NebulaByte_Meeting_Notes_Q1

Title: AI Research & Development Team Meeting Minutes - Q1/2025

Attendees: Dr. A. Sharma (Lead Architect), E. Chen (DevOps), M. Patel (Security), J. Rios (RAG Specialist).

Date: 2025-03-15

Topic: Multi-Agent System Deployment Review

Discussion Points:

1. Deployment Pipeline: E. Chen reported the new asynchronous **FastAPI/Uvicorn pipeline** is stable under load testing, with an average query response time of 2.1 seconds. The primary dependency is the successful connection to the cloud-hosted FAISS index via a dedicated service endpoint at **192.168.1.44**.

2. PDF RAG Ingestion: J. Rios highlighted that PDF ingestion efficiency needs refinement. The current chunking strategy occasionally splits critical facts, necessitating a move to a **recursive character splitting** approach with a **chunk overlap of 50 characters** to preserve context across boundaries.

3. Security Review (M. Patel): **API Key management** remains a top security concern. All agent-specific keys (e.g., for external APIs or LLM providers) must be stored as **environment variables in a secure .env file** and injected at runtime, never hardcoded. Cloud storage of vector embeddings must be encrypted at rest using AES-256.

4. Action Items:

* E. Chen: Finalize the Docker deployment script for the controller service. Deadline: 2025-04-01.

* J. Rios: Implement the **k=5 chunk retrieval** test case and report on synthesis quality.

* M. Patel: Conduct a final audit of the .env file configuration against NebulaByte's security protocols by the end of the month.