System Architecture Document

Automation Documentation Agent

Architecture Overview

The Automation Documentation Agent follows a microservices architecture with the following key components:

Core Components

1. Telegram Bot Interface
   - Primary user interaction layer
   - Command handling and file uploads
   - Voice command support

2. n8n Automation Engine
   - Workflow orchestration
   - API integrations
   - Error handling and retry logic

3. AI Processing Engine
   - Document analysis and generation
   - OpenAI GPT-4 integration
   - Context analysis

4. Notion Integration
   - Document storage and collaboration
   - Template application
   - Version tracking

5. GitHub Integration
   - Version control and publishing
   - Repository management
   - Commit automation

Data Flow

1. User sends command via Telegram
2. Telegram bot validates input
3. n8n triggers workflow
4. AI processor analyzes content
5. Results stored in Notion
6. Changes committed to GitHub

Technology Stack

- Backend: Node.js with Express.js
- AI Processing: Python with FastAPI
- Database: PostgreSQL with Redis
- AI Models: OpenAI GPT-4
- Automation: n8n workflows
- Storage: Notion API
- Version Control: GitHub API