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Follow up to application for the role of AI Agent Development Internship!

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30 May 2025 at 02:58

Flowbitai 

AI Agent Development Internship

Hi Anubhav Naman,

As a followup to the last email you can submit the assessment to soham.shah@flowbitai.com.

“Multi-Format Autonomous AI System with Contextual Decisioning & Chained Actions”

New Objective

Build a **multi-agent system** that processes inputs from Email, JSON, and PDF, **classifies both format + business intent**, routes to specialized agents, and **dynamically chains a follow-up action** based on extracted data (e.g., triggering an alert, generating a summary, flagging a risk).

You Must Build

1. Classifier Agent (Level-Up)

- Detects format and business intent
- Maps to:
 - Format: JSON, Email, PDF
 - Intent: RFQ, Complaint, Invoice, Regulation, Fraud Risk
- Uses few-shot examples + schema matching
- Passes routing + intent metadata to memory

2. Email Agent

- Extracts structured fields: sender, urgency, issue/request
- Identifies tone (e.g., escalation, polite, threatening)
- Triggers action based on tone + urgency
 - Escalate → notify CRM (simulate with API)
 - Routine → log and close

3. JSON Agent

- Parses webhook data (simulate with provided sample)
- Validates required schema fields
- Flags anomalies (e.g., field mismatch, type errors)
- If anomalies detected → log alert in memory/API

4. PDF Agent

- Extracts fields (using PDF parsers, not hardcoded text)
- Parses line-item invoice data or policy document
- Flags if:
 - Invoice total > 10,000
 - Policy mentions "GDPR", "FDA", etc.

5. Shared Memory Store

- All agents must read/write to shared memory
- Store:
 - Input metadata (source, timestamp, classification)
 - Extracted fields per agent
 - Chained actions triggered
 - Agent decision traces

6. Action Router (New Component)

- Based on agent outputs, trigger follow-up action:
 - e.g., Create ticket, escalate issue, flag compliance risk
 - Simulate via REST call (e.g., POST /crm, POST /risk_alert)
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End-to-End Flow Example

1. User uploads email → Classifier detects: Email + Complaint
 2. Email agent processes → Tone = angry, Urgency = high
 3. Action Router calls: POST /crm/escalate
 4. Memory logs entire trace for audit
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Tech Stack Suggestions

- Python + FastAPI
 - LangChain / LLM for routing and field extraction
 - Redis / SQLite for memory
 - Tika / PyPDF2 for PDF
 - Faker for sample JSON/webhook data
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Bonus Challenges

- Add **retry logic** for failed agent actions
 - Implement a **simple UI** to upload input and see routing
 - Dockerize entire flow (MCP + agents)
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Submission Requirements

- **Working video demo (mandatory) with explanation**
- GitHub repo with:
 - README.md explaining architecture + agent logic
 - Sample inputs (email, PDF, JSON)
 - Output logs
 - Screenshots or post-action outputs
 - Diagram of agent flow and chaining

All the Best!

Regards,
Flowbit Private Limited Team

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