

Unified Mentor

Supermall – Web Application for Shop & Offer Management

Internship Project Report

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1. Introduction

The **Supermall Web Application** is a web-based system designed to simplify the management of shops, products, and offers within a shopping mall environment. It provides an interactive interface for administrators to manage shops and offers.

This project was developed as part of a **3-month internship under Unified Mentor**, focusing on frontend web development and Firebase integration using **HTML, CSS, JavaScript, and Firebase Firestore (Emulator)**.

2. Objective

The main objectives of this project are to:

- Create a centralized system for managing shop details, offers, and products.
- Enable admins to perform CRUD (Create, Read, Update, Delete) operations easily.
- Provide users with access to organized shop and offer information.
- Implement Firebase Authentication for secure login.
- Demonstrate logging for every user action using JavaScript.

3. Scope of the Project

This project is intended for **local deployment** and **educational purposes**, using Firebase Emulators for data privacy and testing.

The system's modular structure allows easy extension for real-world applications.

Future Enhancements may include:

- Real-time synchronization of offers and shop data.
- Integration of a payment gateway.
- Location-based shop mapping using Google Maps API.
- Mobile app integration using React Native.

4. System Requirements

Hardware Requirements

- Processor: Intel i3 or above

- RAM: Minimum 4 GB
- Storage: At least 500 MB free

Software Requirements

- OS: Windows 10 / 11
- Browser: Chrome / Edge (latest)
- Firebase Emulator Suite
- Code Editor: Visual Studio Code

5. Technologies Used

Layer	Technology
Frontend	HTML5, CSS3, Vanilla JavaScript
Backend	Firebase Firestore (Emulator), Firebase Authentication
Environment	Firebase Emulator Suite
Version Control	Git & Github

6. Features Implemented

- Secure login via Firebase Authentication.
- Add, edit, and delete shop details.
- Manage products and offers per shop.
- Filter shops by floor and category.
- View all active offers in a structured format.
- Browse shops by category and floor.
- Logs every action performed (Add, Update, Delete).
- Improves debugging and accountability.

7. Firestore Data Schema

Collection	Fields	Description
Shops	shopId, name, category, floor, contact	Stores shop information
Products	productId, name, price, features, shopRef	Contains product details
Offers	offerId, productId, shopId, discount, validity	Stores offer and discount data

8. System Design Overview

Architecture:

- The system uses modular JavaScript files (auth.js, main.js, offers.js, etc.) for maintainability.
- Firebase Authentication handles secure user login and access roles.
- Firestore Emulator is used to store and retrieve real-time data for shops, products, and offers.
- All files are organized to maintain clarity and scalability.

Modules:

1. Authentication Module: Manages user sign-in/sign-out using Firebase Auth.
2. Shop Management Module: Handles creation and editing of shop details.
3. Product Management Module: Enables adding, updating, and deleting products.
4. Offer Management Module: Allows defining and displaying product offers.
5. Logging Module: Tracks every operation for debugging and auditing.

9. Project Setup & Execution

Live site link: <https://shivanie07.github.io/Supermall-website/>

Local Setup (Optional)

1. Clone the repository:

bash

```
git clone https://github.com/shivanie07/Supermall-website
```

2. Open the project in VS Code.

3. Start firebase emulators:

bash

```
firebase emulators:start
```

4. Open index.html in a browser.

Emulator URLs

- Auth Emulator: <http://localhost:9099>
- Firestore Emulator: <http://localhost:8085>

10. Output & Screenshots

1. Home / Login Page



2. Create / Update Shop

Supermall Login / Signup Logout

Create Shop

Shop Name
Category
Floor
Contact

[Create Shop](#)

My Shops

Filter by Category

All Categories

Filter by Floor

All Floors

Search by shop name

Enter shop name...

demo - case (Floor: 2)

Contact: 78569XXXXX

[Edit](#)

[Delete](#)

[Manage Products](#)

3. Add Product / Offer

Manage Shop: demo

[Products](#)

[Offers](#)

Product Name
Price
Description

Choose File No file chosen

[Add Product](#)

No products in this shop.

Manage Shop: demo

[Products](#)

[Offers](#)

Offer Title
dd-mm-yyyy
dd-mm-yyyy
Discount %

No products in this shop.

[Create Offer](#)

No offers yet.

4. Product View



Wooden Box

Price: ₹200

Delete

11. Challenges Faced

- Configuring Firebase Emulator and ensuring data sync locally.
- Structuring Firestore collections for multiple related modules.
- Debugging event listeners in modular JavaScript.
- Ensuring smooth UI rendering and responsiveness across devices.
- Maintaining logging consistency for every CRUD operation.

12. Learning Outcomes

- In-depth understanding of Firebase Firestore and Authentication.
- Improved skills in modular JavaScript and event-driven architecture.
- Experience with real-time database design and emulator setup.
- Enhanced debugging, version control, and project documentation abilities.

13. Conclusion

The Supermall Web Application successfully demonstrates a scalable, secure, and maintainable retail management solution.

It highlights strong implementation of Firebase services, modular frontend design, and effective local deployment practices.

This project provided valuable hands-on experience in building a complete web system within the internship at Unified Mentor.

14. GitHub Repository

Project Link: <https://github.com/shivanie07/Supermall-website>

15. Acknowledgement

I would like to extend my heartfelt thanks to **Unified Mentor** for the opportunity to work on this project.

The internship experience strengthened my technical skills, enhanced my confidence in web application development, and provided a solid foundation for real-world project management.

End of Report