

Course Teacher: Eng.Golam Rabbany, Lecturer ,Daffodil International University,Department of CSE

Course Title: Software Project VI

Course Code:CSE336

Dear Sir,

Re: Enclosed Application Agreement for E-commerce Website System

As developers, we understand that creating a client-oriented application requires technical excellence and clear communication. Our team strives to deliver an innovative, professional, and budget-conscious solution tailored to your unique requirements. The project focuses on creating an interactive platform where users can browse and purchase products with ease. It incorporates a login and registration system, a product catalog, a shopping cart, and a payment gateway, ensuring a smooth and secure shopping experience. The project aims to deliver a user-friendly interface, efficient navigation, and secure transactions to enhance the overall online shopping experience.

This document details every part and all features of the proposed E-commerce Website System. Please review it thoroughly, and if satisfied, sign and confirm the agreement.

Yours Truly,

Sayed Ahamed Khan

ID:213-15-4506

Section:60-E, Department of CSE

Daffodil International University

E-COMMERCE WEBSITE SYSTEM

Project Overview

Purpose:

To develop a fully functional React-based e-commerce website, offering a seamless user experience for browsing, purchasing, and managing products online.

Scope:

The system will include user registration/login, product catalog browsing, shopping cart management, secure payment integration, order tracking, and an admin panel for product and order management.

Definitions, Acronyms, and Abbreviations:

- **UI:** User Interface
- **DBMS:** Database Management System
- **SPA:** Single-Page Application

Overview:

The website will provide a streamlined platform for users to shop online efficiently. It will use Node.js for a responsive SPA frontend, combined with backend services for business logic, order processing, and secure payment. This system is designed to

benefit both customers and administrators. Customers can register, log in, view products, add them to their cart, and proceed with a secure payment process. Administrators can manage products, users, and orders, ensuring the system runs smoothly.

Overall Description

Product Perspective:

The system will feature a React frontend, interacting with a backend API for data handling and business logic like order processing, user management, and payments.

Product Functions:

- User registration/login
- Product browsing by category
- Shopping cart and wishlist management
- Secure payment integration
- Order tracking
- Admin panel for product, inventory, and order management

User Characteristics:

- **Customer:** Browses products, places orders, and tracks purchases.
- **Admin:** Manages product inventory, orders, and user data.

Constraints:

- Responsive design for both desktop and mobile is critical.
- React limitations for managing large-scale state complexity.

Assumptions and Dependencies:

- Reliable backend API for handling user, order, and payment data.
- Secure payment gateway integration for transactions.

System Features

User Roles and Permissions:

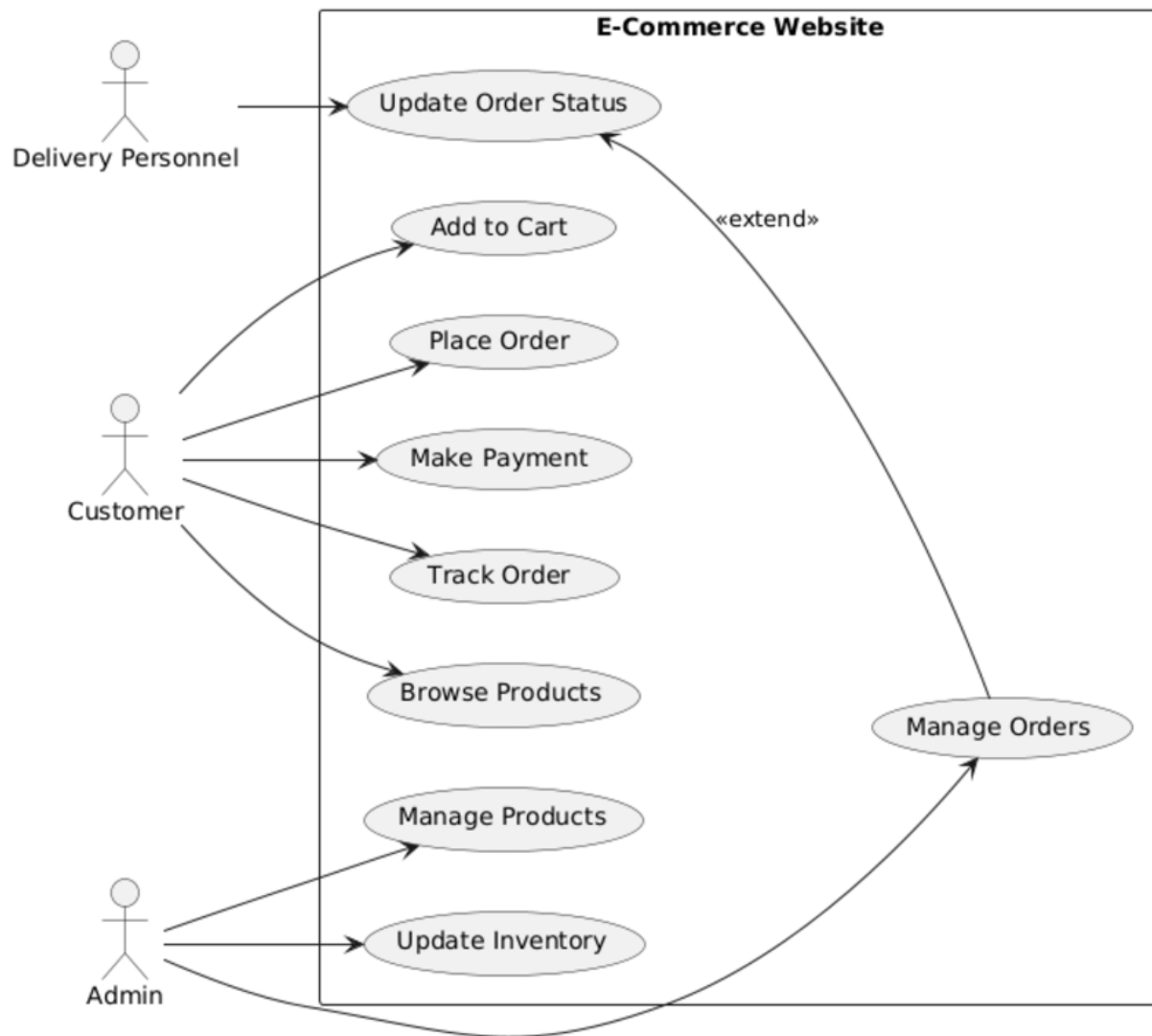
Customer:

- Registers/logins.
- Browses products, adds to cart/wishlist, places orders, and tracks them.

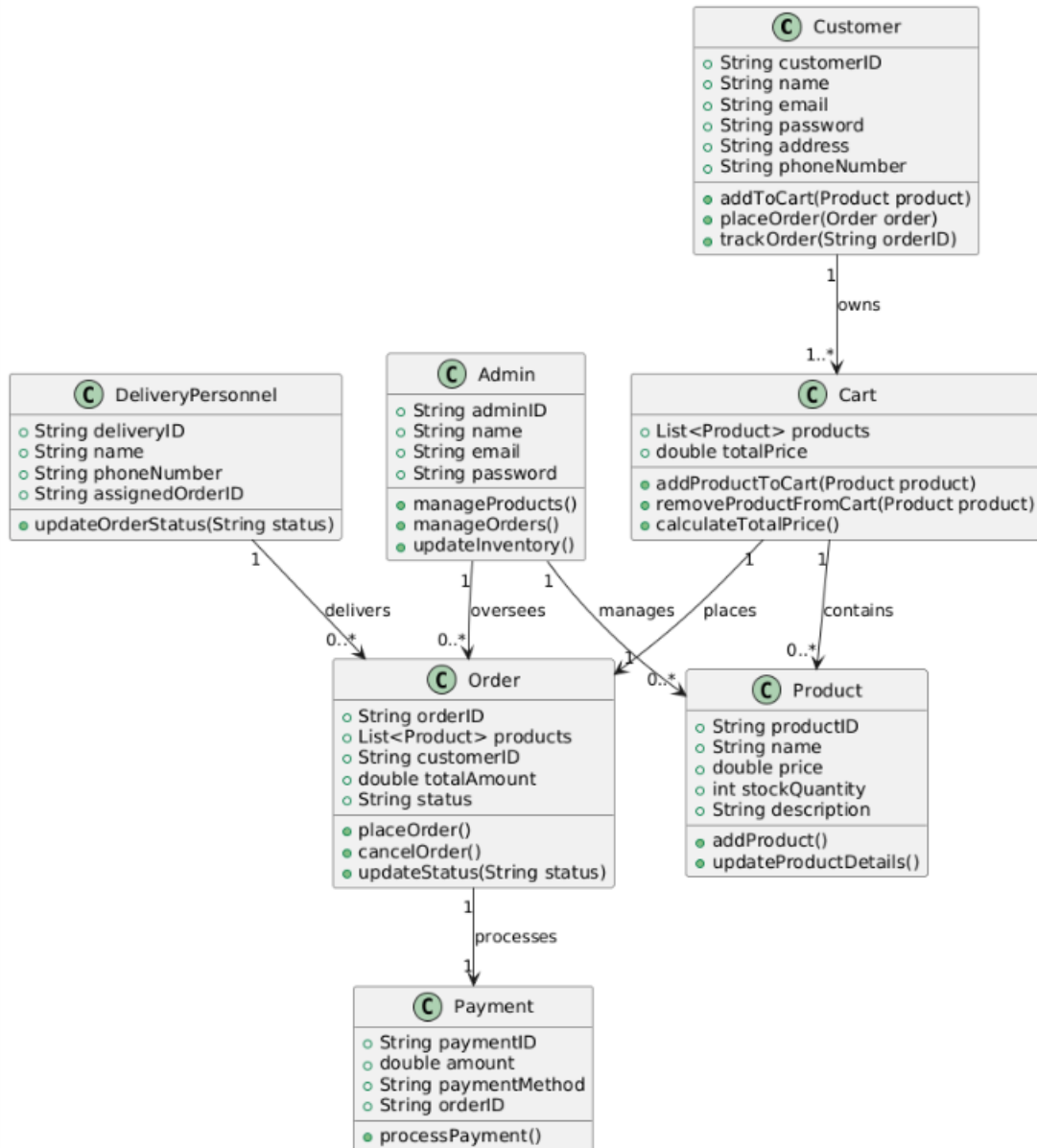
Admin:

- Adds, updates, and deletes products.
- Manages inventory and processes orders.

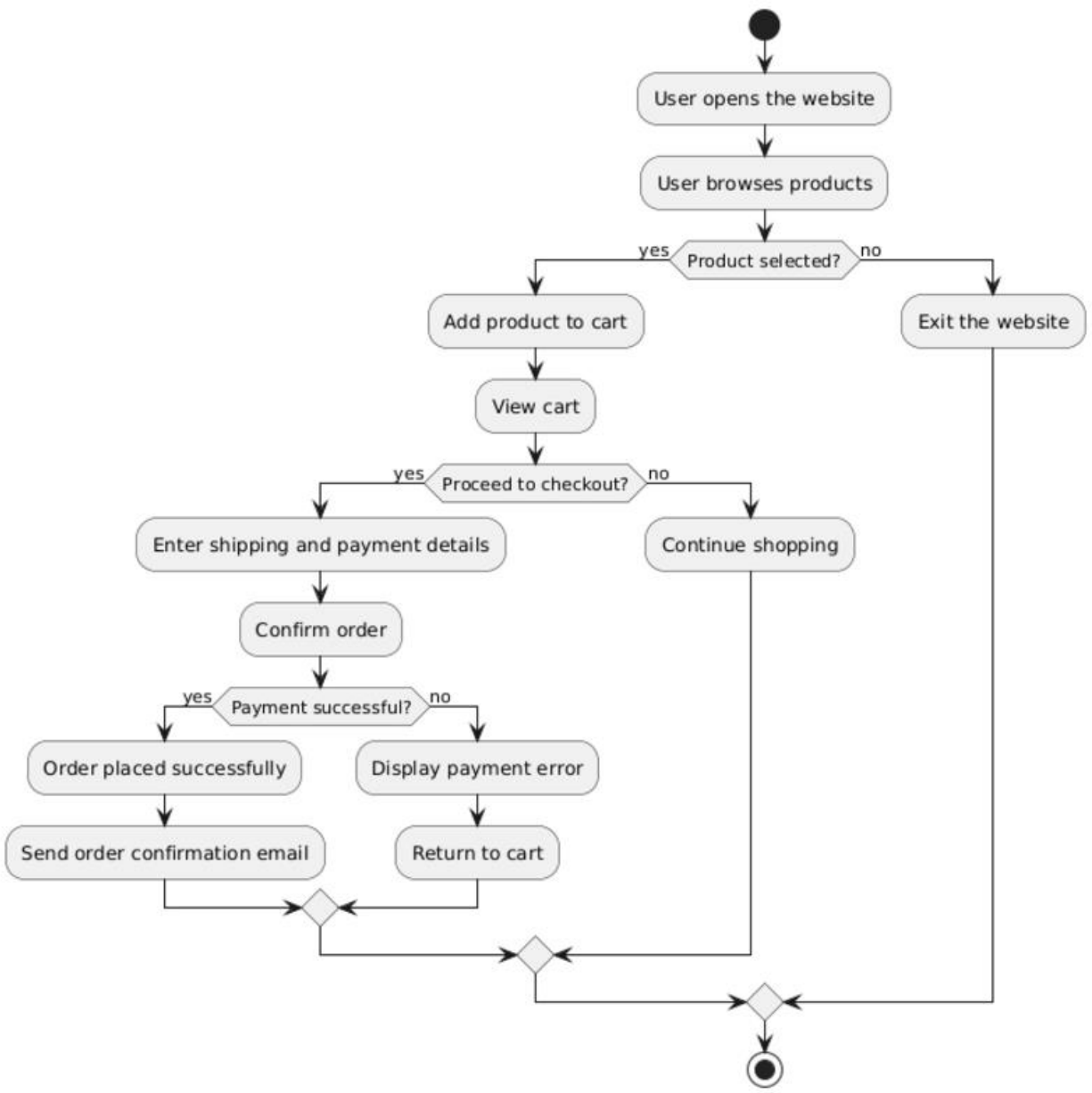
Use Case Diagram:



Class Diagram:



Activity Diagram:



Customer Workflow:

1. **Registration/Login:** Secure React forms with validation
2. **Product Browsing:** Dynamic rendering of products by category and availability.
3. **Cart/Wishlist Management:** Add, remove, and modify items using React state management
4. **Order Placement:** Interacts with the backend API for transaction processing.
5. **Payment Integration:** Secure third-party gateway
6. **Order Tracking:** Real-time updates via WebSocket or polling.

Admin Workflow:

1. **Product Management:** Add/update/delete products via a React-based dashboard.
2. **Order Management:** View, approve, or cancel orders.
3. **Inventory Management:** Sync inventory data with product availability in real-time.

Module Description

Customer Modules:

- **Home Page:** Highlights featured products and promotional offers dynamically.

- **Product Catalog:** Displays all products with category filters and search functionality.
- **Shopping Cart:** Includes item summary, price calculation, and quantity adjustment.
- **Wishlist:** Allows saving products for future purchases.
- **Checkout and Payment:** Step-by-step secure form integrated with a payment gateway.
- **Order Tracking:** Displays order status in real-time.

Admin Modules:

- **Product Management:** Add/edit/delete products, manage inventory, and update prices.
- **Order Management:** View and manage all orders (approve, ship, or cancel).
- **User Management:** View and manage customer accounts.

Technology Stack

Frontend Framework:

- React for building modular, reusable components.

State Management:

- Redux or Context API for application-wide state.

Backend API:

The backend will use the following dependencies:

1. **Express** for backend logic.
2. **Server.js** to connect with **Database**.
3. **JSON Web Token (JWT)** for authentication.
4. **Bcrypt** for secure user password encryption.
5. **CORS** for cross-origin resource sharing.
6. **dotenv** for managing environment variables.
7. **Multer** for image upload handling.
8. **Validator** for form validation.
9. **Nodemon** for automatic server restarts.

Database:

- **Server.js** for storing user, product, and order data.

Payment Integration:

- Secure payment gateway integration

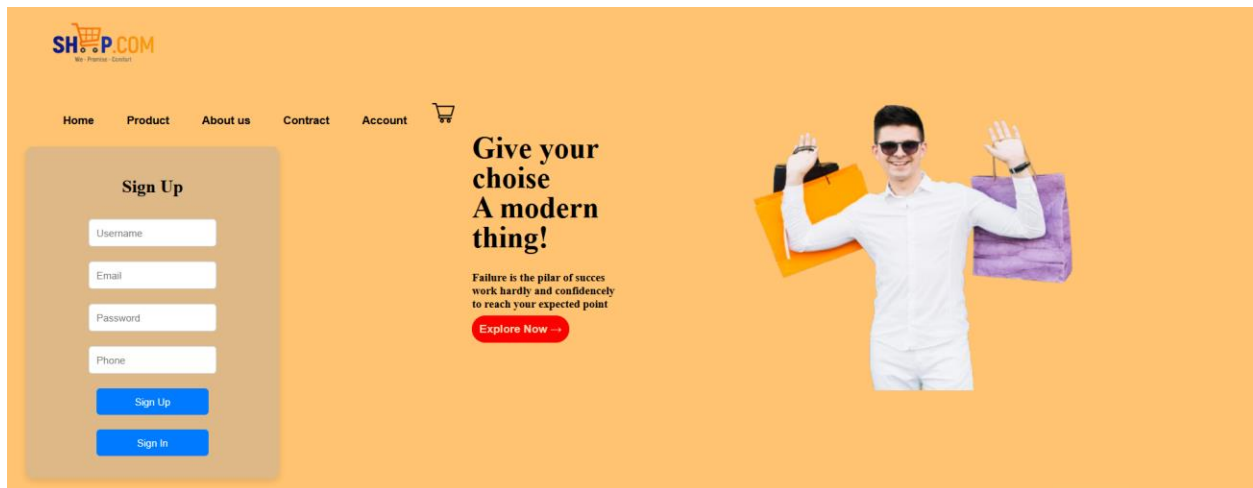
Real-time Updates:

- WebSocket or server-sent events for order tracking.

Milestones and Timeline:

Phase	Duration	Timeline
Requirement Analysis	7days	Week 1
Design	10 days	Week 2-3
Development	60 days	Week 4-12
Testing	20 days	Week 13-15
Deployment	7 days	Week 16

Home Page:



Product View:

Product item



Red shirt

Price: \$30



sport shoe

Price: \$20

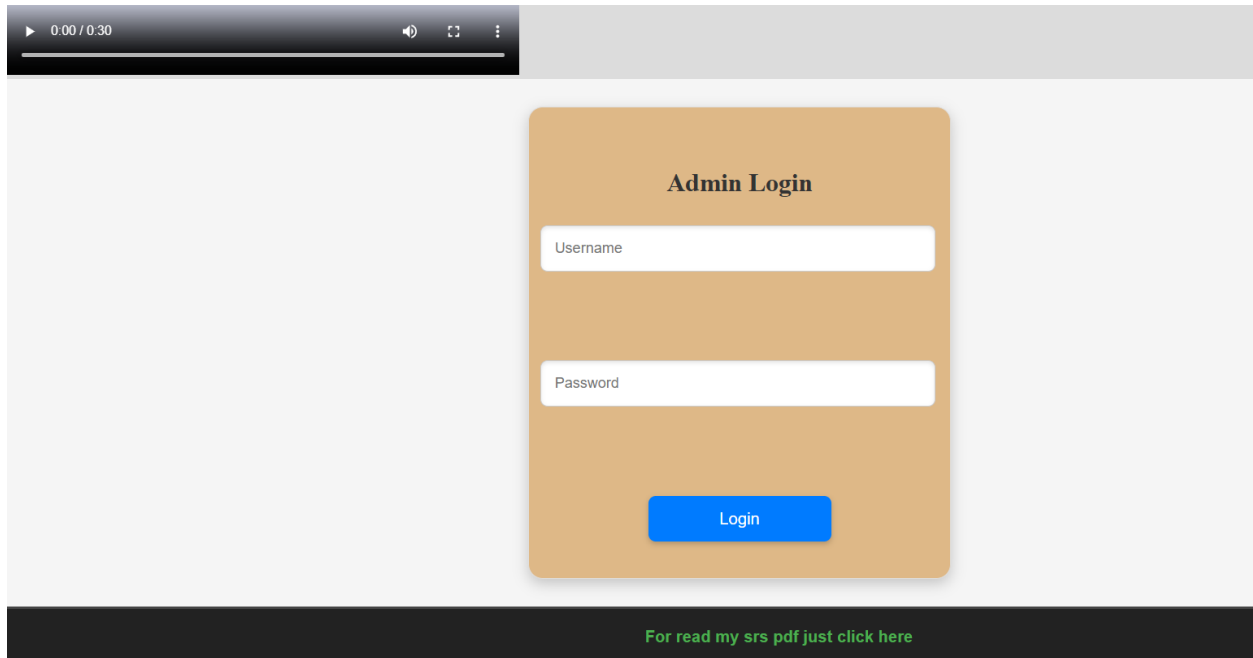


lader shoe

Price: \$30



Admin Login:



Data Storing in Xamp:

`SELECT * FROM `users``

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

				id	username	email	password	phone
<input type="checkbox"/>	Edit	Copy	Delete	18	sayedahamedkhan	khan15-4506@diu.edu.bd	12	0171755032174
<input type="checkbox"/>	Edit	Copy	Delete	28	mahin	khan15-4506@diu.edu.bd	12	12
<input type="checkbox"/>	Edit	Copy	Delete	29	sayed467014@gmail.com	sayed467014@gmail.com	123	01725244242422
<input type="checkbox"/>	Edit	Copy	Delete	30	sayed	sayed467014@gmail.com	123	01725244242422
<input type="checkbox"/>	Edit	Copy	Delete	37	tanzim khan	tanziom@gmail.com	12	0171755032174
<input type="checkbox"/>	Edit	Copy	Delete	44	jim	jim@com.diu	123	01725244242422
<input type="checkbox"/>	Edit	Copy	Delete	45	Hridoy khan	hr@edu.bd	12345	0171755032174

Admin can add ,remove and update user:

Add User

Remove All Users

Username

Location

Email

Phone

Add User

Current Users:

Username	Location	Email	Phone	Action
sayed	Dhaka	sayed467014@gmail.com	01755032174	<div>Remove</div> <div>Edit</div>

Testing Process:

1. **Unit Testing:** Component-level testing using Jest and React Testing Library.
2. **Integration Testing:** Testing interactions between components and API calls.
3. **End-to-End Testing:** Cypress for simulating real user workflows.
4. **User Acceptance Testing:** Conduct testing with a real user group for feedback.

Support and Maintenance

Support Services:

- ☐ 24/7 technical support and assistance.
- ☐ Bug fixes and updates included for the first 3 months.

Maintenance Plan:

Regular updates, bug fixes, and feature enhancements.

Pricing and Payment Terms

Total Project Fee: 60,000 BDT

Payment Schedule:

- ☐ **10%:** After requirements analysis and approval/ Upon project agreement
- ☐ **50%:** Upon initial development and UI/UX design completion/ After prototype approval
- ☐ **25%:** After testing and user acceptance testing (UAT).
- ☐ **15%:** After final delivery.

Cost Analysis:

Task	Estimated Cost (BDT)
Development	40,000
Testing	15,000
Deployment	5,000
Total Cost	60,000

Pricing/ Payment Schedule :

Payment Milestones	Amount (BDT)
Upon project agreement	10%(6,000)
After prototype approval	50%(30,000)
Post-testing	25%(15,000)
Final delivery	15%(9,000)

Roles and Responsibilities

Client:

- Oversees the project scope and requirements.

Frontend Developer:

- Responsible for React UI/UX components and state management.

Backend Developer:

- API development, database integration, and backend logic.

Contact Us

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