Introduction to
Robotic Process Automation

Life
Capsule

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Abstract

This project utilizes Robotic Process Automation (RPA) with UiPath to automate daily journal analysis. It reads user entries from a text file and employs AI models like ChatGPT and Gemini to analyze specific prompts. The outputs are summarized through an additional AI layer for cohesive insights, which are then displayed to the user. Users can provide their email to receive the analysis, which is sent via SMTP email service. This project showcases AI-driven RPA's practicality in simplifying personal data analysis and efficiently extracting valuable information from daily records.

Need for the Proposed System

The proposed system addresses the need for automated and efficient analysis of personal journals, enabling users to gain valuable insights into their habits, such as sleep patterns or daily routines, without manual effort. By integrating RPA with AI models, the system streamlines text analysis, generates personalized summaries, and delivers results via email, providing a user-friendly solution for self-monitoring and habit improvement.

Advantages of the Proposed System

The proposed system offers several advantages:

1. **Automation**: Streamlines the process of journal analysis, saving time and effort.

2. **AI Integration**: Utilizes advanced AI models for personalized insights, enhancing accuracy and relevance.

3. **User Convenience**: Automatically generates summaries and delivers them via email, offering easy access to insights.

4. **Efficiency**: Combines multiple AI outputs for a comprehensive and quick analysis.

5. **Scalability**: Can be easily adapted to analyze various types of personal data, improving self-monitoring over time.

Literature Survey

Downney et al., 2021

- Advantage: Efficient text analysis with RPA and AI.
- Disadvantage: Requires robust error handling for AI outputs.

Sharma & Choudhary, 2023

- Advantage: Scalable for processing multiple AI models.
- Disadvantage: Dependent on AI model accuracy.

Kumar & Singh, 2022

- Advantage: Delivers personalized insights.
- Disadvantage: Complex integration of AI models.

Main Objective

- The main objective of this project is to automate the analysis of personal journals by integrating RPA with AI models like ChatGPT and Gemini, enabling efficient text processing and insightful habit analysis. By combining and summarizing outputs from multiple AI models, the system provides personalized insights to users, which are displayed interactively and delivered via email, promoting self-awareness, productivity, and streamlined daily reflections.

Architecture
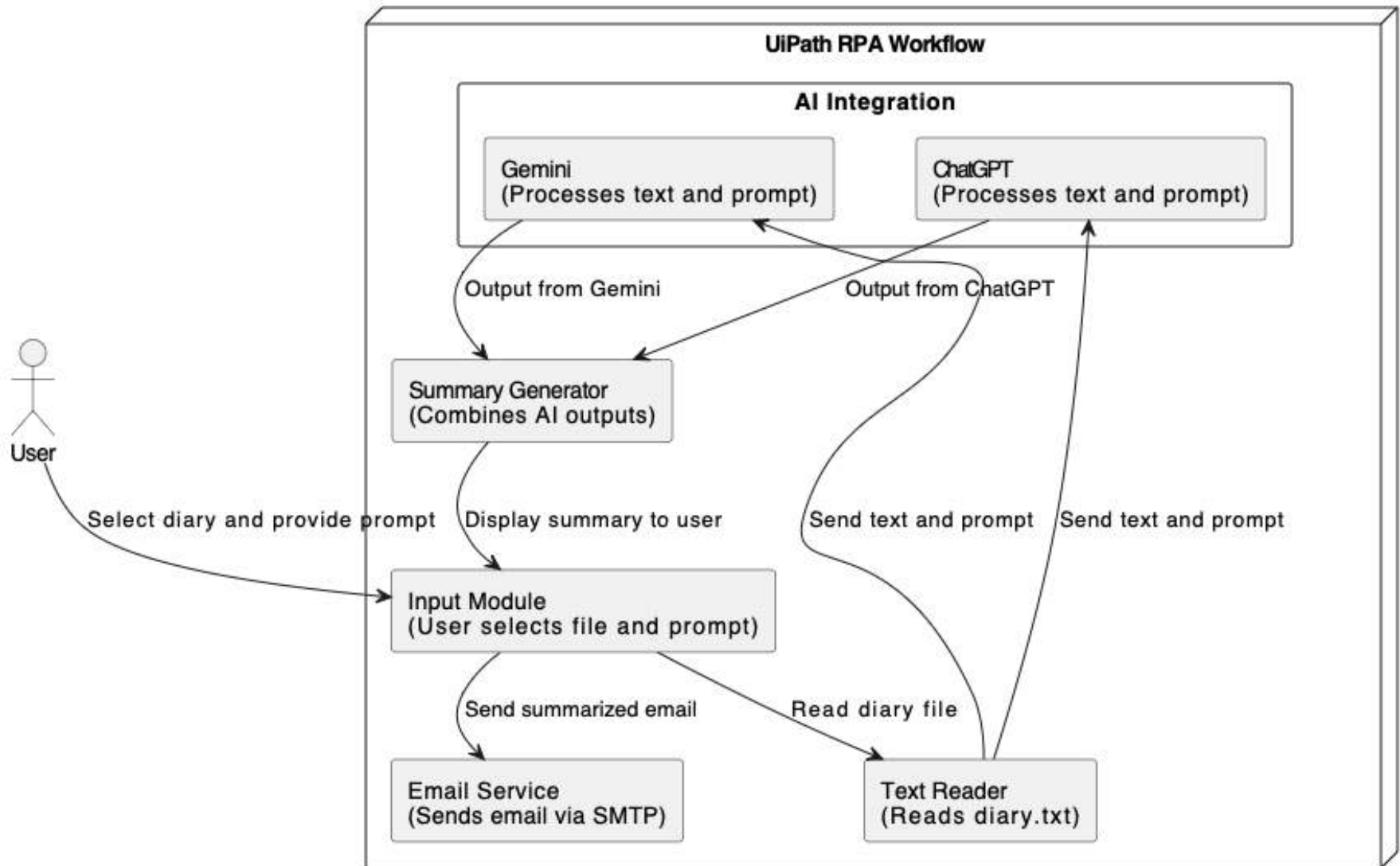
System Requirements

Hardware Requirements

- Processor: Intel Core i3 or an equivalent option.
- RAM: Minimum of 4 GB (8 GB is recommended for optimal performance).
- Storage: At least 5 GB of free space.
- Internet: A stable connection is necessary for API access.
- Peripherals: Standard keyboard and mouse are required.

Software Requirements

- Operating System: Windows 10/11 (64-bit) or macOS.
- RPA Platform: UiPath Studio (latest version).
- AI APIs: OpenAI API (ChatGPT) and Gemini API with tokens.
- Email: SMTP configuration (e.g., Gmail, Outlook).
- Runtime: .NET Framework (latest version).
- Security: Safeguard API keys and credentials in UiPath.

Functional Description

Module 1: Input Handling Module

• Description: This module allows the user to input the journal file and prompt, ensuring the necessary data is captured for processing.
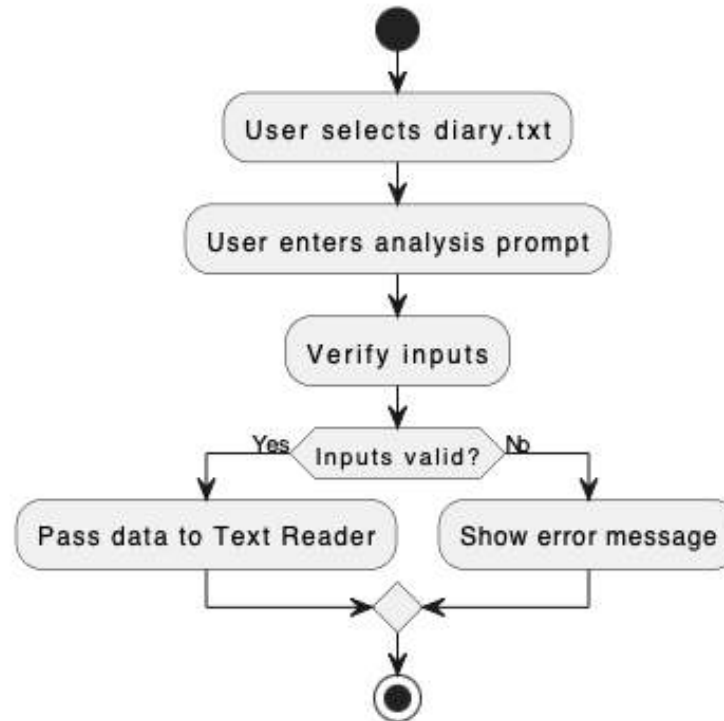
Functional Description

Module 2: AI Integration Module

• Description: Sends the journal text and prompt to ChatGPT and Gemini APIs, collects their outputs, and passes them to the summarization module.
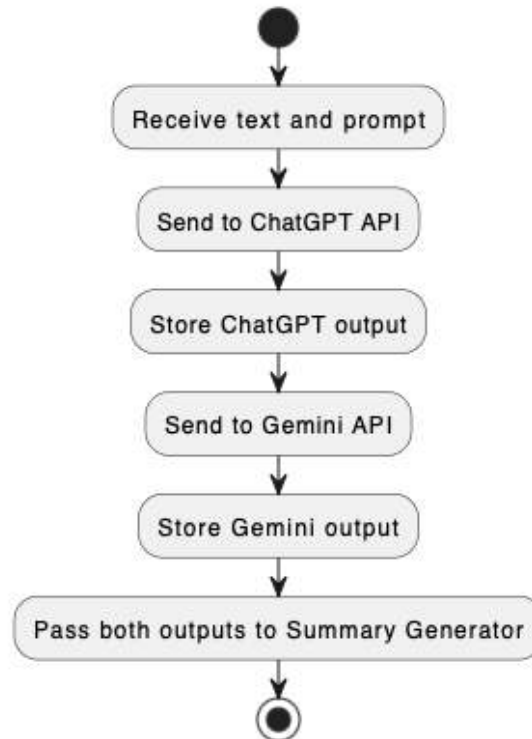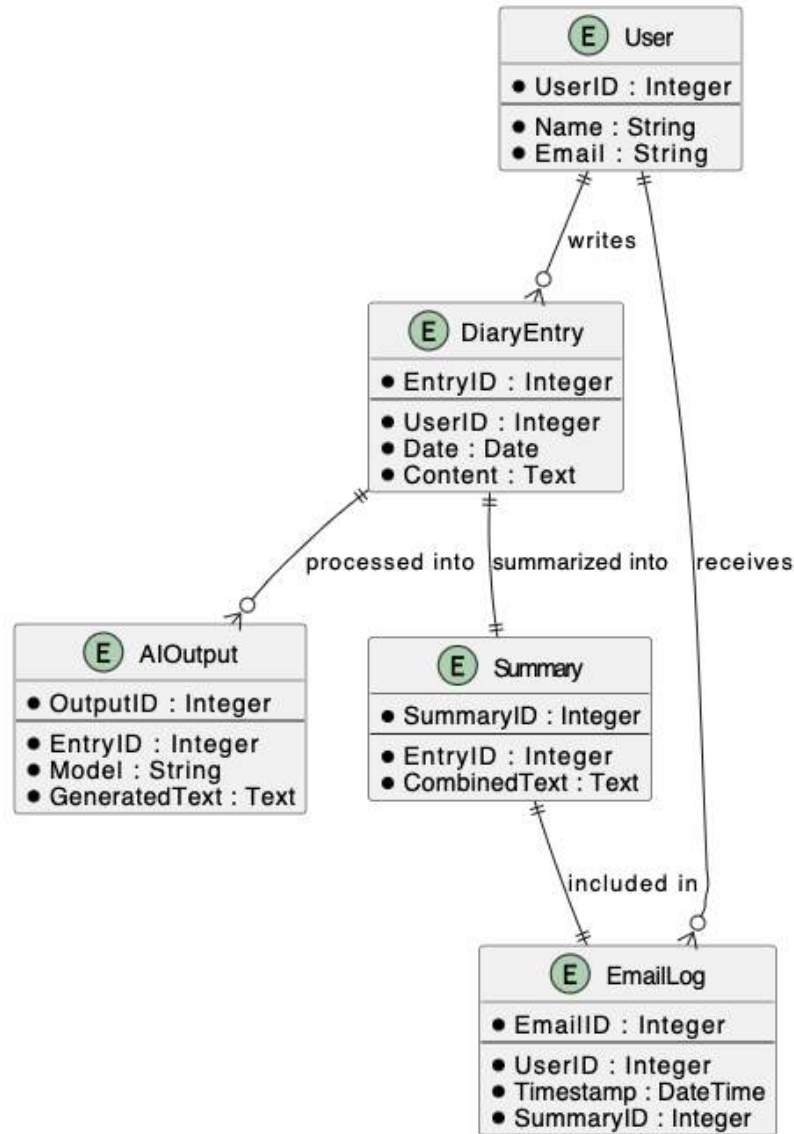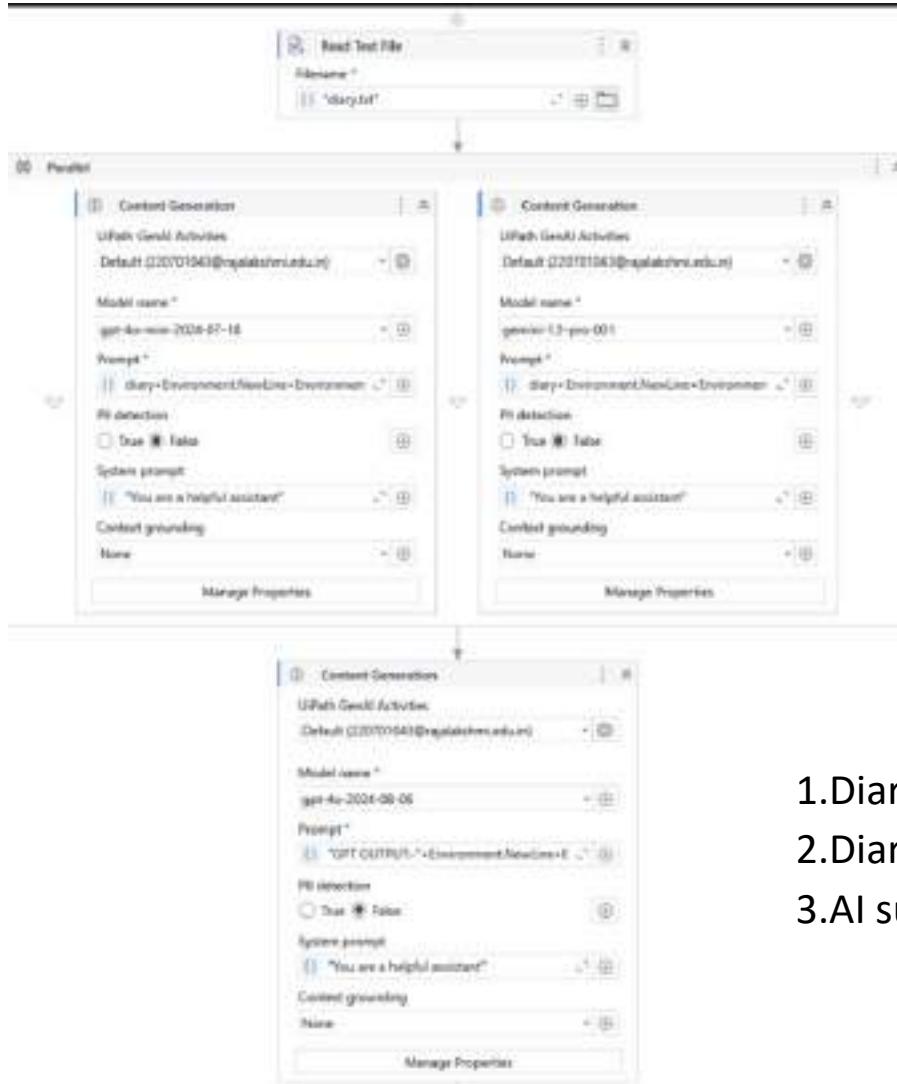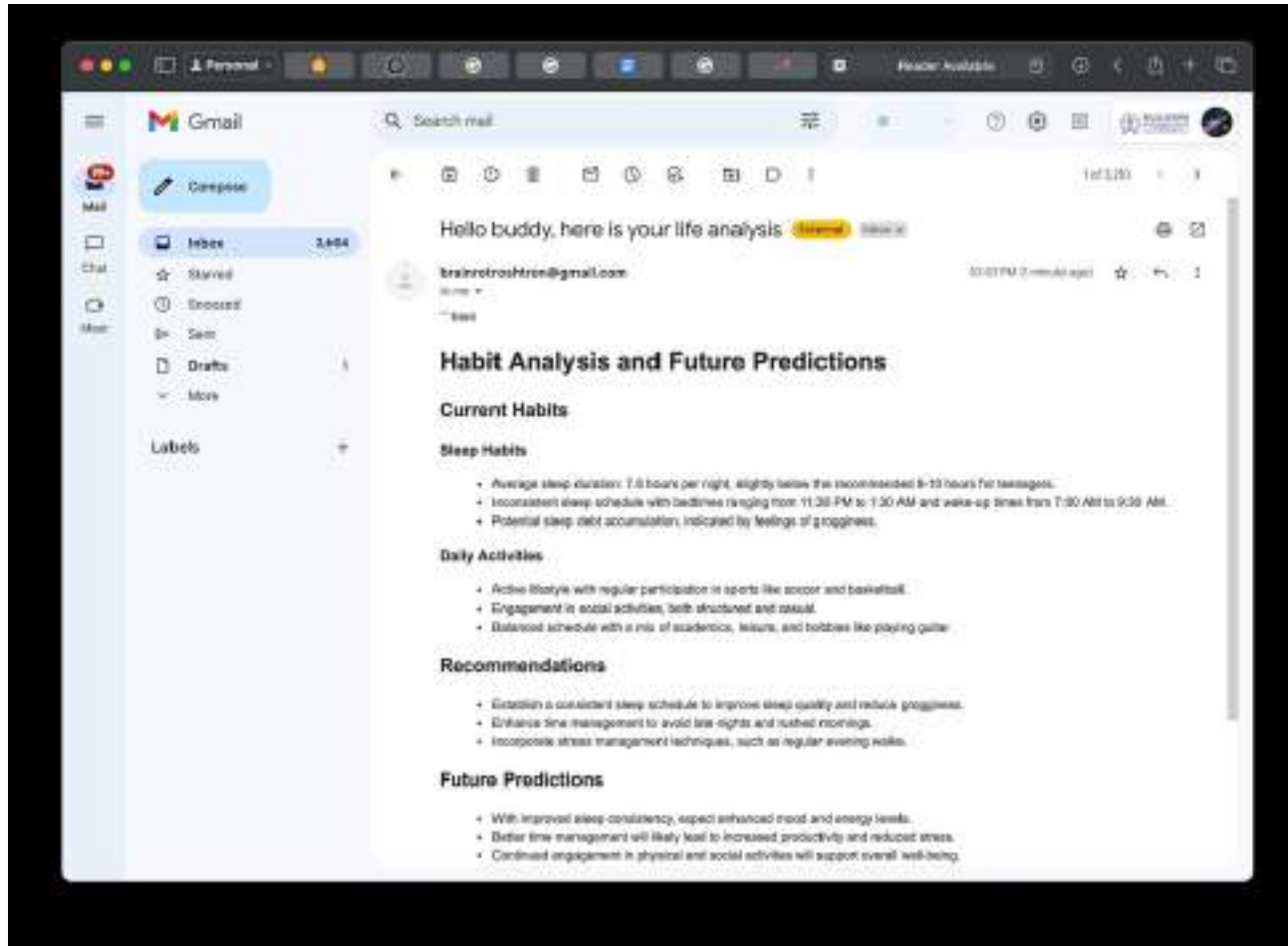
Table Design

Implementation

1.Diary is imported

2.Diary data is fed into the AI models

3.AI summarises and predicts

Implementation

1.Gmail ID is asked
2.The output Data is parsed
into the gmail

Testing

Conclusions

This project successfully demonstrates the integration of RPA and AI technologies to automate the analysis of personal journals. By leveraging UiPath for workflow automation and AI models like ChatGPT and Gemini for text processing, the system provides insightful summaries of user habits. The use of a structured pipeline ensures efficient processing, while the integration of email services enhances accessibility and usability. This innovative approach highlights the potential of combining automation and AI to deliver personalized solutions for self-reflection and productivity, paving the way for scalable applications in various domains.

Future Enhancement

1. **Weekly Automated Email Scheduling with UiPath Orchestrator**
    - Create a scheduling system in UiPath Orchestrator for weekly RPA workflow initiation.
    - Automatically review journal entries and send summarized insights, improving user convenience and workflow efficiency.

2. **Implementing Local LLMs for Enhanced Privacy**
    - Replace cloud-based AI models with locally hosted large language models (LLMs) to protect data privacy.
    - Customize local LLMs for accurate analyses while keeping sensitive journal data secure, appealing to privacy-conscious users.

References

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5. Robotic Process Automation in Cognitive Business Processes
6. RPA for Document Analysis and Classification
7. Intelligent Document Processing in End-to-End RPA Contexts
8. Framework for Implementing RPA Projects
9. Adoption of RPA in Digital Transformation

Thank You