Project Development Milestones - Agentic RAG Chatbot Version: 1.0 Date: July 31, 2025 Phase 1: Core Component Development (Completed Q2 2025) - Document Parsing (PDF, DOCX, TXT, CSV, PPTX) - Text Chunking Module - Embedding Generation Integration (Gemini API) - FAISS Vector Store Implementation Phase 2: Agentic Architecture & MCP (Target Q3 2025) - Design and implement IngestionAgent - Design and implement RetrievalAgent - Design and implement LLMResponseAgent - Implement Model Context Protocol for inter-agent communication - Define core message types (CONTEXT\_REQUEST, CONTEXT\_RESPONSE, etc.) - Establish in-memory message bus (or alternative) Phase 3: Chatbot UI & Integration (Target Q3/Q4 2025) - Develop Streamlit (or chosen UI framework) interface - Enable document upload functionality - Implement multi-turn conversation history - Display retrieved source context alongside answers Phase 4: Testing & Refinement (Ongoing) - Unit tests for all modules - Integration tests for agent workflows - Performance optimization - User Acceptance Testing (UAT) Future Scope (Post-Deadline): - Advanced Reranking mechanisms - Hybrid search (keyword + semantic) - Support for more complex data types (e.g., tables directly in LLM context) - User feedback loop for answer quality - Deployment to cloud platform