Introduction to Robotic Process Automation

Expiry Tracker And Renewal Bot

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Abstract

The Expiry Tracker is an automated solution designed to streamline the management of important documents such as licenses, IDs, and contracts by tracking their expiration dates and ensuring timely renewal. Built using UiPath RPA technology, the system retrieves document data from sources like Excel or databases, identifies documents nearing expiry, and sends email notifications with optional document attachments.

Additionally, it incorporates advanced features such as automatic API integration for supported renewals and browser-based automation for manual renewals. The project reduces manual effort, minimizes errors, and enhances compliance by ensuring that all critical documents are renewed on time. With its modular architecture, scalability, and flexibility, the solution is adaptable to various industries, offering a reliable and efficient approach to document lifecycle management.

Need for the Proposed System

Managing critical documents, such as licenses, contracts, and identification cards, is essential for organizations to ensure operational continuity and regulatory compliance. Manual tracking of expiration dates is inefficient and prone to errors, leading to missed renewals and costly penalties. As the volume of documents grows, the challenge of keeping track of deadlines and initiating timely renewals becomes even more complex.

The proposed Expiry Tracker addresses these pain points by automating the process of tracking, notifying, and renewing expiring documents. By leveraging RPA technology, it reduces the risk of human error, ensures no deadlines are missed, and saves significant time and resources for organizations. This system fulfills a critical need for efficiency, accuracy, and proactive document management.

Advantages of the Proposed System

- **Automation of Routine Tasks**:Reduces manual efforts by automating the tracking and notification process for expiring documents.
- **Improved Compliance:**Ensures timely renewals of documents, preventing penalties and compliance-related issues.
- **Time and Cost Efficiency**:Saves time and operational costs associated with manual document monitoring and renewal processes.
- **Customizable Alerts:**Allows users to set notification thresholds based on specific requirements (e.g., 30, 15, or 7 days).
- **Integration Capabilities:**Supports integration with APIs and external platforms for automated renewals and advanced notifications.
- **Scalability:**Can be scaled to manage large volumes of documents across multiple users and departments.

Literature Survey

Paper 1: Automated Document Tracking and Notification System

Advantages:

- Automates document tracking, reducing errors and ensuring timely reminders.

- Supports multiple data sources for versatile organizational use.

Disadvantages:

- Lacks advanced renewal features like API integration or web automation.

- Limited scalability for managing large datasets.

Paper 2: A Framework for Automated Compliance and Document Management

Advantages:

- Provides complete automation, including API-based renewals.

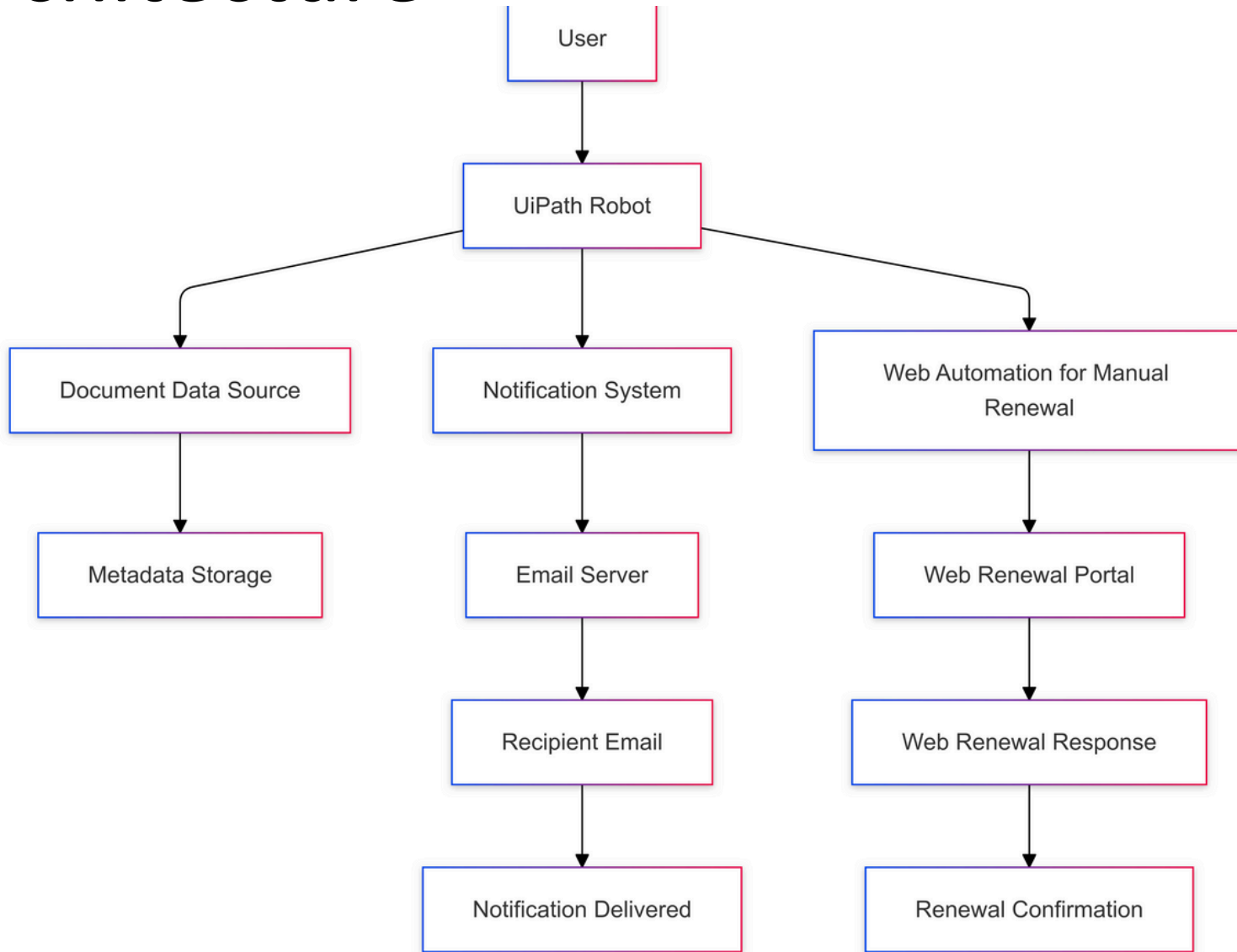- Ensures compliance with detailed notification logs and audit trails

Disadvantages:

- High setup costs due to API integration needs.

- Demands technical expertise, limiting accessibility for smaller organizations.

Main Objective

The primary objective of the Document Expiry Tracker project is to develop an automated and reliable solution for tracking, notifying, and managing the expiration of critical documents such as licenses, contracts, and IDs. By leveraging UiPath RPA technology, the system aims to eliminate the inefficiencies and risks associated with manual tracking processes, ensuring timely notifications for impending expirations. Additionally, the project seeks to streamline the document renewal process through advanced features like API integration for automatic renewals and browser automation for manual submissions. This solution is designed to enhance operational efficiency, reduce human error, ensure regulatory compliance, and save valuable time and resources for organizations, making it a scalable and flexible tool adaptable to various industries and use cases.

Architecture

System Requirements

Hardware Requirements

1. Processor: Intel Core i3 or equivalent

2. RAM: 4 GB

3. Storage:10 GB of free space for UiPath Studio

4. Network:Stable internet connection

Software Requirements

1. Operating System:Windows 10 (64-bit) or higher

2. UiPath Software: UiPath Studio.

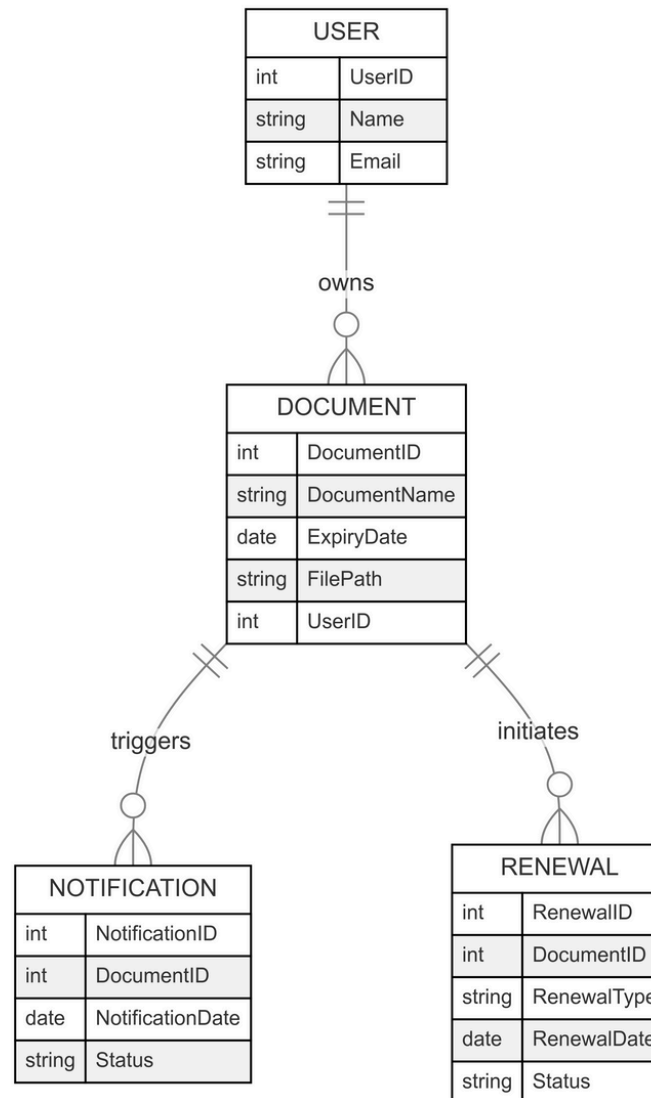3. Email Server: SMTP-enabled email service

Functional Description

1. Document Tracking and Management

- Extract document metadata, including expiration dates, from data sources like Excel or databases.
- Identify documents nearing their expiration within a user-defined timeframe (e.g., 30, 15, or 7 days).
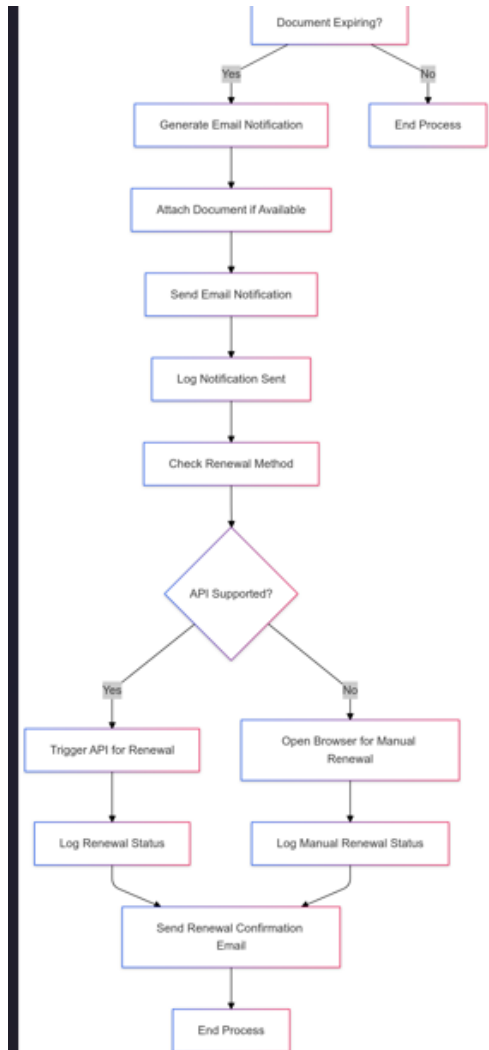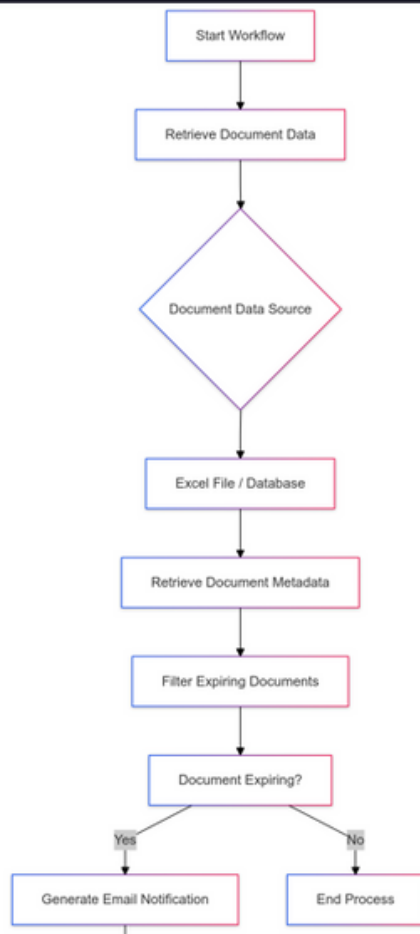- Provide real-time monitoring and alerts for documents requiring immediate action.

2. Notification and Renewal Automation

- Generate and send automated email notifications to stakeholders, highlighting expiring documents.
- Attach relevant documents (if available) to notification emails for easy reference.
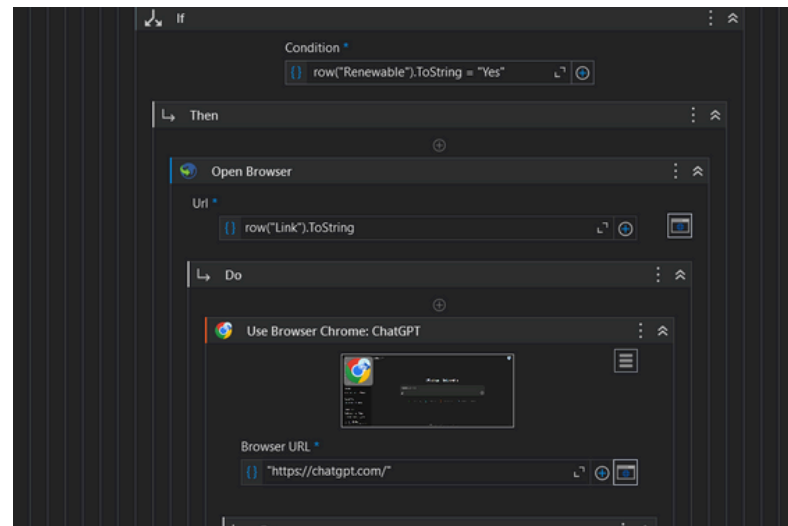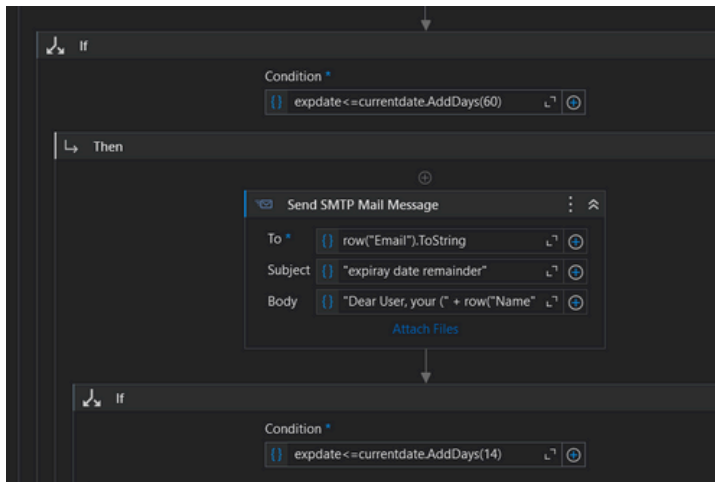- Automate web-based renewal processes for manual submissions through browser automation.
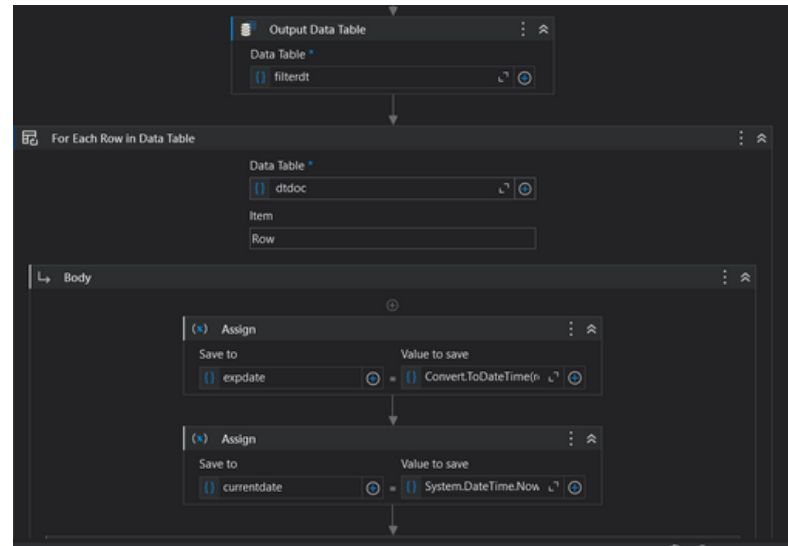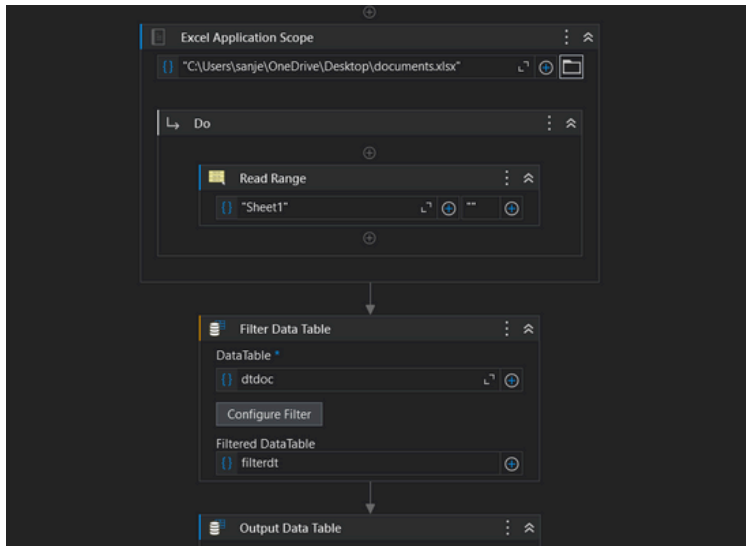
Table Design

Process Design

Implementation

Testing
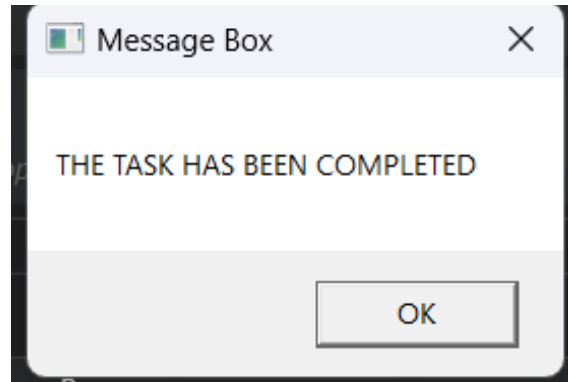

Message Box ✕

THE TASK HAS BEEN COMPLETED

OK

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expiray date remainder Inbox ×

sanjeev <220701250@rajalakshmi.edu.in>
to me ▾

Dear User, your (chatgpt) is expiring on 11/30/2024 00:00:00. Please take necessary actions.

One attachment · Scanned by Gmail ⓘ

W doc1.docx

↩ Reply   ↪ Forward

Conclusions

The Expiry Tracker project effectively automates the tracking, notification, and renewal processes for critical documents, reducing the risks associated with manual tracking and ensuring timely compliance. Using UiPath RPA technology, the system minimizes human error, improves operational efficiency, and integrates features like API-based renewals and browser automation for manual processes. The solution is flexible, scalable, and adaptable, making it a valuable tool for organizations to streamline document management and maintain up-to-date records with minimal effort. It offers a reliable approach to managing document lifecycles while saving time and resources.

Future Enhancement

Integration with Cloud Storage:

Enable document storage and retrieval from cloud platforms (e.g., Google Drive, OneDrive) for easier access, sharing, and management of documents across multiple devices and teams.

AI-Powered Expiry Prediction:

Implement machine learning algorithms to predict document expiration trends based on historical data, helping to proactively identify and manage high-risk documents.

Mobile App Integration:

Develop a mobile application that allows users to receive real-time notifications and manage document renewals directly from their smartphones, enhancing accessibility and convenience.

IEEE Paper

Title:" Automated Document Tracking and Notification System**"-**Author(s)

Title: "A Framework for Automated Compliance and Document Management'-Author(s)

T**itle: "**SMTP Configuration Guide for Email Automation"-Author(s)

References

- UiPath Documentation, "UiPath Studio Guide: Activities and Workflows". Available at: UiPath Documentation.
- Microsoft, "SMTP Configuration Guide for Email Automation". Available at: <u>Microsoft Documentation</u>.
- Apache Software Foundation, "Apache POI for Excel Automation". Available at: <u>Apache POI Project</u>.
- Raj, K., & Smith, D., "Exploring the Use of RPA in Business Process Automation", International Journal of Computer Science, 2023.

Queries

Demonstration

Thank You