**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 26 June 2025 |
| Team ID | LTVIP2025TMID59619 |
| Project Name | Shopez : one-stop shop for online purchases |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

ShopeZ is designed with a modular and scalable 3-tier architecture to support seamless online shopping, seller management, and secure transactions.

🔹 **Architecture Layers:**

1. **Presentation Layer (Frontend):**  
   A responsive, user-friendly web interface for customers and sellers to browse products, manage carts, place orders, update listings, and communicate in real-time.
2. **Business Logic Layer (Backend):**  
   Handles core functions such as product management, order processing, cart operations, payment gateway integration, notifications, and user authentication.
3. **Data Storage Layer:**  
   Securely stores user profiles, product listings, reviews, order history, chat messages, and transaction logs.

The system is integrated with third-party APIs for payment gateways, email/SMS alerts, and real-time messaging to deliver a reliable and interactive shopping experience.

**Table-1 : Components & Technologies:**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | User Interface | Responsive UI for customers and sellers | HTML, CSS, JavaScript / React Js etc. |
|  | Application Logic-1 | Handles cart, orders, checkout, messaging | Node.js, Express.js |
|  | Application Logic-2 | |  | | --- | | Admin panel, seller verification, user & product moderation | | React js, Node js |
|  | Database | Stores user profiles, projects, bids, messages, reviews, and payments | MongoDB |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | Frontend & backend technologies | React.js, Node.js, BootStrap, Tailwind CSS |
|  | Scalable Architecture | 3-tier architecture with RESTful APIs | Microservices |