

Smart Customer Support System for E-commerce Platforms

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Project Idea

- The system supports integration with platforms such as custom e-commerce APIs, and includes features like multi-agent live chat (with **automatic or admin-controlled agent assignment based on real-time availability**), email/ticket creation, and customer feedback collection.

Many e-commerce businesses struggle with:

- Delayed response times to customer queries.
- Inefficient tracking of customer complaints.
- Lack of centralized order-related support information.
- Manual, repetitive tasks like answering FAQs.
- Poor communication channels leading to low customer satisfaction.
- This system solves these problems by automating support processes and giving support agents a full view of the customer's purchase history, order status, and previous interactions — leading to quicker resolution times and improved customer experience
- 1. **Business-Level Client (Primary Customer of the System)**
- 2. **End-User Client (User Interacting with the Support System)**

Project Features

- **functional requirements:**

- **User Authentication:**

- Customers, agents, and admins can log in with appropriate roles.

- **Live Chat Support:**

- Real-time messaging between customers and support agents.

- **Ticket Management:**

- Create, update and resolve customer support tickets.
 - Track ticket history per customer.

- **Order Integration:**

- Pull customer order history, payment status, and delivery status from the e-commerce system.

- **Email and Notification System:**

- Notify agents of new tickets or escalations.

- **non-functional requirements:**

- **Security:**

- Use secure authentication (OAuth 2.0, JWT).
 - Encrypt user data in transit and at rest.

- **Availability:**

- 99.9% uptime with fallback and error-handling mechanisms.

- **Usability:**

- User-friendly UI for both agents and customers.
 - Accessible from desktop and mobile devices.

- **possible users & roles:**

- Admin
 - Agent
 - Customer (End user)

Tools & Technologies

- technologies used:

- 1- Admin Dashboard – Angular

- Framework:** Angular (v19)

- Purpose:** Admin interface to manage users, tickets, chat routing, analytics, and integrations.

- 2- Agent Dashboard – React

- Library:** React.js

- Purpose:** Agent-facing portal for real-time chat, viewing customer orders, and managing tickets.

- 3- Backend Technologies

- . Node.js (Express)

- Environment:** Node.js runtime

- Framework:** Express.js

- Purpose:** RESTful API layer to handle business logic, authentication, chat routing, and database communication.

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Demo