Assignment: Full Stack Developer + Gen AI Intern

Company Name

Fly Your Tech

Assignment Objective

The objective of this assignment is to evaluate your skills in **Full Stack Development**, **Gen AI integration**, and **tool-based reasoning using LangChain/LangGraph**.

You are required to build a **basic AI-powered chatbot** with **tool calling** that represents a fictional company named **"Fly Your Tech"**. The chatbot should be capable of answering basic business-related queries such as services, pricing, and contact details, while intelligently invoking different tools based on user intent.

Tech Stack Requirements

Mandatory

- **Backend:** Python
- **Frameworks:** LangChain (mandatory), LangGraph
- **Frontend:** React.js
- **LLM / API:** Gemini API or any other LLM API of your choice

Optional

- Node.js (optional backend support; Python is preferred)

Core Functional Requirements

1. Chatbot with Tool Calling

- The chatbot must demonstrate **tool-based decision making**
- Tool selection should be automatic based on user queries
- Implemented using **LangChain and LangGraph**

Tool Requirements (Minimum 3 Tools Mandatory)

Tool 1: Knowledge Base Tool (Mandatory)

Create a simple knowledge base (JSON / text / vector-based) containing company-related data.

The chatbot should be able to fetch:

- Company name
- Address
- Phone number
- Email ID
- Tech services offered
- Starting price of services

This tool should be triggered for general company-related queries.

Tool 2: Lead Management Tool

- Simulate a **lead database using JSON**
- The chatbot should be able to:
  - Read existing leads
  - Return lead details (name, email, service interested, etc.)
- Dummy data is acceptable

Tool 3: Scheduling / Maps Tool

Implement **any one** of the following:

- Email scheduling tool (dummy or real)

  ⚠️ Accuracy is not critical — correct **tool invocation logic** is the focus.7

Frontend Requirements

- Build a **basic web UI using React**
- Chat interface should be functional and user-friendly
- UI does not need to be production-grade

Additional Guidelines

- Clean and modular code structure
- Clear separation of frontend and backend
- Use comments or README to explain:
  - Tool logic
  - Flow of the chatbot
- Dummy APIs and mock data are allowed

Submission Requirements

Once the assignment is completed:

1. Demo Video

- Record a **working walkthrough video**
- Upload it on **Loom**
- Show:
  - Chatbot responses
  - Tool calling in action
  - Frontend + backend working together

2. Code Submission

- Push the complete codebase to **GitHub**
- Repository should be public or accessible

3. Final Submission

Submit the following via Google Form:

- Loom video link
- GitHub repository link

🔗 **Google Form:**
https://forms.gle/JbwKMvqVa5ZHbkXm6

Deadline

27th January, by 8:00 PM (IST)

Late submissions may not be considered.

Evaluation Criteria

- Correct implementation of **LangChain tool calling**
- Logical use of **LangGraph**
- Code quality and structure
- Frontend–backend integration
- Overall understanding of Gen AI workflows

Best of luck!

We look forward to reviewing your submission.

— Team Fly Your Tech
🌐 https://flyyourtech.com