jpg

Image3*
Choose file Tapioca2.jpg

Price*
450

Figure A. 5: Add Product

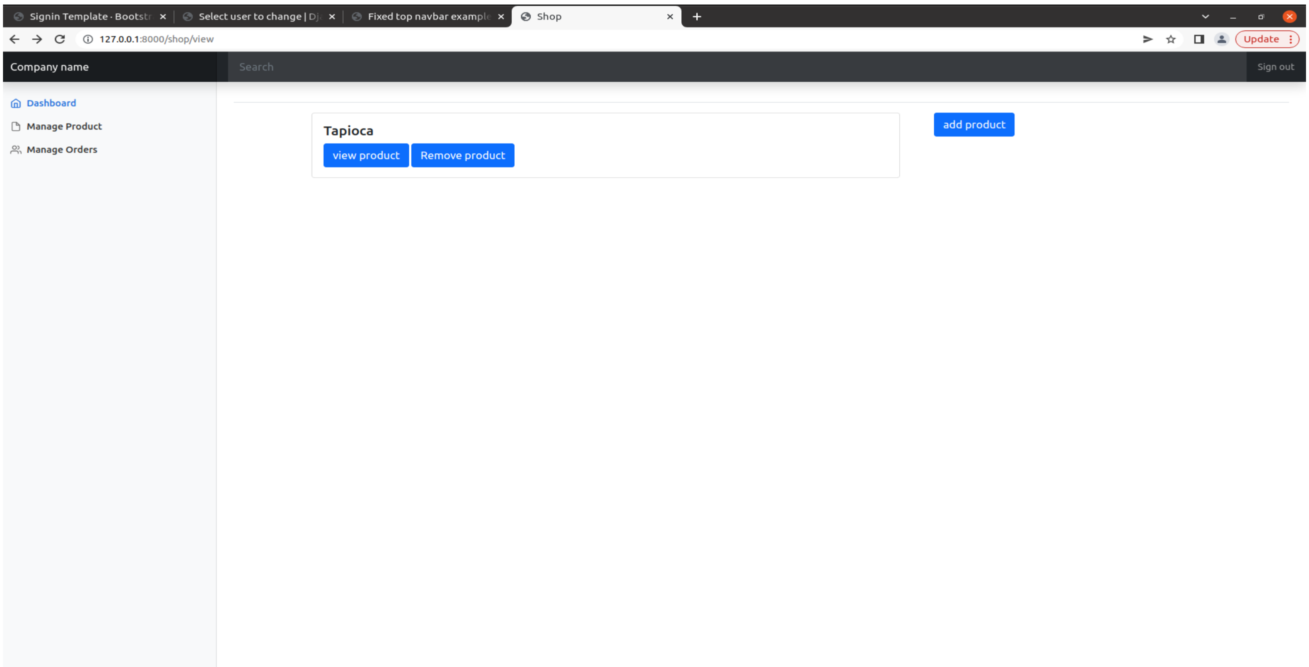
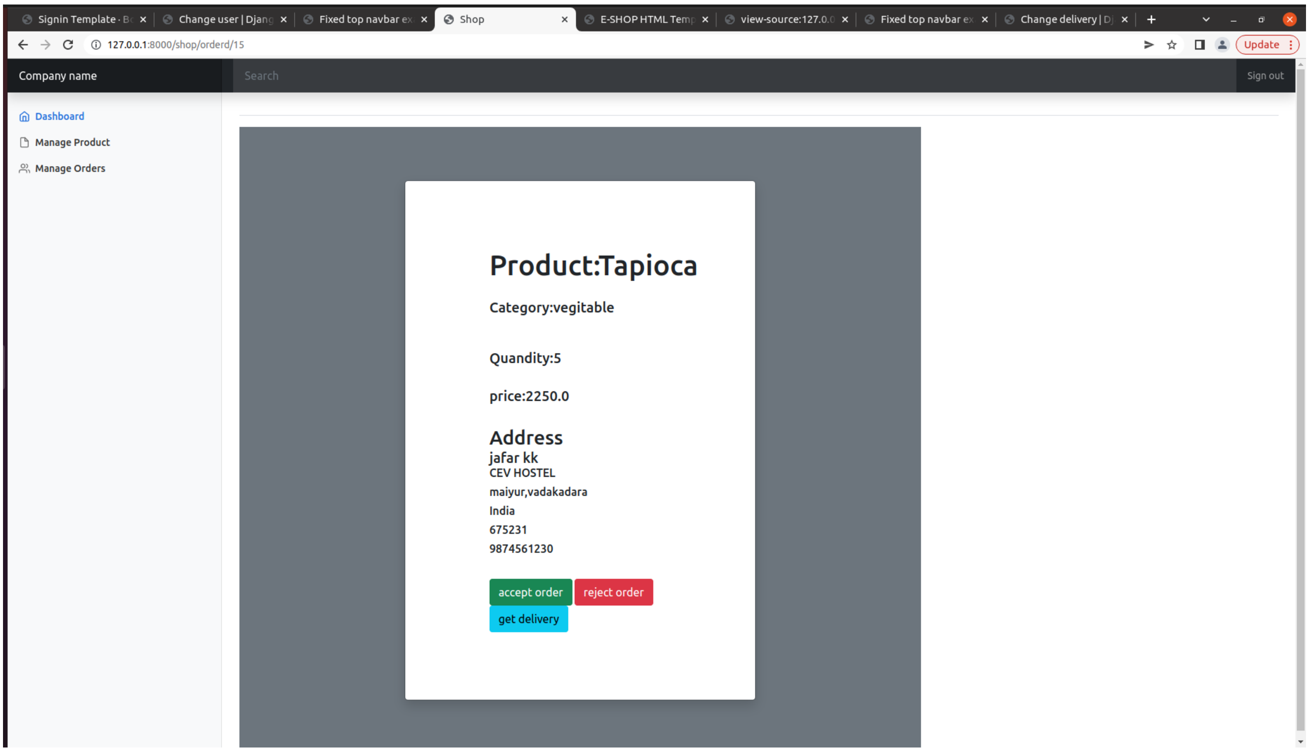


Figure A. 6: Manage Product



Product:Tapioca

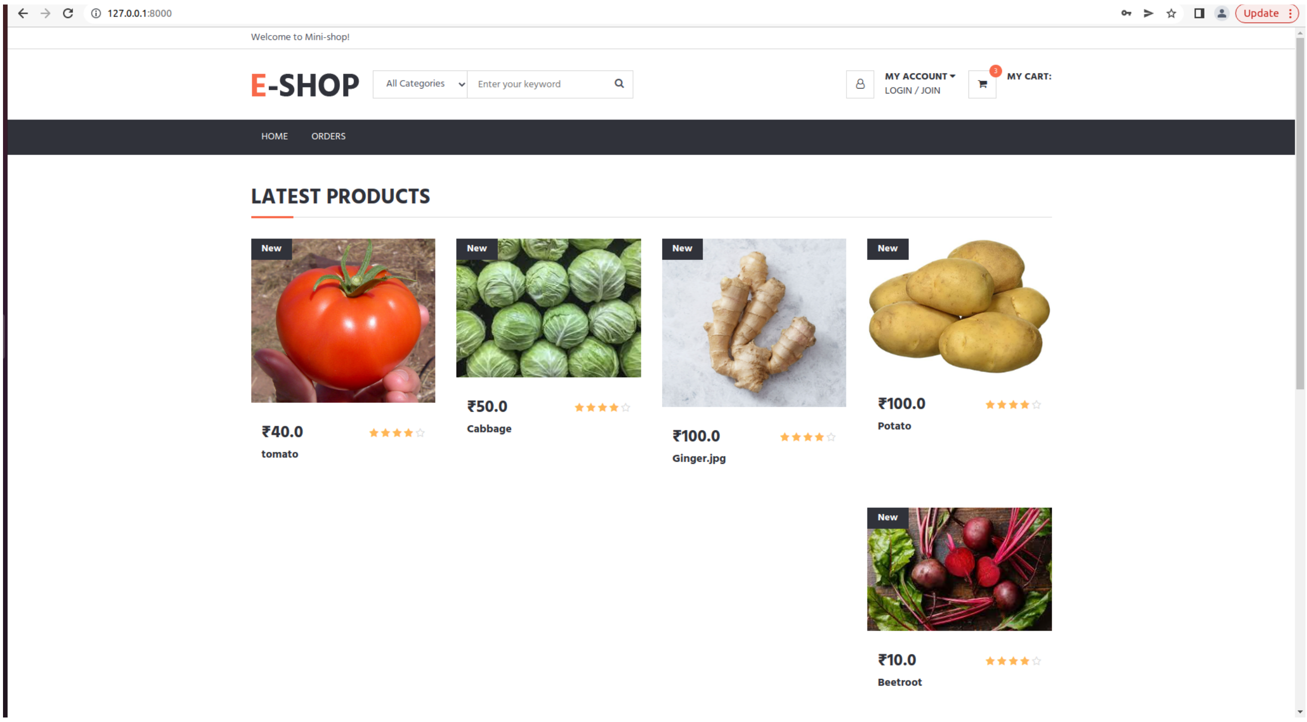
Category:vegitable

Quandity:5

price:2250.0

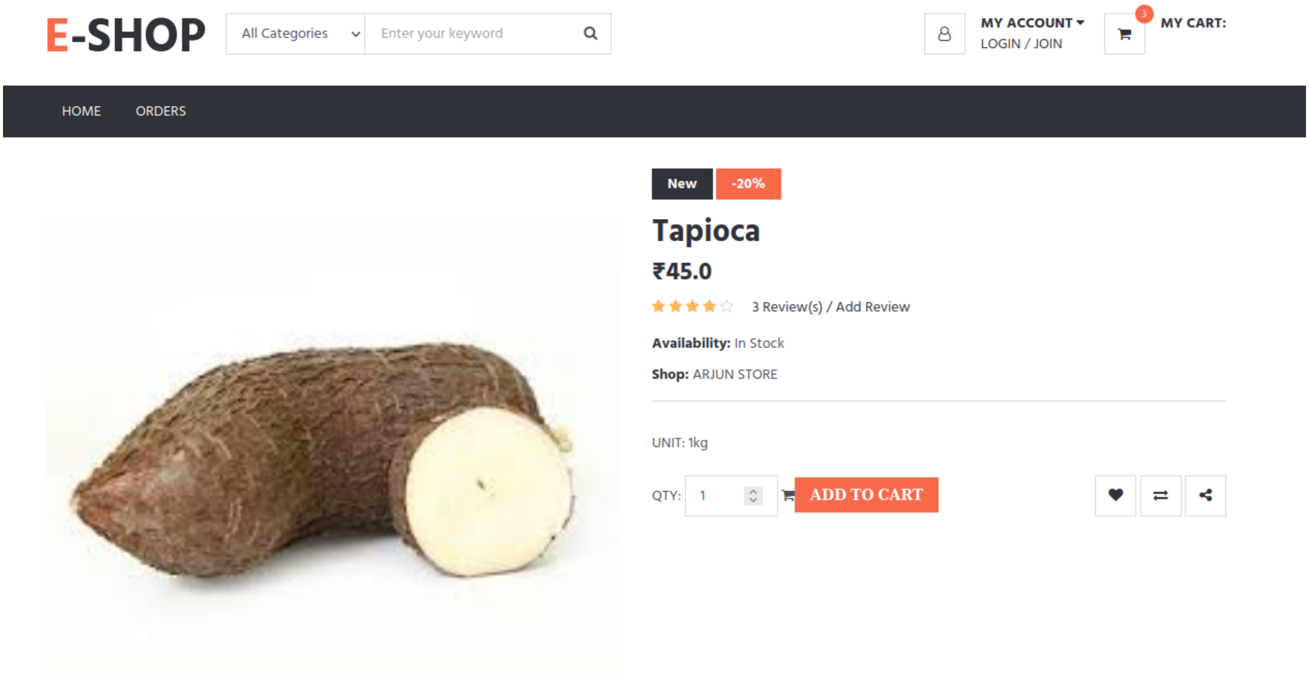
Address
jafar kk
CEV HOSTEL
maiyur,vadakadara
India
675231
9874561230

Figure A. 7: View Product



₹40.0	tomato
₹50.0	Cabbage
₹100.0	Ginger.jpg
₹100.0	Potato
₹10.0	Beetroot

Figure A. 8: User View Products



Tapioca

₹45.0

★★★★☆ 3 Review(s) / Add Review

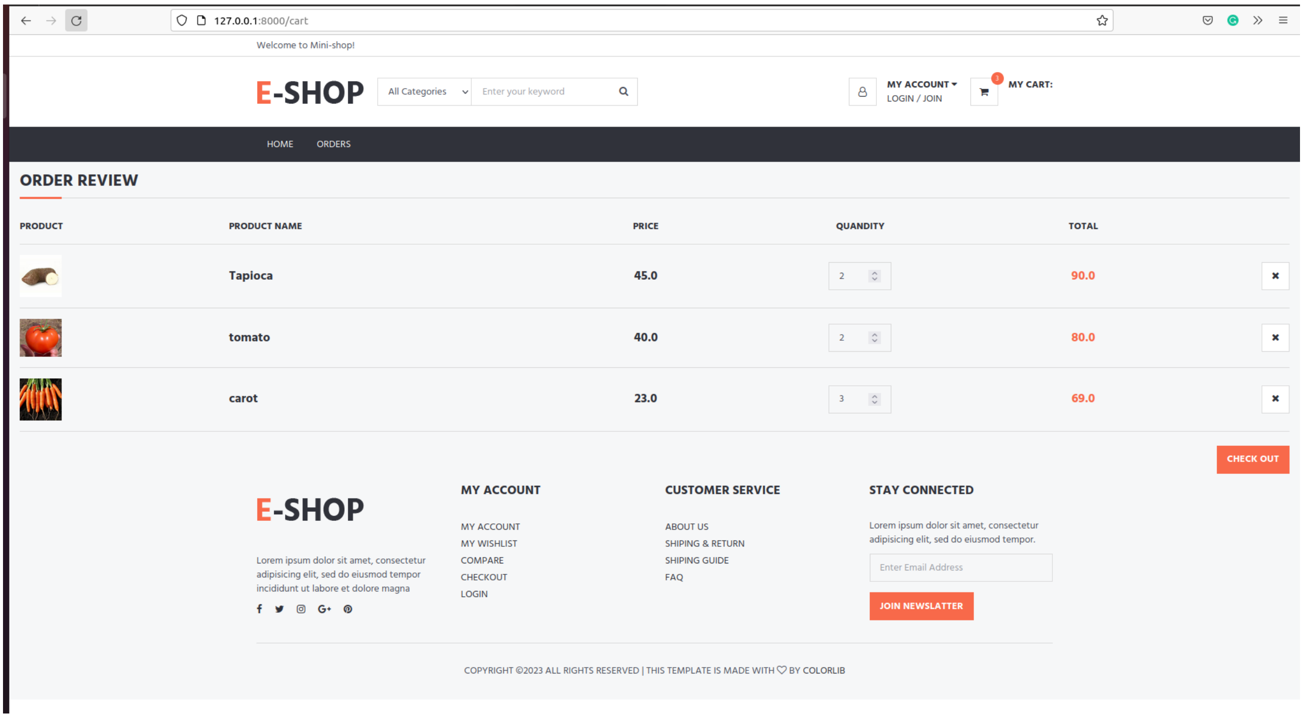
Availability: In Stock

Shop: ARJUN STORE

UNIT: 1kg

QTY: 1

Figure A. 9: User Product details



ORDER REVIEW

PRODUCT	PRODUCT NAME	PRICE	QUANDITY	TOTAL	
	Tapioca	45.0	2	90.0	×
	tomato	40.0	2	80.0	×
	carot	23.0	3	69.0	×

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna

MY ACCOUNT

MY ACCOUNT
MY WISHLIST
COMPARE
CHECKOUT
LOGIN

CUSTOMER SERVICE

ABOUT US
SHIPING & RETURN
SHIPING GUIDE
FAQ

STAY CONNECTED

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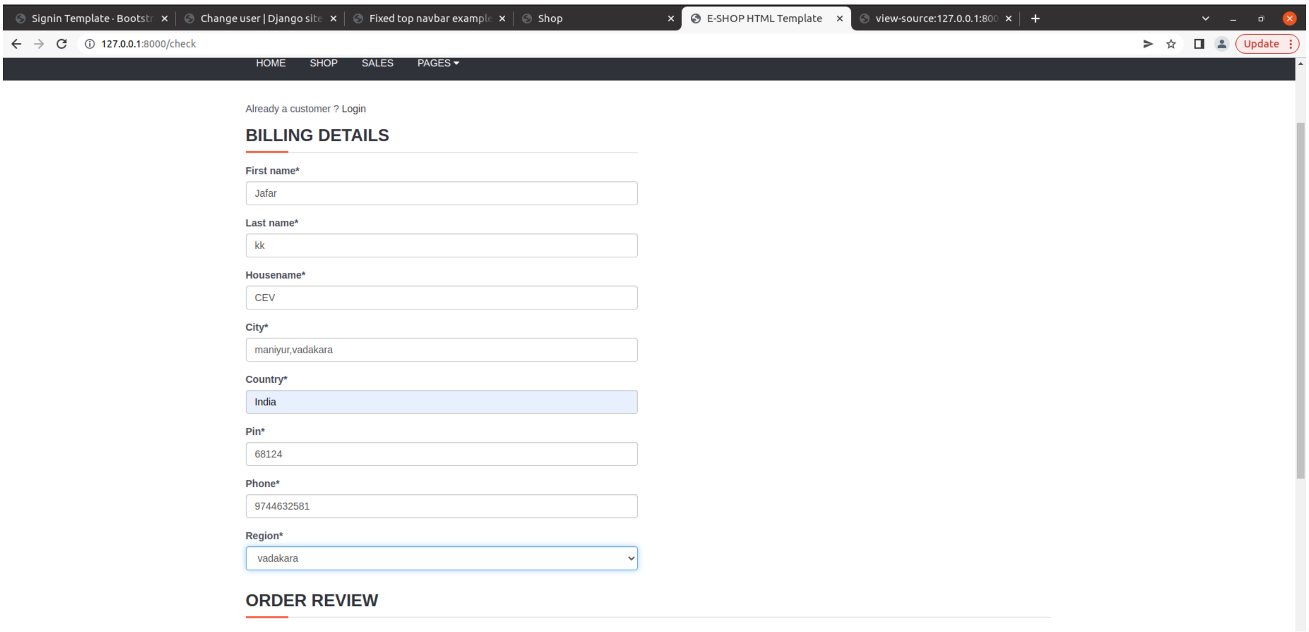
Figure A. 10: User Cart



Already a customer ? Login

BILLING DETAILS

First name*
Jafar

Last name*
kk

Housename*
CEV

City*
maniyur,vadakara

Country*
India

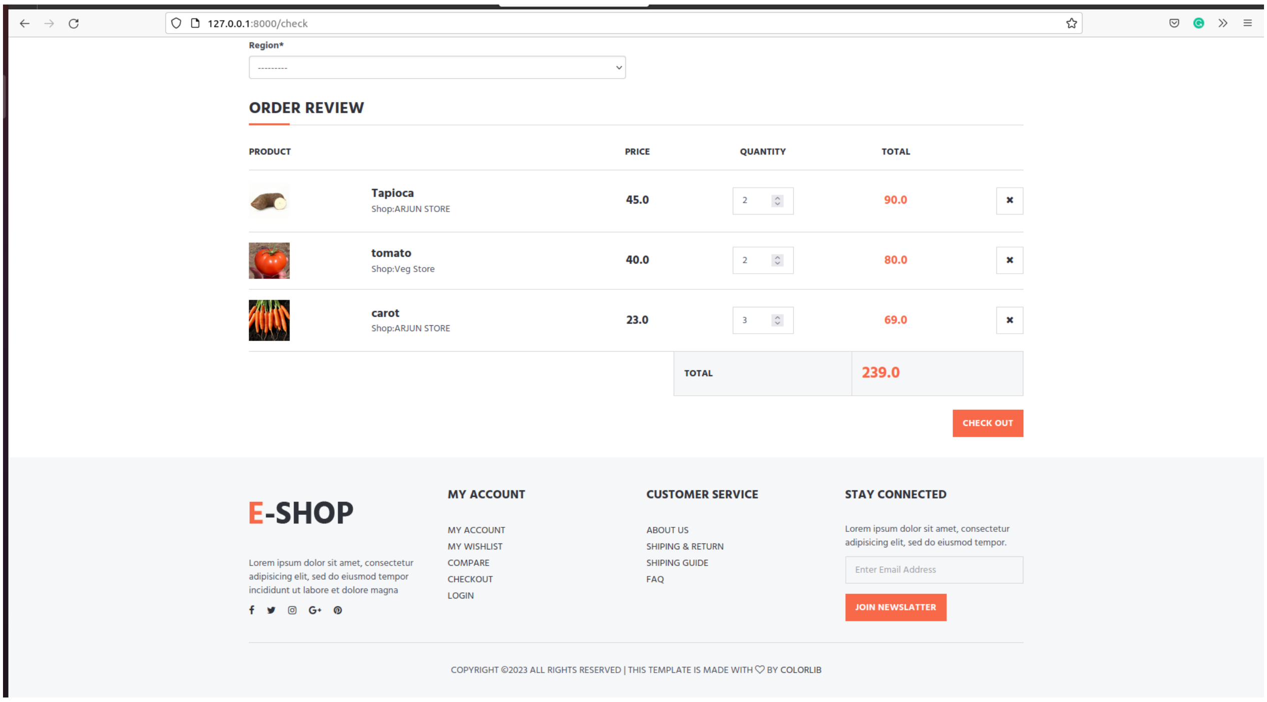
Pin*
68124

Phone*
9744632581

Region*
vadakara

ORDER REVIEW

Figure A. 11: Order product



Region*

ORDER REVIEW

PRODUCT		PRICE	QUANTITY	TOTAL	
	Tapioca Shop:ARJUN STORE	45.0	2	90.0	×
	tomato Shop:Veg Store	40.0	2	80.0	×
	carot Shop:ARJUN STORE	23.0	3	69.0	×
			TOTAL	239.0	

CHECK OUT

E-SHOP

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MY ACCOUNT

MY ACCOUNT
MY WISHLIST
COMPARE
CHECKOUT
LOGIN

CUSTOMER SERVICE

ABOUT US
SHIPING & RETURN
SHIPING GUIDE
FAQ

STAY CONNECTED

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Enter Email Address

JOIN NEWSLATTER

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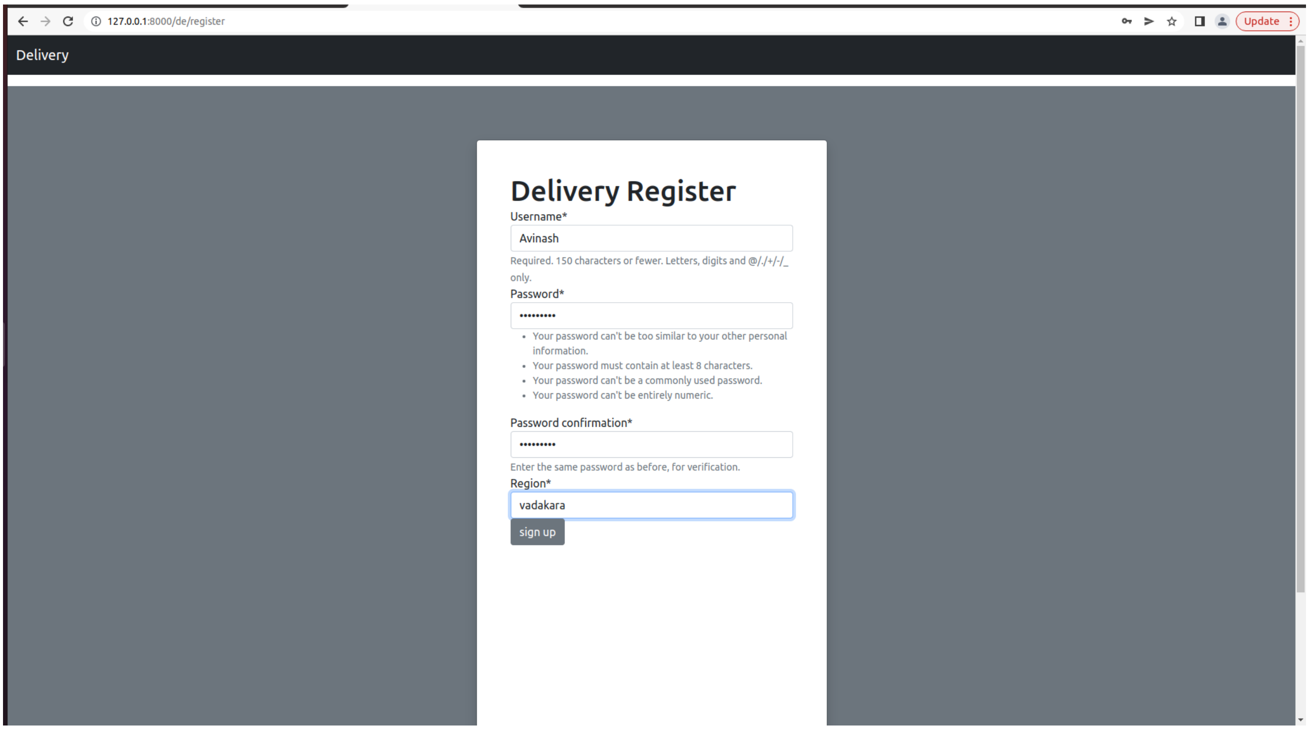
Figure A. 12: Order details



Delivery Register

Username*

Avinash

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password*

•••••••••

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation*

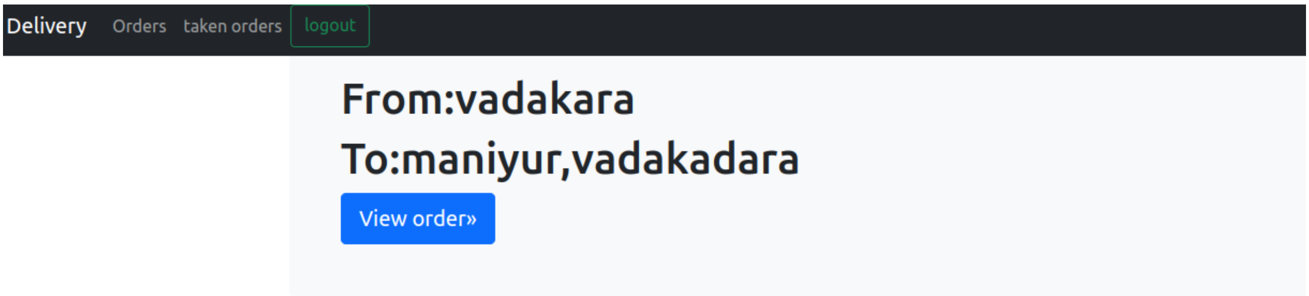
•••••••••

Enter the same password as before, for verification.

Region*

vadakara

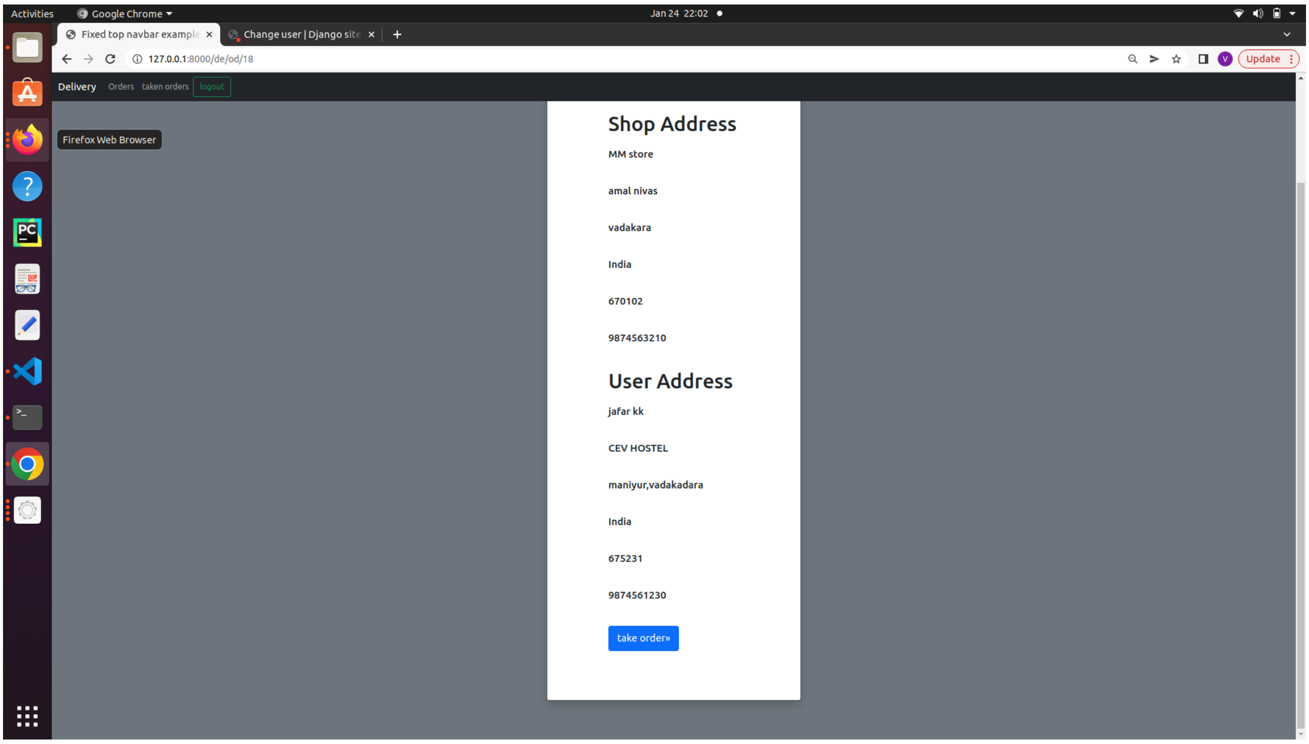
Figure A. 13: Delivery Register



From:vadakara

To:maniyur,vadakadara

Figure A. 14: Delivery Home Page



Shop Address

MM store

amal nivas

vadakara

India

670102

9874563210

User Address

jafar kk

CEV HOSTEL

maniyur,vadakadara

India

675231

9874561230

Figure A. 15:Delivery order details