

NullAxis.ai Assessment - Customer Service Agent

Business Problem: A company receives many customer inquiries via email/chat. They want to automate the initial classification, information gathering, and drafting of a preliminary response before a human agent takes over complex cases.

Task: Design an agentic system that:

- Receives a customer inquiry
- Classifies the inquiry's intent (Say, into "Technical Support," "Product Feature Request," or "Sales Lead".)
- **Takes actions based on the classification:**
 - If "Technical Support": Attempts to find relevant information in a provided mock knowledge base. (Use a format you feel is appropriate for the model to retrieve information.)
 - If "Product Feature Request": Logs the request (e.g., appends to a file).
 - If "Sales Lead": Gathers basic information if missing (e.g., asks "Could you please provide your company name?").
- **Drafts an initial response:**
 - If info found in documentation: "Thanks for reaching out! Regarding your [topic], here's some information: [KB snippet]. Does this resolve your issue?"
 - If info not found: "Thanks for your query. I couldn't find an immediate answer, but I've routed your request to our [relevant department] team. They will get back to you shortly."
 - For feature requests: "Thank you for your suggestion! We've logged your feature request for [feature] for our product team to review."
 - For sales leads: "Thanks for your interest! Our sales team will be in touch soon. In the meantime, could you tell us more about your needs? How many team members do you have?"
- Determines if escalation to a human is needed (e.g., if KB search fails, if sentiment is very negative, or if it's a complex sales inquiry).

Implementation:

- Build a basic UI with an input box where a user can enter a query and the agent can respond.
- Feel free to make any assumptions/ additional features in both the UI and agent which you think make sense. Bonus points will be awarded for a nicer UI!
- Tweaks in the implementation details are fine as long as they do not reduce the required functionality.
- You can (and you are encouraged to) use AI coding tools to develop the agent, UI etc. You can also use any online resources, provided you cite the same.
- Ideally, code the UI in React.js and the backend in Python (FastAPI if you need a webserver). However this is not a hard and fast rule, feel free to choose your own stack.

Time limit:

3 days

Submission Format:

- A video demonstrating the app. You can use loom.
- Codebase zip with instructions on local setup.
- Bonus points if you have a hosted version on a free-trial hosting service (Heroku/GCloud/AWS)