

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	20Feb 2026
Team ID	LTVIP2026TMIDS79402
Project Name	Booknest : Where Stories nestle
Maximum Marks	

**Functional Requirements:**

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration & Login	Users can register, login, and logout securely using JWT authentication.
FR-2	Book Browsing & Search	Users can browse books by category and search by title, author, or keyword.
FR-3	Book Details View	Displays book image, description, price, author, category, and availability status.
FR-4	Cart Management	Users can add books to cart, update quantity, and remove items.
FR-5	Order Placement	Users can place orders and receive confirmation after successful checkout.
FR-6	Order History	Users can view previous orders and track order status.
FR-7	Admin Book Management	Admin can add, update, and delete books (CRUD operations).
FR-8	User Management (Admin)	Admin can view registered users and manage user accounts.
FR-9	Order Management (Admin)	Admin can view all orders and update order status.
FR-10	Backend API Integration	REST APIs built using Node.js and Express.js connected to MongoDB database.
FR-11	Role-Based Access Control	System differentiates between Admin and User roles with protected routes.
FR-12	Environment Configuration	Uses .env file for storing secure credentials like database URL and JWT secret.

## Non-Functional Requirements:

NFR No.	Non-Functional Requirement	Description
NFR-1	Security	User authentication must use JWT and encrypted passwords (bcrypt).
NFR-2	Performance	Page load time should be under 3 seconds for smooth user experience.
NFR-3	Scalability	System should support adding more categories, books, and users without performance degradation.
NFR-4	Usability	Interface must be clean, responsive, and easy to navigate for all users.
NFR-5	Portability	Application should run on any system with Node.js and MongoDB installed.
NFR-6	Availability	System should be accessible 24/7 when deployed on cloud platform.
NFR-7	Data Integrity	Ensures accurate storage and retrieval of book, user, and order data in MongoDB.
NFR-8	Maintainability	Code should follow modular structure for easy updates and debugging.
NFR-9	Compatibility	Web app must work properly on Chrome, Edge, and other modern browsers.
NFR-10	Reliability	System should handle multiple users simultaneously without crashing.