AI Engineer Test - Lead Generation & Personalized Outreach

Objective

Build a miniature lead generation automation system:

- **Backend API/Script – Accepts company search criteria, finds leads via some lead gen API (like Apollo), scrapes company websites for unique insights, and generates personalized outreach messages.**
- **Use Case: As a founder of a hardware computer store, find new business clients and send them personalized outreach messages based on their company's specific needs and context.**

Timebox: 1 hour total

📌 What You'll Deliver

1. **Screen Recording:**
   - **Record your Google Meet session using the Fathom Recorder extension (instructions below).**
   - **Narrate or annotate when you leverage AI assistants (Cursor/Lovable/Copilot/etc.).**
2. **Backend Source:**
   - **API service or Python/Node.js script that integrates Apollo, web scraping, and AI message generation.**
3. **Demo Output:**
   - **Show 5-10 generated leads with personalized messages (console output, JSON file, or simple dashboard).**

🔧 Setup & Recording Instructions

1. **Install Fathom Recorder:**
   - **In Chrome, navigate to the Chrome Web Store.**
   - **Search for Fathom Recorder and click Add to Chrome.**
   - **Pin the extension to your toolbar for easy access.**
2. **Start Your Google Meet:**
   - **Create a new Google Meet.**
   - **Share the Meet link with yourself (no live participants needed).**
3. **Begin Recording:**

○ **Click the Fathom Recorder icon in your toolbar.**
○ **Ensure the tile for Fathom on Google Meet doesn't state "Waiting for Participants". You will need to Skip and Start Recording.**
○ **Ensure both Screen and Audio are toggled on.**
○ **Verify the Recording—it's suggested that you record one small meeting first to ensure everything is working as expected.**
4. **Work Timer:**
   ○ **Begin your 1-hour timer immediately after you start the Fathom recording.**
   ○ **If you finish early, stop the timer and end the recording.**
5. **Stop Recording & Save:**
   ○ **At the end (or when you finish early), leave the meeting and that should stop the recording.**
   ○ **Share the URL for the Fathom recording.**

🛠️ Task Breakdown

1. Lead Generation Script/API

- **Core Functionality:**
  - **Accept search criteria (hardcoded or via command line arguments):**
    - **Company size range (e.g., "50-200 employees")**
    - **Industry/keywords (e.g., "software", "manufacturing")**
    - **Location (optional)**
  - **Output enriched leads with:**
    - **Company name, website, employee count**
    - **Scraped insights (2-3 key points about their business)**
    - **Generated personalized message**
- **Implementation Options:**
  - **Python script with command line interface**
  - **Node.js script that can be run directly**
  - **Simple API with one endpoint that accepts search params**

2. Lead Enrichment Pipeline

- **Lead Enrichment Pipeline:**
  1. **Apollo Integration – Use some lead enrichment to find companies matching search criteria**
  2. **Website Scraping – Extract key information from company websites:**
  3. **AI Message Generation – Use AI to create personalized outreach:**
     - **Reference specific company details found during scraping**
     - **Highlight relevant hardware solutions for their business**
     - **Professional tone appropriate for B2B outreach**
  4. **Data Output – Display or save results:**
     - **Save to Airtable, Google Sheets, or CSV**

3. Integration Requirements

- **Lead gen API (Like Apollo):**
  - **Sign up for free trial/account**
- **Web Scraping**
- **AI Message Generation:**

🎯 Bonus Points

- **Smart lead scoring based on website signals**
- **Email validation and contact finding**
- **Lead deduplication logic**
- **Error handling and retry mechanisms**
- **Configuration file for easy customization**
- **Clean, well-structured code with documentation**

✅ Evaluation Criteria

- **AI-Assist Fluency** – Effective use of AI coding assistants and prompt engineering
- **API Integration Skills** – Clean integration with lead gen, AI APIs, and web scraping
- **Backend/Scripting Competency** – Well-structured, maintainable automation code
- **Business Context Understanding** – Realistic B2B sales workflow and messaging
- **Code Quality & Documentation** – Clean code with clear setup and execution instructions

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Good luck! We're excited to see how you combine modern AI tooling, API integrations, and sales automation into a practical lead generation solution.