Project Design Phase
Solution Architecture

Date	19 February 2026
Team ID	LTVIP2026TMIDS87679
Project Name	Steamy Pot – Smart Food Delivery Platform
Maximum Marks	4 Marks

Solution Architecture:

Steamy Pot follows a 3-tier MERN stack architecture that bridges business requirements with scalable technology implementation. The architecture ensures modularity, security, scalability, and efficient coordination between system stakeholders (Users, Restaurants, Delivery Drivers, and Admin).

The system consists of the following layers:

Presentation Layer (Frontend)

- Built using React.js

- Role-based dashboards (User, Restaurant, Driver, Admin)

- REST API communication with backend

- Responsive UI design

Application Layer (Backend)

- Developed using Node.js and Express.js

- Implements business logic

- Handles authentication (JWT)

- Manages order lifecycle state transitions

- Performs intelligent driver assignment

- Processes social-aware recommendation logic

Data Layer (Database)

- MongoDB (NoSQL database)

- Collections:

    o Users

    o Restaurants

    o DeliveryDrivers

    o FoodItems

    o Orders

    o Cart

- Mongoose ODM for schema modeling

Security Layer

- JWT-based authentication

- Role-Based Access Control (RBAC)

- Password hashing using bcrypt

- HTTPS secure communication

- Consent-based contact data processing

Example - Solution Architecture Diagram:

generate me the pic as in the document

Architecture for Steamy Pot — Smart Food/ Delivery Platform

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