**Project Design Phase-II**

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

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| Date | 10 june 2025 |
| Team ID | LTVIP2025TMID42003 |
| Project Name | BookNest |
| 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  Registration through Gmail  Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Book Browsing & Search | Browse by Categories  Search by Title/Author  Filter by Price/Rating |
| FR-4 | Order & Checkout | Add to Cart  Place Order  Payment Integration (e.g., Razorpay/Stripe)  Order Confirmation Email |
| FR-5 | Wishlist | Add Book to Wishlist  View Wishlist  Remove Book from Wishlist |
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**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 will have an intuitive and user-friendly interface for both desktop and mobile users to enhance user experience. |
| NFR-2 | **Security** | Secure authentication via JWT tokens, password hashing using bcrypt, HTTPS communication, and secure file uploads using Multer. |
| NFR-3 | **Reliability** | The system should ensure minimal downtime, with proper error handling, retry logic, and database backups to ensure data integrity. |
| NFR-4 | **Performance** | The application should support up to 500 concurrent users with optimal load time under 2 seconds using caching and CDN integration. |
| NFR-5 | **Availability** | 99.9% uptime is ensured through proper server monitoring, health checks, and deployment across multiple availability zones. |
| NFR-6 | **Scalability** | The backend is built on a scalable Node.js + Express architecture, with MongoDB designed for horizontal scaling and service modularization. |