2.1 Scopes and Features

Scopes:

The Gadget Shop Management System is a web-based application developed to automate and manage the core operations of a gadget retail business. The system is designed to support secure user authentication with role-based access for administrators, inventory managers, members, and customers, ensuring that each user can access only the functionalities relevant to their role. It enables administrators to monitor sales performance through detailed sales reports, summaries, and analytics, while allowing customers to browse products, add items to a cart, and complete purchases through a structured checkout process. The system includes payment handling, invoice generation, and report export features to support business analysis and record keeping. Validation mechanisms, error handling, and security controls are implemented throughout the system to prevent unauthorized access, ensure data accuracy, and enhance overall system reliability. The scope of the system focuses on improving operational efficiency, reducing manual errors, and providing a smooth and secure user experience, while excluding advanced integrations such as third-party logistics, external accounting systems, mobile applications, and offline transaction processing.

Features:

1. **User Authentication & Role Management**

- Multi-role signup and login (Admin, Member, Inventory Manager, Customer)
- Secure password handling and validation
- Forgot password with OTP or reset link
- Role-based access control
- Session management and logout functionality

2. **Sales Management (Admin)**

- View detailed sales reports
- Date-based filtering (Daily, Weekly, Monthly, Custom)
- Sales summary (total revenue, total sales, items sold)
- Sorting by date, product, and total amount
- Identification of top-selling products
- Export sales reports in PDF / Excel format
- Invoice viewing for individual sales

3. **Purchase Management (Customer)**

- Browse available products with price and stock details

- Search and filter products by name or category
- Select quantity based on available stock
- Add products to cart with real-time total calculation
- Modify cart items (update quantity / remove items)
- Checkout with mandatory customer details
- Multiple payment options (e.g., Cash on Delivery, Online Payment)
- Order confirmation and success notification

4. Payment Management

- Secure payment processing
- Validation of payment details
- Payment confirmation messages
- Error handling for failed or invalid payments
- Invoice generation after successful payment

5. Reporting & Analytics

- Sales performance monitoring
- Product-wise sales analysis
- Revenue tracking over selected time periods
- Exportable reports for management review
- Data accuracy and consistency checks

6. System Validation & Error Handling

- Mandatory field validation across all forms
- Inline error messages without page refresh
- User-friendly success and failure notifications
- Prevention of unauthorized access
- Proper handling of invalid inputs and system errors

7. Security Features

- Password masking and encryption
- OTP expiration handling
- Protection against duplicate usernames
- Secure session handling
- Restricted access based on authentication status