**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID59438 |
| Project Name | ShopSmart: Your Digital Grocery Store Experience |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form (Email and Password) Registration for Customers Registration for Admins |
| FR-2 | User Confirmation | User Login (Email and Password) Role-based access control (Admin, Customer) |
| FR-3 | Profile Management | View User Profile (Name, Email, Address, Phone)  Update User Profile (Name, Email, Address, Phone) |
| FR-4 | Product Catalog Management | View Product Catalog Items by Seller Add/Edit Products (Seller) Delete Products (Seller) |
| FR-5 | Order & Delivery Management | Create New Order (Customer) View Order History (Customer, Seller, Admin) Update Order Status (e.g., pending, preparing, delivered, cancelled) (Seller) |
| FR-6 | Cart Management | Add Product to Cart Update Quantity in Cart Remove Item from Cart Clear Shopping Cart |
| FR-7 | Admin Functions | Approve/Reject User Accounts  Manage Categories (Add, Edit, Delete global food categories) View Dashboard Counts (Total Users, Sellers, Orders, Products, Pending Approvals, Feedback) Manage Promoted Sellers View/Manage Feedback (Customer to Admin, User to Admin) Send Announcements/Feedback from Admin to Users/Sellers Generate Reports (Metrics, Order Trend, Top Sellers, Category Popularity, Rating Distribution) |
| FR-8 | Feedback System | Submit Feedback/Ratings (Customer to Seller/Item) Submit Feedback (Seller to Admin) Submit Feedback (Customer to Admin) |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The application should have an intuitive and easy-to-navigate user interface. Responsive design for various devices (desktop, mobile). Clear feedback for user actions. |
| NFR-2 | **Security** | All user data (passwords, personal info) must be securely stored (hashed passwords). Authentication and authorization mechanisms (JWT) must prevent unauthorized access. Protection against common web vulnerabilities (e.g., XSS, SQL Injection - via Mongoose). Secure communication (HTTPS in production). |
| NFR-3 | **Reliability** | The system should be robust and handle errors gracefully without crashing. Data integrity must be maintained during all operations (e.g., orders, inventory). Appropriate logging for troubleshooting. |
| NFR-4 | **Performance** | The application should respond to user requests promptly. API response times should be optimized. Database queries should be efficient to handle a reasonable load. |
| NFR-5 | **Availability** | The application should be accessible and operational for users during expected hours. Minimized downtime. (e.g., 99% uptime target). |
| NFR-6 | **Scalability** | The system should be able to handle an increasing number of users, sellers, and orders without significant degradation in performance. (e.g., support for horizontal scaling of backend, database sharding capability). |