C4 Model

Introduction

This document provides an overview of the system architecture for integrating AI tools into a workflow management system. The diagrams follow the C4 model, which includes the System Context Diagram, Container Diagram, and Component Diagram. Each diagram provides a different level of detail to help understand the interactions and internal structures of the system.

System Context Diagram

Objective: To show the interaction between the main system (Workflow Tool) and external entities (User, AI Tools, Database).

Components:

1. **User**: The individual using the workflow tool to manage tasks.

2. **Workflow Tool**: The main system where users interact. It automates task management using AI.

3. **AI Tools**: AI-driven functionalities (like OpenAI) that process and break down tasks.

4. **Database (Notion)**: Stores all project-related data and task information.

Interactions:

- The User uses the Workflow Tool to manage tasks.

- The Workflow Tool interacts with AI Tools to process and break down tasks.

- The Workflow Tool stores and retrieves data from the Database.
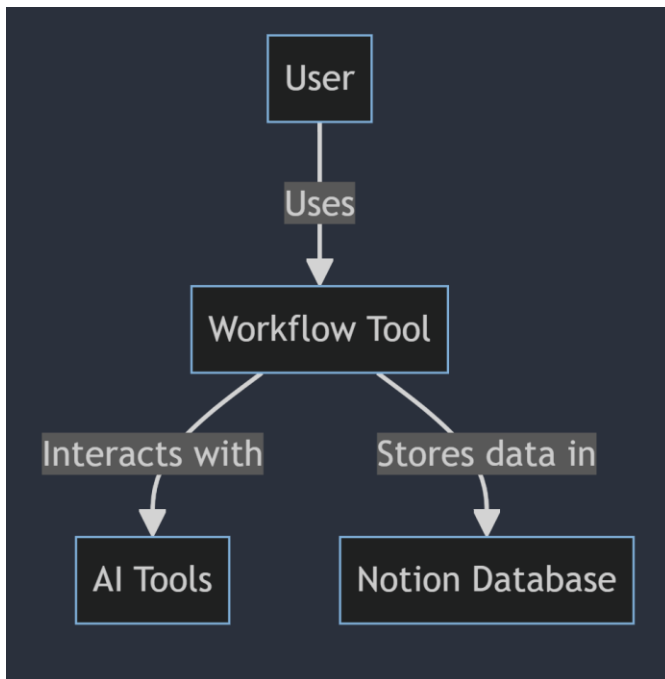
Container Diagram

Objective: To break down the Workflow Tool into its main components and show their interactions.

Components:

1. **API Application**: The backend service that handles requests and processes tasks.

2. **Database (Notion)**: Central storage for project data.

3. **Automation Tool (n8n)**: Automates workflows, interacts with the Database, and triggers processes in the API Application.

4. **AI Tools (OpenAI)**: Provides advanced processing capabilities for task breakdown.

Interactions:

- The API Application reads from and writes to the Database.

- The Automation Tool (n8n) triggers workflows and updates the Database.

- The API Application interacts with AI Tools to process tasks.

- The Automation Tool interacts with the API Application and AI Tools.
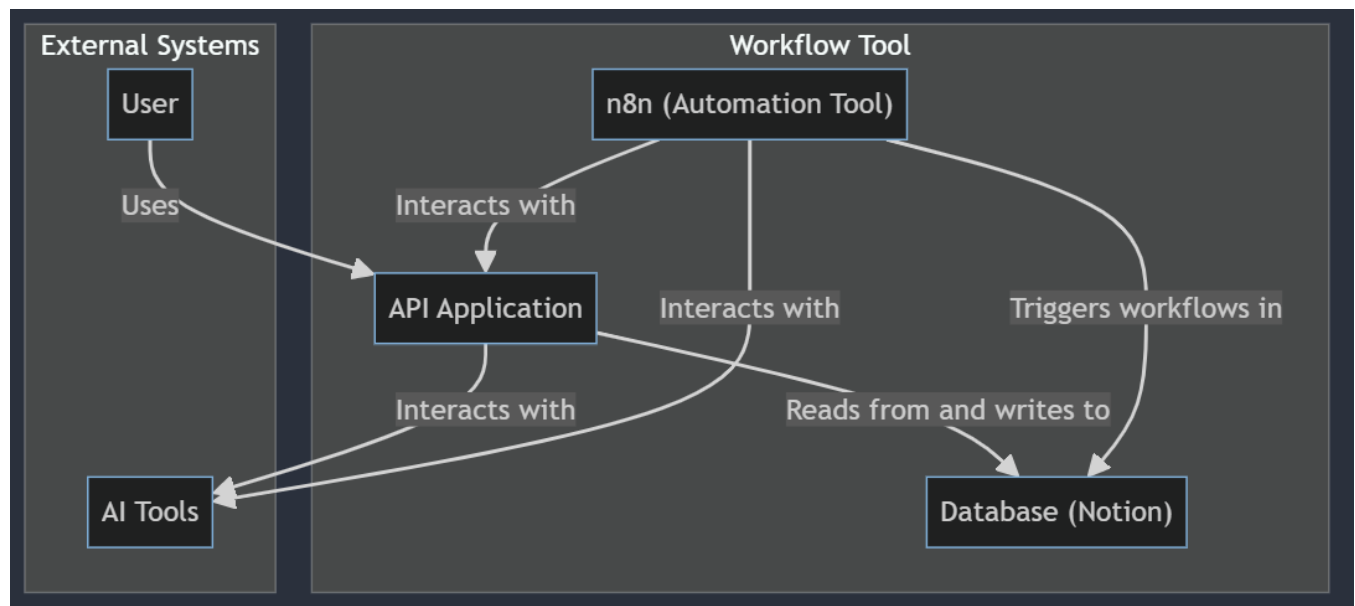
Component Diagram

Objective: To provide a detailed view of the internal structure of the API Application, focusing on the main components and their interactions.

Components:

1. **Task Management Controller**: Manages task-related requests and interactions.

2. **AI Integration Component**: Interfaces with AI Tools to process and break down tasks.

3. **Data Access Layer**: Manages interactions with the Database.

4. **Automation Tool (n8n)**: Handles workflow automation.

Interactions:

- The Task Management Controller uses the AI Integration Component to process tasks with AI Tools.

- The Task Management Controller uses the Data Access Layer to read from and write to the Database.

- The Automation Tool (n8n) triggers workflows and interacts with the Task Management Controller.

- The Data Access Layer interacts with the Database.

- The AI Integration Component interacts with AI Tools.
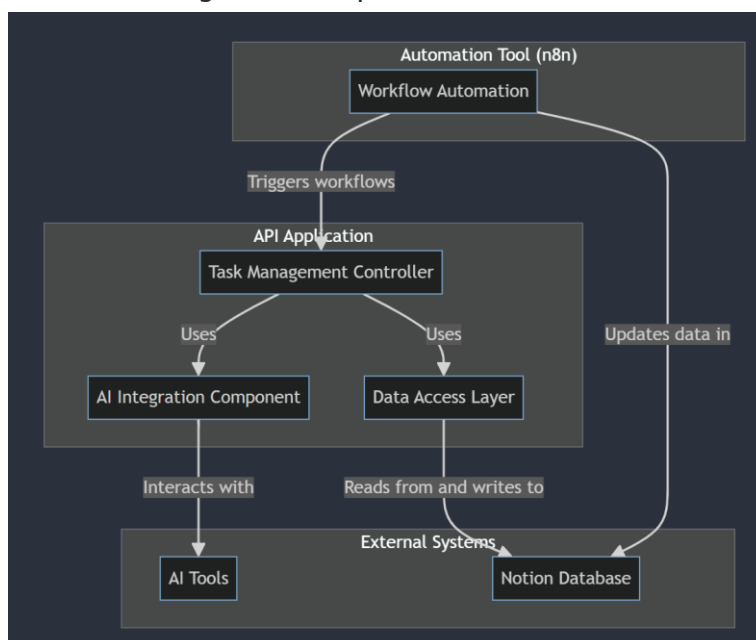
Conclusion

This document outlines the architecture of the AI-integrated workflow management system using the C4 model. The System Context Diagram provides a high-level view of the system and its external interactions. The Container Diagram breaks down the system into its main components, and the Component Diagram offers a detailed view of the internal structure of the API Application. These diagrams together provide a comprehensive understanding of the system's architecture and interactions.