

Online Grocery App – Documentation

1. Introduction

- **Project Title:** Online Grocery Application using MERN
- **Team Member 1:** VIVEKANANTHI K (MERN stack developer & Team Leader)
- **Team Member 2:** THAVASELVAM T (MERN stack developer)
- **Team Member 3:** SATHISHKUMAR B V (MERN stack developer)
- **Team Member 4:** THARUN S (MERN stack developer)

2. Project Overview

The Online Grocery App is a web-based application that enables users to shop for groceries online. It allows customers to browse various products, add items to their cart, make secure payments, and track their orders. Built with the MERN stack (MongoDB, Express.js, React, Node.js), the app provides an efficient and responsive platform for users to shop for everyday essentials from the comfort of their homes.

This documentation will guide developers through the project's architecture, setup instructions, API design, and other relevant sections to help you understand, deploy, and extend the application.

The primary objective of this Online Grocery App is to offer a smooth and user-friendly shopping experience for customers while providing easy-to-manage backend functionalities for admins to manage products, categories, orders, and users. The project leverages the **MERN stack**, which stands for:

- **MongoDB:** A NoSQL database that stores product details, user data, and order history.
- **Express.js:** A backend web framework for Node.js to handle API requests, routes, and middleware.
- **React:** A frontend library for building a dynamic and responsive user interface.
- **Node.js:** A JavaScript runtime used for building the server-side of the application.

Key Features of the App:

- **User Authentication:** Secure login, registration, and password management.
- **Product Browsing:** View grocery products by category, filter by price, and search for items.
- **Shopping Cart:** Add, remove, and modify items in the cart.
- **Order Management:** Checkout process, order history, and payment integration (e.g., Stripe, PayPal).
- **Admin Dashboard:** Manage product catalog, track orders, view user data, and control inventory.

2.2 PROPOSED SYSTEM

In the proposed system user need not go to the shop for buying the grocery items. He can order the grocery item he wishes to buy through the application in his website. The shop owner will be admin of the system. Shop owner can appoint moderators who will help owner in managing the users and grocery item orders. The system also recommends a home delivery system for the purchased grocery items.

ADVANTAGES OF PROPOSED SYSTEM

- Save on transportation costs. Back when I was working away from home, I simply scheduled my time to swing by the grocery store on the way home from work
- Save time. A 28-mile round trip, plus whatever time it takes to shop can easily burn up an hour or more of my day. ...
- Stay organized

3. Architecture

The Online Grocery App follows a **client-server** architecture, divided into two main parts:

3.1 Frontend (React):

- **React Components:** Responsible for rendering UI elements such as product lists, search bars, shopping carts, and order summaries.
- **Redux (optional):** State management for global states such as authentication status, cart contents, etc.
- **Axios:** Used to make HTTP requests to the backend API.
- **React Router:** Handles client-side routing for different pages (e.g., home, product details, user login, checkout).

3.2 Backend (Node.js + Express):

- **Express.js:** Routes incoming requests to appropriate endpoints for users and admins.
- **MongoDB:** Stores all data, including products, users, orders, and payment transactions.
- **JWT (JSON Web Tokens):** Handles user authentication and authorization.

3.3 Communication:

- **RESTful API:** Frontend communicates with the backend using HTTP requests (GET, POST, PUT, DELETE).
- **Authentication:** Uses JWT tokens for securing API endpoints that require login or admin access.

3.4 Deployment:

- **Frontend:** Deployed on platforms like Vercel, Netlify, or any static hosting service.
- **Backend:** Deployed on cloud platforms like Heroku, AWS, or DigitalOcean.
- **MongoDB Atlas:** Cloud-hosted MongoDB instance.

4. Setup Instructions

To get started with the Online Grocery App, follow the setup instructions below.

Prerequisites:

Hardware Requirements

Processor	: Intel i3 or above
RAM Capacity	: 500 MB or above
Hard Disk	: 3GB or above

Software Requirements

OPERATING SYSTEM	: Windows or Linux
Front End	: React
Back End	: Node.js
Framework	: Express.js
Database	: Mongodb(atlas)

Step-by-step Guide:

1. Clone the repository:

```
git https://github.com/Vivekananthik/NM.git  
cd NM
```

2. Install dependencies for both client and server:

- Install dependencies:
- Navigate to root directory of this project and run
`npm install`

3. Configure Environment Variables:

- In the backend folder, create a .env file and add the following.

```
MONGODB_URI=<your_mongodb_connection_string>  
JWT_SECRET=<your_jwt_secret_key>  
STRIPE_KEY=<your_stripe_public_key>
```

- For development purposes, you can use a local MongoDB instance or MongoDB Atlas.

4. Run the application:

- Start the backend server by running:

```
npm start
```

5. Open your browser and navigate to “<http://localhost:3000>” to access the application.

5. Folder Structure

Here's an overview of the folder structure for the project:

```
/NM
├── /Public
│   ├── favicon.ico
│   ├── index.html
│   ├── logo192.png
│   ├── logo512.png
│   ├── manifest.json
│   ├── .env
│   └── robots.txt
└── /src
    ├── /Component
    ├── /ProductList
    ├── /images
    ├── /pages
    ├── /App.css
    ├── /App.test.js
    ├── /index.css
    ├── /index.js
    ├── /logo.svg
    ├── /reportWebVitals.js
    ├── /setupTests.js
    ├── /Component
    ├── /package-lock.json
    ├── /package.json
    └── README.md
```

Explanation:

- **/src:** Contains all server-side code such as routes, controllers, models, and the entry point (`server.js`).
- **/public:** Contains all React-related code for the user interface, including components, pages, and state management.
- **Package.json:** Contains project dependencies details.
- **README.md:** Contains project documentation (this file).

6. Running the Application

After setting up the project by following the setup instructions, you can run the application locally by:

1. Starting the server:

```
npm start
```

The app will be accessible at <http://localhost:3000>

7. API Documentation

The backend API is built using Express.js and follows a RESTful design. Below are the main API endpoints:

User Routes:

- **POST /api/auth/register:** Register a new user.
- **POST /api/auth/login:** Login an existing user and receive a JWT token.
- **GET /api/auth/user:** Get the current logged-in user's details (requires authentication).

Product Routes:

- **GET /api/products:** Get a list of all products.
- **GET /api/products/**: Get details of a specific product.
- **POST /api/products:** Add a new product (admin only).
- **PUT /api/products/**: Update an existing product (admin only).
- **DELETE /api/products/**: Delete a product (admin only).

Cart Routes:

- **GET /api/cart:** Get the current user's cart.
- **POST /api/cart:** Add an item to the cart.
- **PUT /api/cart/**: Update the quantity of an item in the cart.
- **DELETE /api/cart/**: Remove an item from the cart.

Order Routes:

- **GET /api/orders:** Get a list of all orders (admin only).
- **POST /api/orders:** Create a new order.
- **GET /api/orders/**: Get details of a specific order.

8. Authentication

JWT Authentication:

- When a user logs in, they receive a JWT token.
- This token is included in the Authorization header for all future API requests requiring authentication.

Example of token in the header:

```
http  
Authorization: Bearer <your_jwt_token>
```

Middleware:

- The app uses JWT middleware to protect routes that require authentication. For example, user routes (/api/cart, /api/orders) require a valid token.

9. User Interface

The user interface is built using React, focusing on usability and responsiveness. It includes:

- **Home Page:** Displays a list of products and categories.
- **Product Details:** Users can view detailed information about a product and add it to the cart.
- **Cart:** A page where users can view, update, and remove items from their shopping cart.
- **Checkout:** A page for users to enter payment details and complete the order process.
- **Order History:** Users can view their past orders.

10. Testing

Unit and integration tests can be written using testing libraries like **Jest** and **Supertest**.

Backend Testing:

1. Install dependencies:

```
npm install --save-dev jest supertest
```

2. Write tests for API endpoints in the /tests folder.
3. Run tests:

```
npm test
```

Frontend Testing:

1. Install testing libraries for React:

```
npm install --save-dev @testing-library/react @testing-library/jest-dom
```

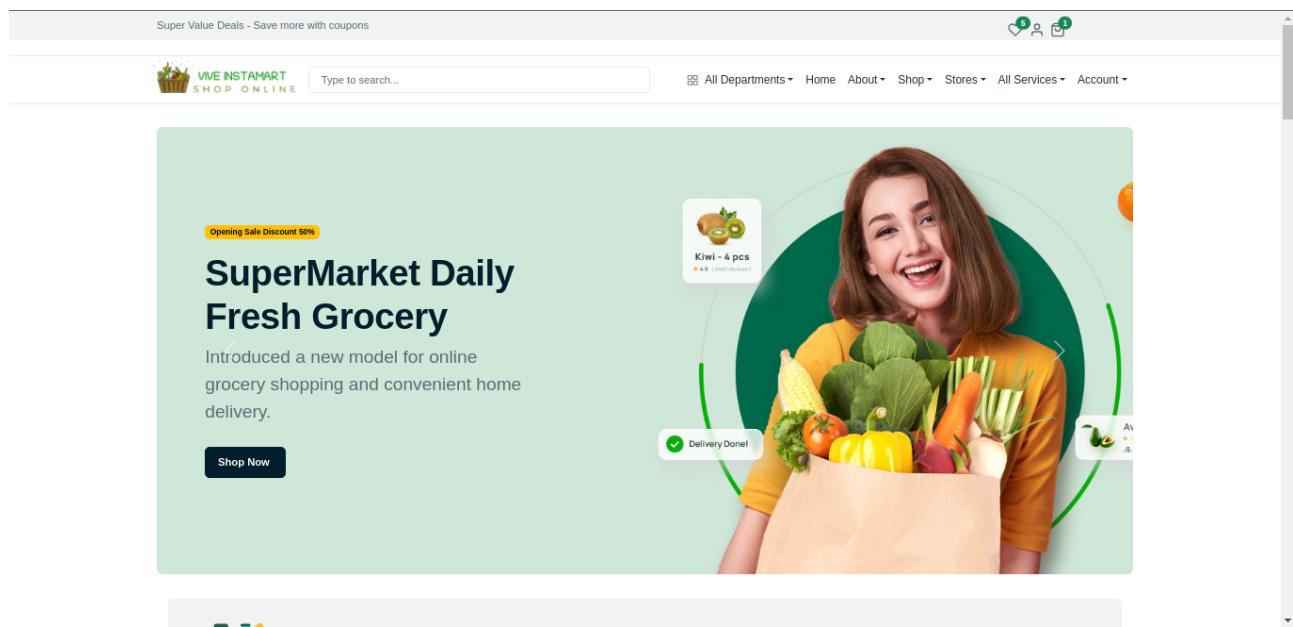
2. Write tests for React components.
3. Run tests:

```
npm test
```

11. Screenshots or Demo

Include screenshots of the app's pages (Home, Cart, Checkout, etc.) of the app here.

Home Page:



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VIVE INSTAMART
SHOP ONLINE

Type to search...

All Departments ▾ Home About ▾ Shop ▾ Stores ▾ All Services ▾ Account ▾

Dairy, Bread & Eggs

- Butter
- Milk Drinks
- Curd & Yogurt
- Eggs
- Buns & Bakery
- Cheese
- Condensed Milk
- Dairy Products

Breakfast & Instant Food

- Breakfast Cereal
- Noodles, Pasta & Soup
- Frozen Veg Snacks
- Frozen Non-Veg Snacks
- Vermicelli
- Instant Mixes
- Batter
- Fruit and Juices

Cold Drinks & Juices

- Soft Drinks
- Fruit Juices
- Coldpress
- Water & Ice Cubes
- Soda & Mixers
- Health Drinks
- Herbal Drinks
- Milk Drinks

Dont miss this offer today.

25% Off

Shop Now

Recipes

Contact

Policy

Produce

Dairy & Eggs

Beverages

Meat & Seafood

Snacks & Candy

localhost:3000/Shop

10% cashback on personal care

Max cashback: Rs.1.2
Code: CARE12

Shop Now

Say yes to season's fresh

Refresh your day the fruity way

Shop Now

When in doubt, eat ice cream

Enjoy a scoop of summer today

Shop Now

Shop Popular Categories

Dairy, Bread & Eggs

Fruits & Vegetables

Snack & Munchies

Bakery & Biscuits

Instant Food

Tea, Coffee & Drinks

Cold Drinks & Juices

Chicken, Meat & Fish

Baby Care

Cleaning Essentials

Pet Care

Atta, Bisco & Dal

1

Get the Vive InstaMart app

We will send you a link, open it on your phone to download the app.



Daily Best Sells



Easy Returns
Not satisfied with a product? Return it at the doorstep & get a refund within hours. No questions asked.[policy](#).

Wide Assortment
Choose from 5000+ products across food, personal care, household, bakery, veg and non-veg & other categories.

Best Prices & Offers
Cheaper prices than your local supermarket, great cashback offers to top it off. Get best prices & offers.

10 minute grocery now
Get your order delivered to your doorstep at the earliest from Vive InstaMart pickup stores near you.



We deliver more than your expectations and help you to grow your business exponentially by providing customized applications. So, don't just think, get ready to convert your ideas into reality.

All Category

- > Dairy, Bread & Eggs
- > Snacks & Munchies
- > Fruits & Vegetables
- > Cold Drinks & Juices
- > Breakfast & Instant Food
- > Bakery & Biscuits
- > Chicken, Meat & Fish

For Consumers

- > Careers
- > Promos & coupons
- > Shipping
- > Product Returns
- > Payments
- > FAQ

Get to know us

- > Company
- > About
- > Blog
- > Help Center
- > Our Value



Blog:

Vive Insta Mart Blog



Garlic Cream Bucatini with Peas and Asparagus

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc ac erat ut neque bibendum egestas sed quis justo. Integer non rhoncus diam. Nullam eget dapibus lectus, vitae condimentum sem.

25 April 2023

Read time: 6min



Recipes



Recipes



Company

About Us:

Super Value Deals - Save more with coupons

 [VIVE INSTAMART](#) [SHOP ONLINE](#) [All Departments](#) [Home](#) [About](#) [Shop](#) [Stores](#) [All Services](#) [Account](#)

About Vive Insta Mart

The Future of Grocery Delivery:

By powering the future of grocery with our retail partners, we give everyone access to the food they love and more time to enjoy it together.

REVIEWED ON  4.9 RATING

2,480 Remote Sales Experts	760 New Clients per Month	1,200 Requests per Week
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 **Creative Solutions**

 **Award Winning**

 **Team of Professionals**

OUR PARTNERS



4x mobile of the day



1x Kudos



3x website of the day



2x best website

HEAR OUT OUR HAPPY CLIENTS!

"TheJointApps Has Been Instrumental In Building Our Web Presence. They Put Together An Amazing Website For Us - Both Aesthetically Pleasing And Functionally Sound."

Annamalai

OUR CUSTOMER

Ready to get started?

**Don't Hesitate to
Contact Us**

Full name

Email

Message

↑

Shop:

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VIVE INSTAMART
SHOP ONLINE

Type to search...

All Departments ▾ Home About Shop Stores All Services Account ▾

Categories

- Dairy, Bread & Eggs ▾
- Snacks & Munchies ▾
- Fruits & Vegetables ▾
- Cold Drinks & Juices ▾

Stores

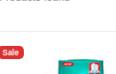
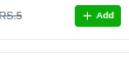
Search by store

- E-Grocery
- DealShare
- DMart
- Blinkit
- BigBasket
- StoreFront
- Spencers
- Online Grocery

Snacks & Munchies

24 Products found

Show: 50 ▾ Sort by: Featured ▾

 Snack & Munchies Haldimand's Sev Bhujia  4.5(149) Rs.18 Rs.24 + Add	 Bakery & Biscuits NutriChoice Digestive  4.5 (25) Rs.24 Rs.27 + Add	 Bakery & Biscuits Cadbury 5 Star Chocolate  5 (469) Rs.32 Rs.35 + Add	 Snack & Munchies Onion Flavour Potato  3.5 (456) Rs.3 Rs.5 + Add
 Price: Surf Excel Detergent	 Lipton Iced Tea	 Kellogg's Corn Flakes	 Dove Soap

Wishlist:

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VIVE INSTAMART SHOP ONLINE Type to search... All Departments - Home About - Shop - Stores - All Services - Account -

My Wishlist

There are 5 products in this wishlist.

<input type="checkbox"/>	Product	Amount	Status	Actions	Remove
<input type="checkbox"/>	Organic Banana Rs. 98 / lb	Rs.35.00	In Stock	<button>Add to Cart</button>	
<input type="checkbox"/>	Fresh Kiwi 4 no	Rs.20.97	Out of Stock	<button>Contact us</button>	
<input type="checkbox"/>	Golden Pineapple 2 no	Rs.35.00	In Stock	<button>Add to Cart</button>	
<input type="checkbox"/>	BeetRoot 1 kg	Rs.29.00	In Stock	<button>Add to Cart</button>	
<input type="checkbox"/>	Fresh Apple 2 kg	Rs.70.00	In Stock	<button>Add to Cart</button>	

Cart:

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VIVE INSTAMART SHOP ONLINE Type to search... All Departments - Home About - Shop - Stores - All Services - Account -

Shop Cart

Shopping In 382480

You've got FREE delivery. Start checkout now!

Haldiram's Sev Bhujia Rs.5.00	<input type="button" value="-"/> <input type="button" value="1"/> <input type="button" value="+"/>	
NutriChoice Digestive Rs.20.00	<input type="button" value="-"/> <input type="button" value="1"/> <input type="button" value="+"/>	
Cadbury 5 Star Chocolate Rs.15.00	<input type="button" value="-"/> <input type="button" value="1"/> <input type="button" value="+"/>	
Onion Flavour Potato Rs.15.00	<input type="button" value="-"/> <input type="button" value="1"/> <input type="button" value="+"/>	

Summary

Item Subtotal	Rs.70.00
Service Fee	Rs.3.00
Subtotal	Rs.67.00

Go to Checkout **Rs.67.00**

By placing your order, you agree to be bound by the Vive InstaMart [Terms of Service](#) and [Privacy Policy](#).

Add Promo or Gift Card

Promo or Gift Card

Redeem

Terms & Conditions apply

Checkout:

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VIVE INSTAMART SHOP ONLINE Type to search... All Departments - Home About - Shop - Stores - All Services - Account -

Checkout

Already have an account? Click here to [Sign in](#).

Add delivery address

Home
Arun Siva
35, A Block,
East Tambaram, Chennai, 600032, Tamil Nadu,
Ph: 7645643457

Office
Arun Siva
35, A Block,
East Tambaram, Chennai, 600032, Tamil Nadu,
Ph: 7645643457

[Add a new address](#)

Delivery time

Delivery instructions

Payment Method

Order Details

Order Details	
	Haldiram's Sev Bhujia .98 / lb 1 Rs.5.00
	NutriChoice Digestive 250g 1 Rs.20.00 <small>Rs.26.00</small>
	Cadbury 5 Star Chocolate 1 kg 1 Rs.15.00 <small>Rs.20.00</small>
	Onion Flavour Potato 250g 1 Rs.15.00 <small>Rs.20.00</small>
Item Subtotal	Rs.70.00
Service Fee	Rs.3.00
Subtotal	Rs.73.00

Signin:

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VIVE INSTAMART SHOP ONLINE Type to search... All Departments - Home About - Shop - Stores - All Services - Account -

Sign in to Vive InstaMart

Welcome back to Vive InstaMart! Enter your email to get started.

Email

Password

Remember me [Forgot password? Reset it](#)

[Sign In](#)

Don't have an account? [Sign Up](#)

All Category
Dairy, Bread & Eggs
Snacks & Munchies

For Consumers
Careers
Promos & coupons

Get to know us
Company
About

Signup:

The screenshot shows the Vive InstaMart website's homepage. At the top, there's a navigation bar with links for 'All Departments', 'Home', 'About', 'Shop', 'Stores', 'All Services', and 'Account'. Below the navigation is a search bar with placeholder text 'Type to search...'. To the right of the search bar are icons for a heart, user profile, and cart. The main content area features a large illustration of a person standing next to a computer monitor displaying a shopping interface, with a magnifying glass over it. To the right of the illustration is a 'Get Start Shopping' section with fields for 'First name', 'Last name', 'Email', and 'Password', and a green 'Register' button. Below these fields is a link to 'Already have an account? Sign in' and a small note about terms of service and privacy policy.

Orders:

The screenshot shows the Vive InstaMart website's account settings page. At the top, there's a navigation bar with links for 'All Departments', 'Home', 'About', 'Shop', 'Stores', 'All Services', and 'Account'. Below the navigation is a search bar with placeholder text 'Type to search...'. To the right of the search bar are icons for a heart, user profile, and cart. The main content area has three sections: 'All Category' (with links to 'Dairy, Bread & Eggs' and 'Snacks & Munchies'), 'For Consumers' (with links to 'Careers' and 'Promos & coupons'), and 'Get to know us' (with links to 'Company' and 'About'). Below these sections is an 'Account Setting' header. On the left, there's a sidebar with options for 'Your Orders', 'Settings', 'Address', 'Payment Method', 'Notification', and 'Log out'. The main content area is titled 'Your Orders' and displays a table of recent purchases. The table columns are Product, Order, Date, Items, Status, and Amount. The items listed are: Haldiram's Nagpur Aloo Bhujia (Processing, Rs.15.00), Nutri Choise Biscuit (Completed, Rs.45.00), Cadbury Dairy Milk 5 Star Bites (Completed, Rs.99.00), Onion Flavour Potato (Completed, Rs.12.00), Salted Instant Popcorn (Cancel, Rs.6.00), and Blueberry Greek Yogurt (Completed, Rs.18.00).

Settings:

The screenshot shows the 'Account Setting' section of the Vive Instamart website. On the left sidebar, 'Payment Method' is selected. The main area displays 'Account Setting' with 'Account details' containing fields for Name (Abdul Rahman), Email (arsath@gmail.com), and Phone (7653476568). A 'Save Details' button is present. Below it is a 'Password' section with 'New Password' and 'Current Password' fields, both showing masked input. A green 'Add Payment' button is located at the top right of the payment methods section.

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VIVE INSTAMART
SHOP ONLINE

Type to search...

All Departments ▾ Home About ▾ Shop ▾ Stores ▾ All Services ▾ Account ▾

Account Setting

Your Orders

Settings

Address

Payment Method

Notification

Log out

Save Details

Account Setting

Account details

Name

Abdul Rahman

Email

arsath@gmail.com

Phone

7653476568

Save Details

Password

New Password

Current Password

Add Payment

Payments:

The screenshot shows the 'Payment Methods' section of the Vive Instamart website. On the left sidebar, 'Payment Method' is selected. The main area lists five payment methods: a VISA card ending in 1234 (Expires 10/2023), a Mastercard ending in 1234 (Expires 03/2026), a Discover card ending in 1234 (Expires 07/2020, marked as 'This card is expired'), an American Express card ending in 1234 (Expires 12/2021), and a PayPal Express card ending in 1234 (Expires 10/2021). Each card entry includes a 'Remove' button.

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VIVE INSTAMART
SHOP ONLINE

Type to search...

All Departments ▾ Home About ▾ Shop ▾ Stores ▾ All Services ▾ Account ▾

Account Setting

Your Orders

Settings

Address

Payment Method

Notification

Log out

Add Payment

VISA **** 1234
Expires in 10/2023

Mastercard ending in 1234
Expires in 03/2026

Discover ending in 1234
Expires in 07/2020 This card is expired

American Express ending in 1234
Expires in 12/2021

Paypal Express ending in 1234
Expires in 10/2021

Newsletter:

The screenshot shows the 'Account Setting' page of the VIVE INSTAMART SHOP ONLINE website. At the top, there's a navigation bar with links for 'All Departments', 'Home', 'About', 'Shop', 'Stores', 'All Services', and 'Account'. Below the navigation is a search bar with placeholder text 'Type to search...'. On the left, a sidebar lists account management options: 'Your Orders', 'Settings', 'Address', 'Payment Method', 'Notification' (which is highlighted in dark blue), and 'Log out'. The main content area is titled 'Notification settings' and contains three sections: 'Email Notifications', 'Order updates', and 'Website Notification'. Under 'Email Notifications', there are two sections: 'Weekly Notification' (disabled) and 'Account Summary' (enabled). Under 'Order updates', there are two sections: 'Text messages' (disabled) and 'Call before checkout' (enabled). Under 'Website Notification', there are two checkboxes: 'New Follower' (checked) and 'Post Like' (unchecked).

12. Known Issues

- **Payment Integration:** Stripe integration might not be fully working.