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**MIT WORLD PEACE  
UNIVERSITY** | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS



# SHOPPIYO

A SECURE & SCALABLE DROPSHIPPING PLATFORM



DONE BY :

1. Abhas Jaltare - 1032221128
2. Om Durdi - 1032221115
3. Nishit Shah - 1032221549
4. Dhruv Pandey - 1032211613



Domain **Full-Stack  
Development**



Tech Stack **MERN**



INTERNAL GUIDE :  
Dr. Reshma Sonar

# PROBLEM STATEMENT :



## Problem 1

Small businesses need reliable platforms

Existing solutions are often too expensive

Difficult management leads to inefficiencies



## Problem 2

Manual processes lead to errors and delays.

Product management can be time-consuming

Order tracking often lacks real-time updates



## Problem 3

Secure payment integration poses challenges

Security issues can deter customers

Developers face integration difficulties



## Problem 4

Need for responsive user interfaces

Users expect smooth mobile experiences.

UI must cater to diverse customer needs

01

### User Access

Enable seamless login and registration for users and admins.

02

### Product Management

Facilitate efficient product listing, updates, and categorization.

03

### Secure Payments

Integrate Razorpay for safe and reliable transaction processing.

04

### Order Tracking

Provide users with real-time tracking of their order status.

05

### Scalability

Ensure the platform can handle increased user and product load.

# Objectives of SHOPPIYO



# LITERATURE SURVEY

Sr No	Publication Title & Authors	Year	Positive Points	Gaps
1	MERN Stack & Component-Based UI [Conf/Thesis]	2022	Efficient SPA with React, reusable components, MongoDB-Express synergy	Lacks SEO, SSR, real-time security, AI integration
2	Real-Time E-commerce Fraud Detection using ML [Journal]	2023	Robust ML models for transactional risk scoring	Slow adaptation to zero-day fraud, integration with lightweight Node.js challenging
3	Scalable Dropshipping Logistics & Inventory Sync [Whitepaper]	2024	Real-time API sync, webhooks for stock & tracking	Ignores payment-side fraud, security layer missing
4	Performance Analysis of JS Build Tools (Vite) [Conf Paper]	2023	Faster HMR, cold start; simplified dev dependencies	Ignores production bundle metrics, server-side API integration
5	YOLO-Based Real-time Object Detection [Journal]	2024	CV for fraud, real-time inference	High GPU demand, lacks transactional data integration

# | REQUIREMENT GATHERING



## FUNCTIONAL

- User Login & Cart
- Razorpay Integration
- Admin CRUD Ops
- Order Tracking



## NON-FUNCTIONAL

- High Security
- Scalability
- Responsive UI
- High Availability



## TECHNICAL SPECS

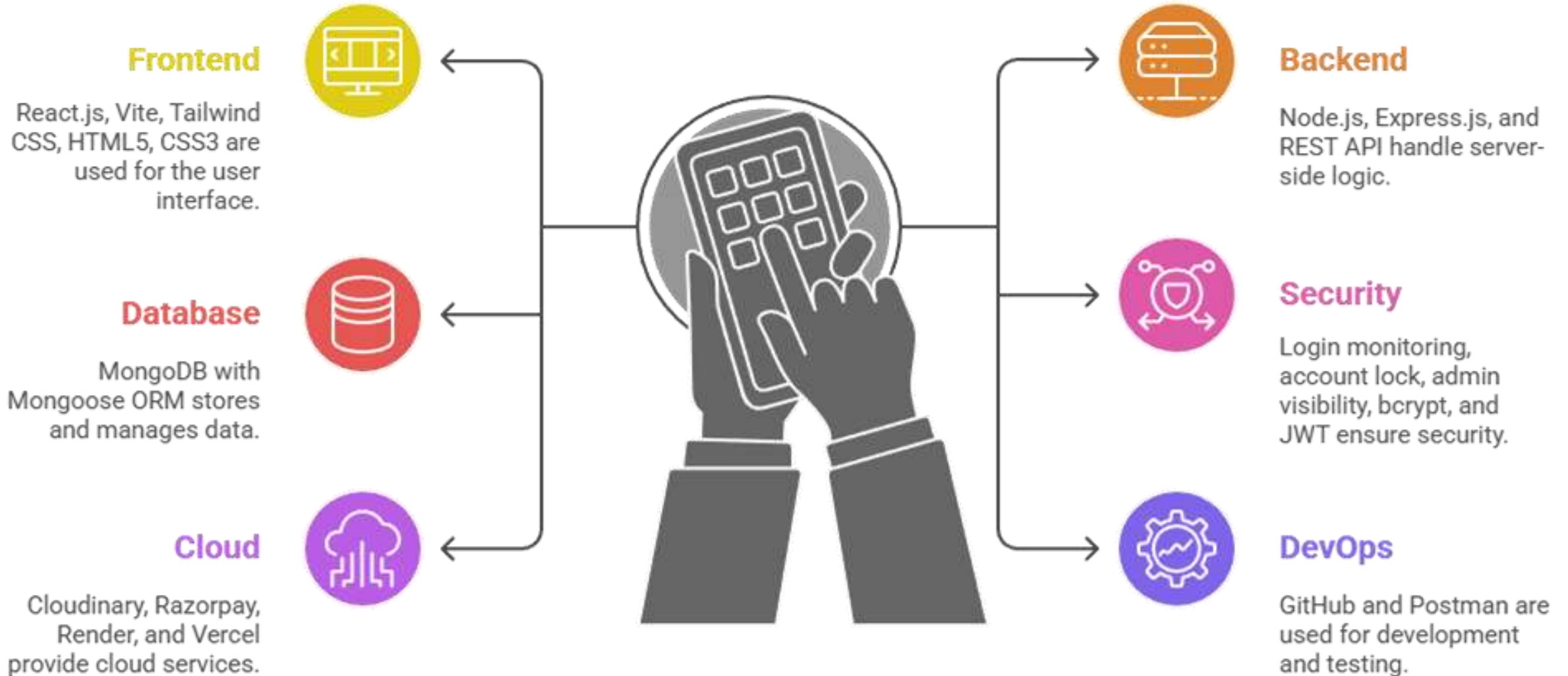
React • Node • Express  
MongoDB Atlas •  
Render  
Cloudinary • Razorpay

# DEVELOPMENT TIMELINE

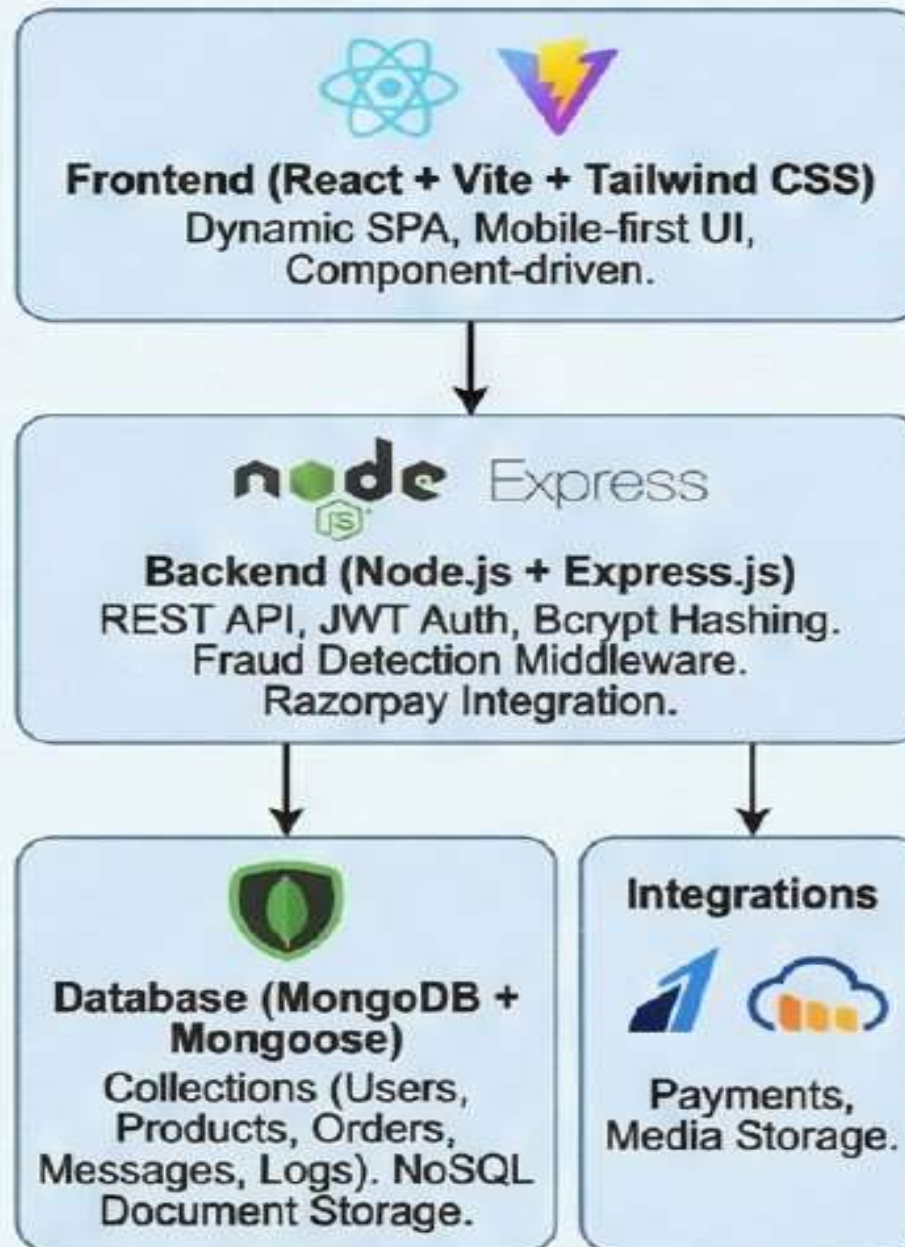




# TECHNOLOGY STACK

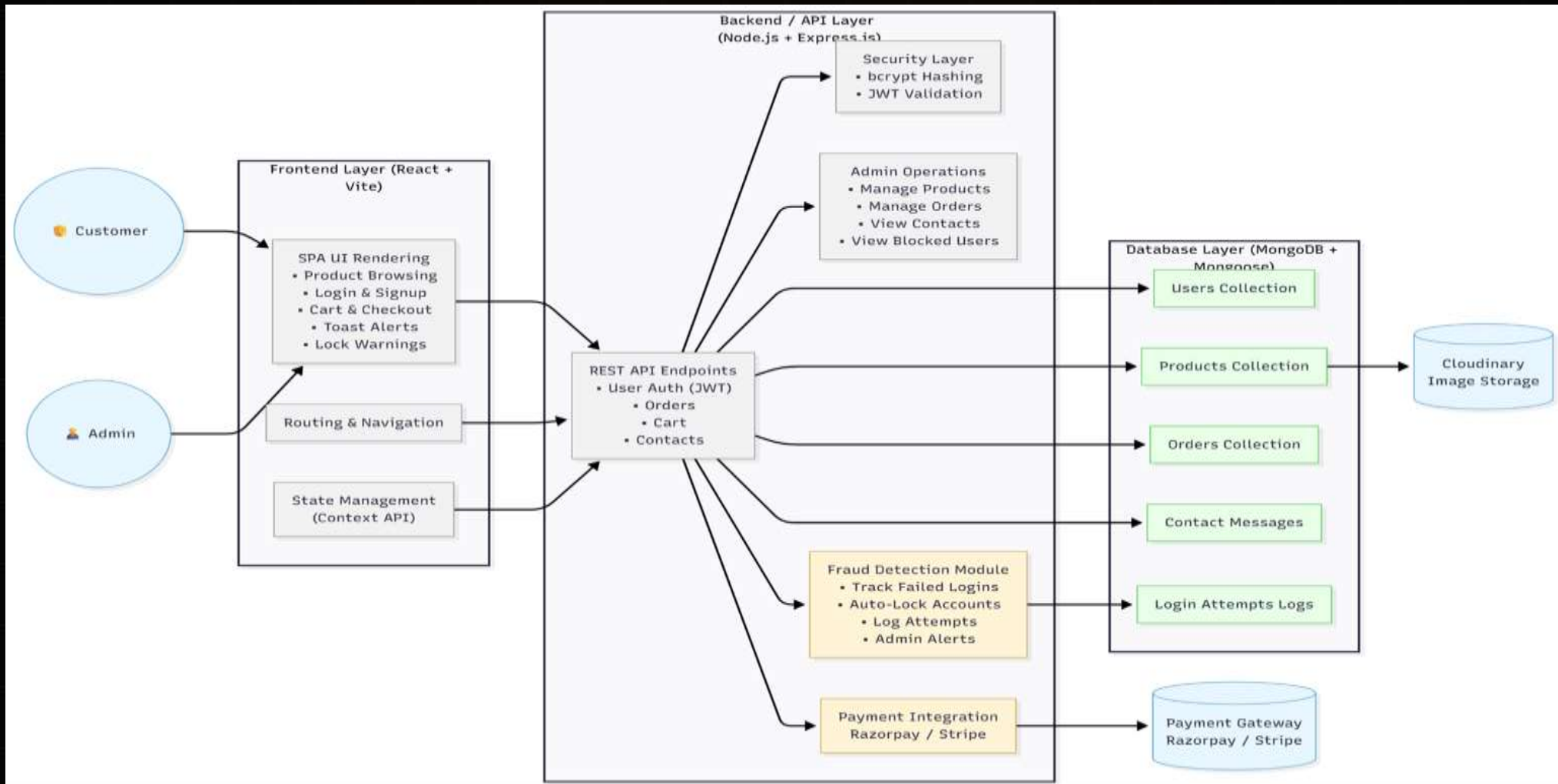


# SYSTEM DESIGN (LOW LEVEL)

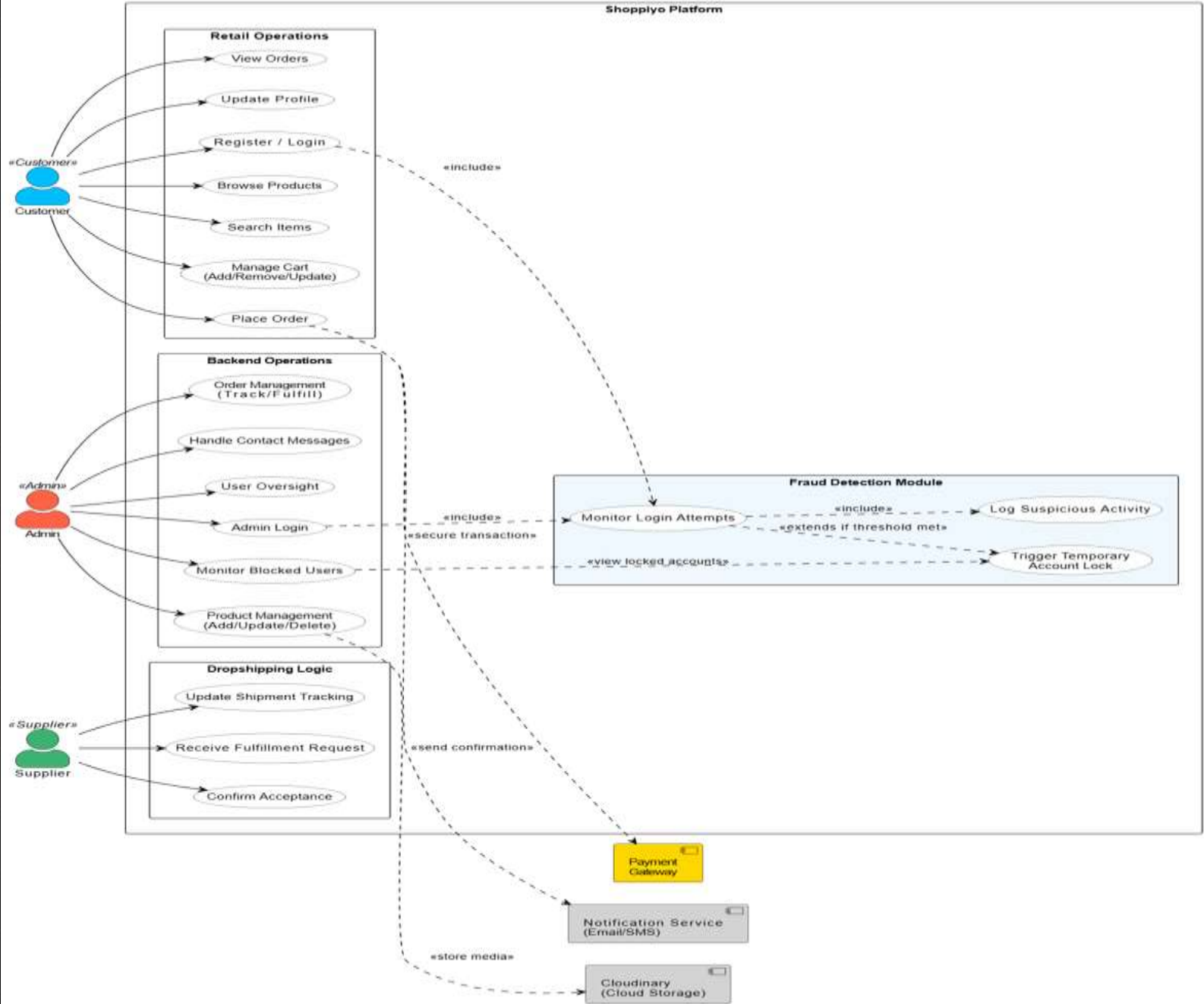




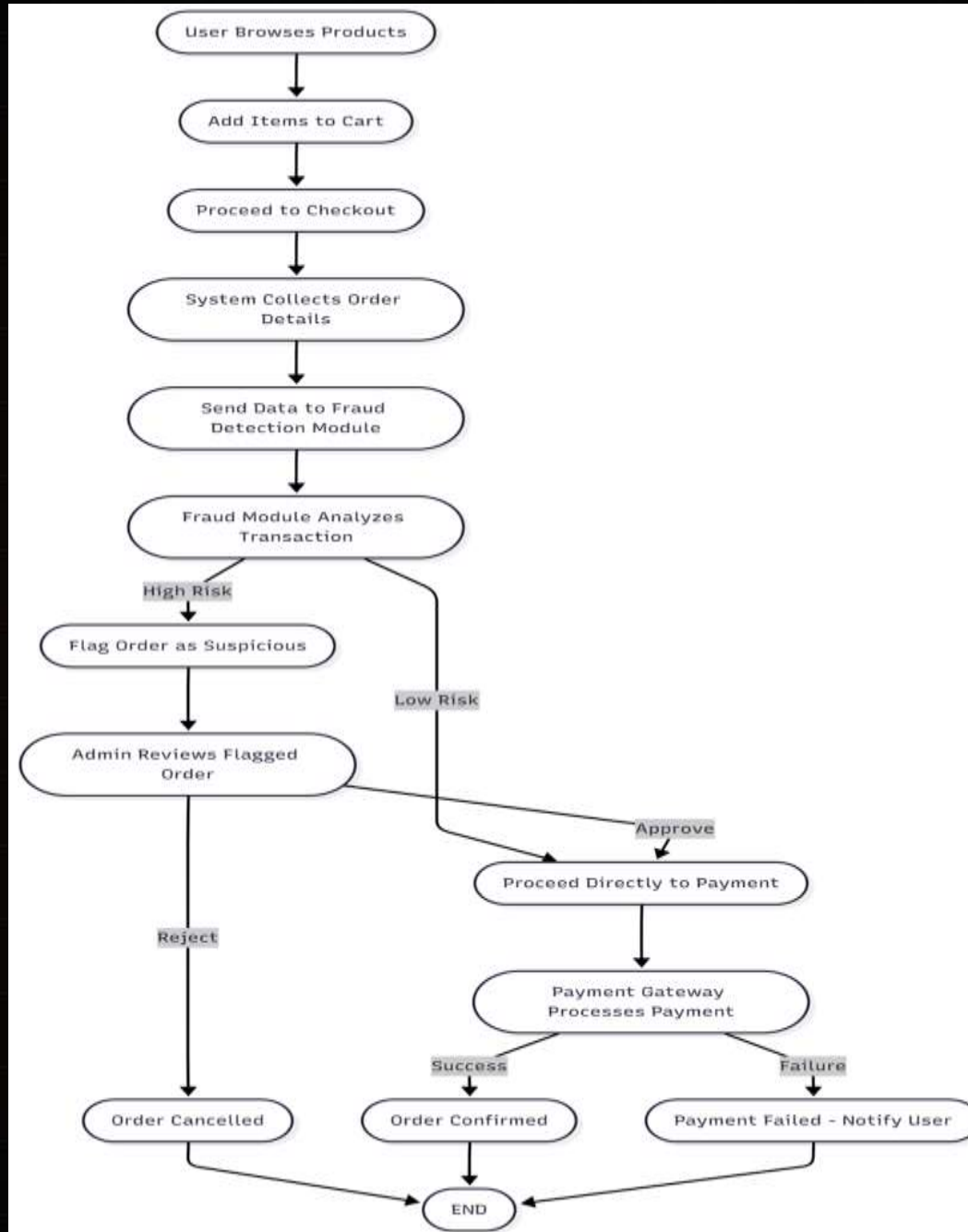
# SYSTEM ARCHITECTURE (HIGH LEVEL)



# USE CASE DIAGRAM



# ACTIVITY DIAGRAM



## Individual Contributions

**Dhruv Pandey**  
**1032211613**



Documentation, Testing & Security Module, created project documentation and performed rigorous testing. Designed fraud detection mechanism.



**Abhas Jaltare**  
**1032221128**

Project Lead & Full-Stack Integration, coordinated team workflow and aligned system architecture. Designed React-based frontend and integrated modules.

**Nishit Shah**  
**1032221549**

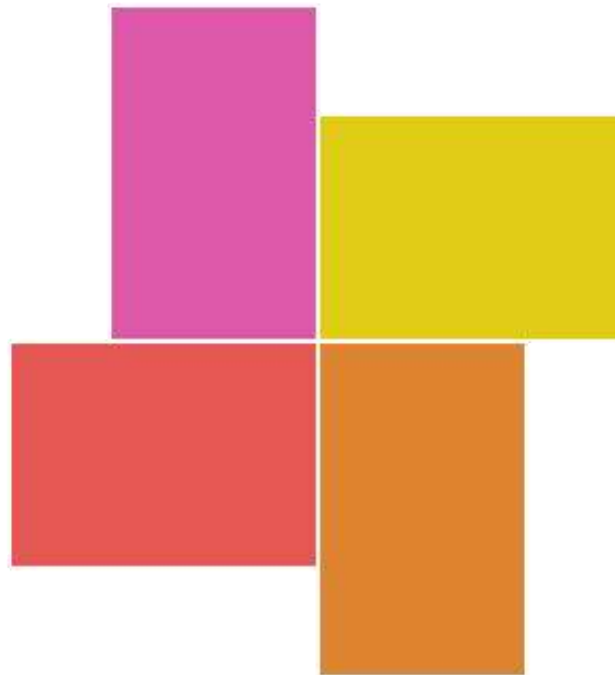


Backend Architecture & API Development, developed backend architecture using Node.js and Express. Implemented secure REST APIs and database schemas.



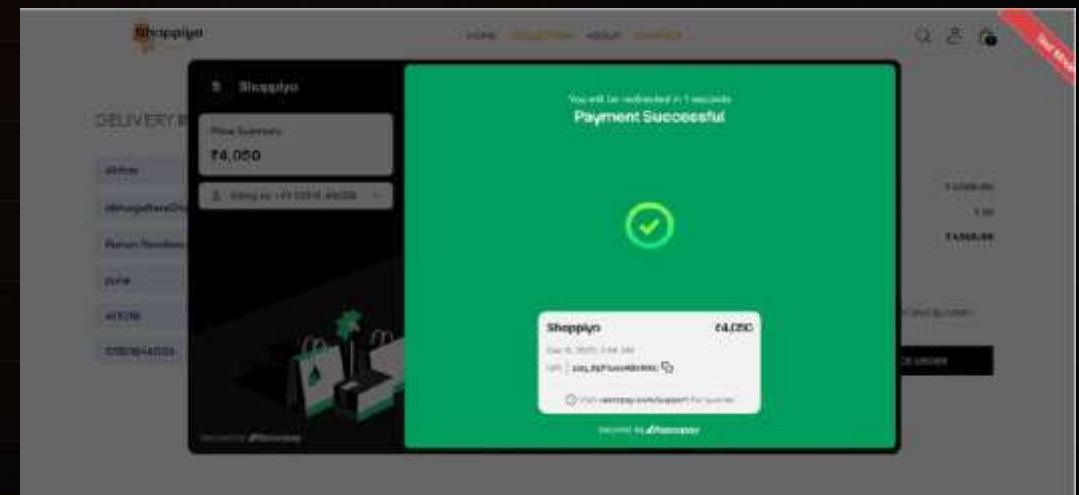
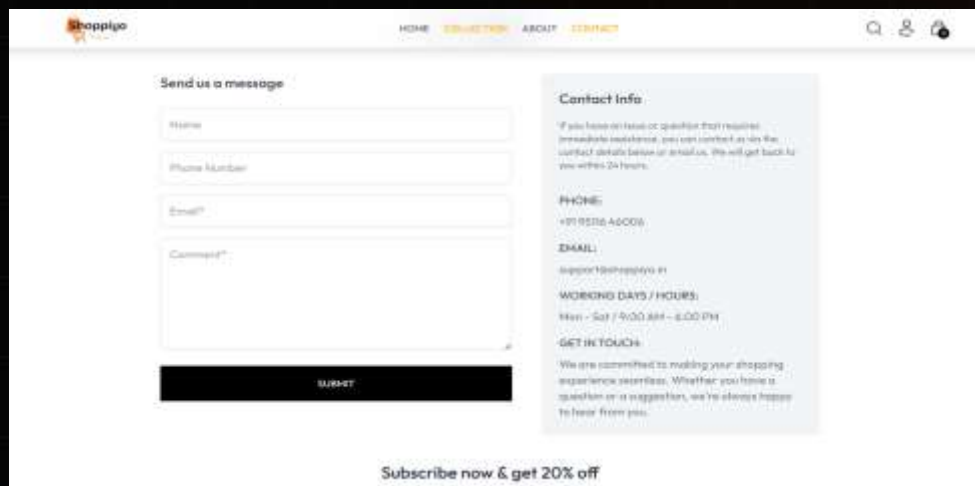
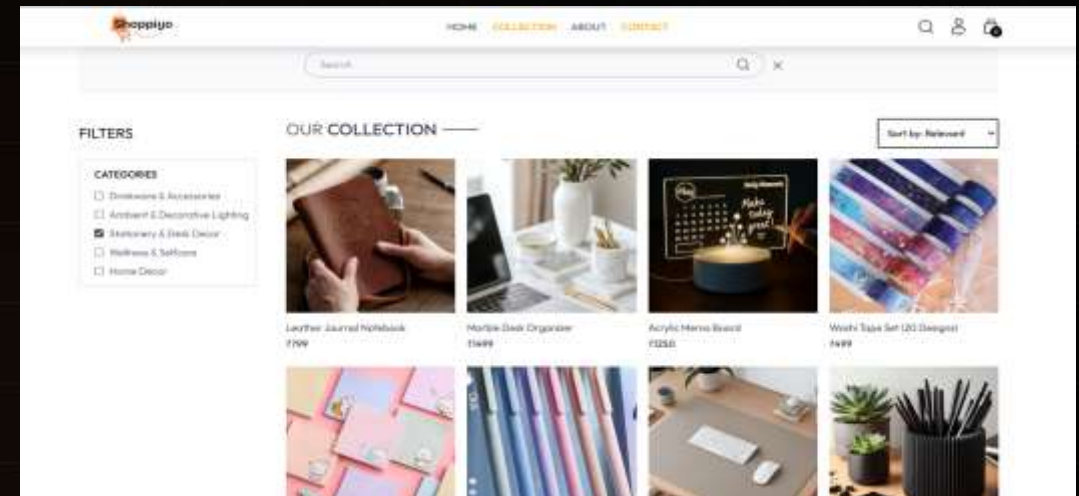
**Om Durdi**  
**1032221115**

UI/UX & Product Management, curated product data and enhanced website's user interface. Refined layout and usability improvements.





# RESULTS & ANALYSIS (FRONT END)



# (ADMIN PANEL)

ShoppiyoADMIN PANEL

Logout

Add Items

List Items

Orders

Contact Messages

Blocked Users

Upload Image

Upload

Upload

Upload

Upload

Product name

Type here

Product description

Write product name

Product category

Drinkware & Accessories

Product Price

\$25

Add to bestseller

ADD

ShoppiyoADMIN PANEL

Logout

Add Items

List Items

Orders

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Blocked Users

All Products List

IMAGE	NAME	CATEGORY	PRICE	ACTION
	Hydratist Ceramic Insense Holder	Wellness & Software	1899	X
	Bamboo Bath Towel	Wellness & Software	12999	X
	Body Dry Brush (Exfoliating)	Wellness & Software	1799	X
	Reusable Gel Eye Patches	Wellness & Software	1499	X
	Silk Sleep Eye Mask	Wellness & Software	1899	X

ShoppiyoADMIN PANEL

Logout

Add Items

List Items

Orders

Contact Messages

Blocked Users

Orders

Manage all customer orders and update their status in real time

Total 10

<div><div><div></div><div>Rafael Rios</div><div>555-555-5555</div></div><div>Order status: Order Placed</div></div>	<div>Items: 1 Amazon T-Shirt Method: COD Payment: Pending</div>
<div><div><div></div><div>Item</div><div>Galaxy Projector Lamp • 1 (One Set)</div></div></div>	
<div><div><div></div><div>Shipping address</div><div>Surfnet pune, Maharashtra, India - 411038 Phone: 924551890</div></div></div>	
<div><div><div></div><div>Abhis Jadhav</div><div>924551890</div></div><div>Order status: Delivered</div></div>	<div>Items: 1 Amazon T-Shirt Method: COD Payment: Pending</div>
<div><div><div></div><div>Item</div><div>Reusable Gel Eye Patches • 1 (One Set)</div></div></div>	

ShoppiyoADMIN PANEL

Logout

Add Items

List Items

Orders

Contact Messages

Blocked Users

Contact Messages

View and manage messages sent from the contact page

Total 2

<div><div><div></div><div>Abhis Jadhav</div><div>924551890, 924551890</div></div><div>Order status: Unread 1</div></div>	<div>Email: abhisjadhav@gmail.com Phone: 924551890</div>
<div>TEST MESSAGE 1: This is a test message to check whether the admin panel reflects the contact messages...</div>	
<div><div><div></div><div>Abhis Jadhav</div><div>924551890, 924551890</div></div><div>Order status: Unread 1</div></div>	<div>Email: abhisjadhav@gmail.com Phone: 924551890</div>
<div>TEST MESSAGE 1: This is a test message to check whether the admin panel reflects the contact messages...</div>	

# DEPLOYMENT MODULE



**Backend:** Deployed as a Web Service on Render.



**Frontend:** Hosted as a Static Site on Render.



**Database:** MongoDB Atlas Cluster (Cloud).



**Media:** Cloudinary for optimized image delivery.



## Frontend Hosting

Utilize Render Static Sites for frontend deployment.



## Backend Services

Deploy backend as a Render Web Service for scalability.



## Database Management

Use MongoDB Atlas for efficient database services.



## Media Storage

Employ Cloudinary for optimized image and video storage.



# SECURITY ASPECTS



## AUTH & DATA

Bcrypt password hashing and  
JWT-based session management.



## TRANSACTIONS

Razorpay secure signature  
verification for every payment.



## NETWORK

Strict CORS policies and Env variable  
protection.



# FRAUD DETECTION MODULE



The system monitors user login attempts in real time.



Multiple consecutive failed logins trigger a temporary account lock.



All suspicious activities are logged and displayed in the Admin Panel for monitoring.



# Strategies for Project Maintenance and Updates

## Monitor

Regularly check logs for errors and performance issues.

## Backups

Implement automated daily backups for user data and configurations.

## Updates

Schedule routine updates for libraries and dependencies for security.

## Testing

Conduct periodic tests for all critical functionalities and features.

## Documentation

Keep documentation current with each new update or feature release.

## Feedback

Collect user feedback regularly to identify areas for improvement.



# FUTURE ROADMAP



## AI Recommendations

ML-based product suggestions.



## Mobile App

React Native version.



## Logistics

Delivery partner integration.



## Marketing

Discount engine & email triggers.



# REFERENCES



## MERN Stack for Scalable E-commerce

"Harnessing the MERN stack for scalable E-commerce website design"

[https://www.researchgate.net/publication/390647948\\_Harnessing\\_the\\_MERN\\_stack\\_for\\_scalable\\_E-commerce\\_website\\_design\\_A\\_full-stack\\_approach\\_with\\_MongoDB\\_Nodejs\\_Expressjs\\_and\\_Reactjs](https://www.researchgate.net/publication/390647948_Harnessing_the_MERN_stack_for_scalable_E-commerce_website_design_A_full-stack_approach_with_MongoDB_Nodejs_Expressjs_and_Reactjs)



## Secure E-Commerce Scheme

"Secure E-Commerce Scheme"

<https://ieeexplore.ieee.org/document/9687542>



## AI & Behavioral Biometrics for Authentication

"Behavioral Biometrics and AI for User Authentication in E-Commerce"

[https://www.researchgate.net/publication/394032897\\_Behavioral\\_Biometrics\\_and\\_AI\\_for\\_User\\_Authentication\\_in\\_E-Commerce\\_Adeyomo\\_afeez](https://www.researchgate.net/publication/394032897_Behavioral_Biometrics_and_AI_for_User_Authentication_in_E-Commerce_Adeyomo_afeez)



## AI-Powered Fraud Detection

"AI-Powered Fraud Detection in BI Systems"

[irjaeh.org/papers/AI-Powered-Fraud-Detection](http://irjaeh.org/papers/AI-Powered-Fraud-Detection)



## MERN Stack E-Commerce Implementation

"E-Commerce Website Using MERN Stack"

[https://www.researchgate.net/publication/380948012\\_E-COMMERCE\\_WEBSITE\\_USING\\_MERN\\_STAC](https://www.researchgate.net/publication/380948012_E-COMMERCE_WEBSITE_USING_MERN_STAC)



# THANK YOU

WEB URL - <https://shoppiyo-full-stack-frontend.onrender.com>

