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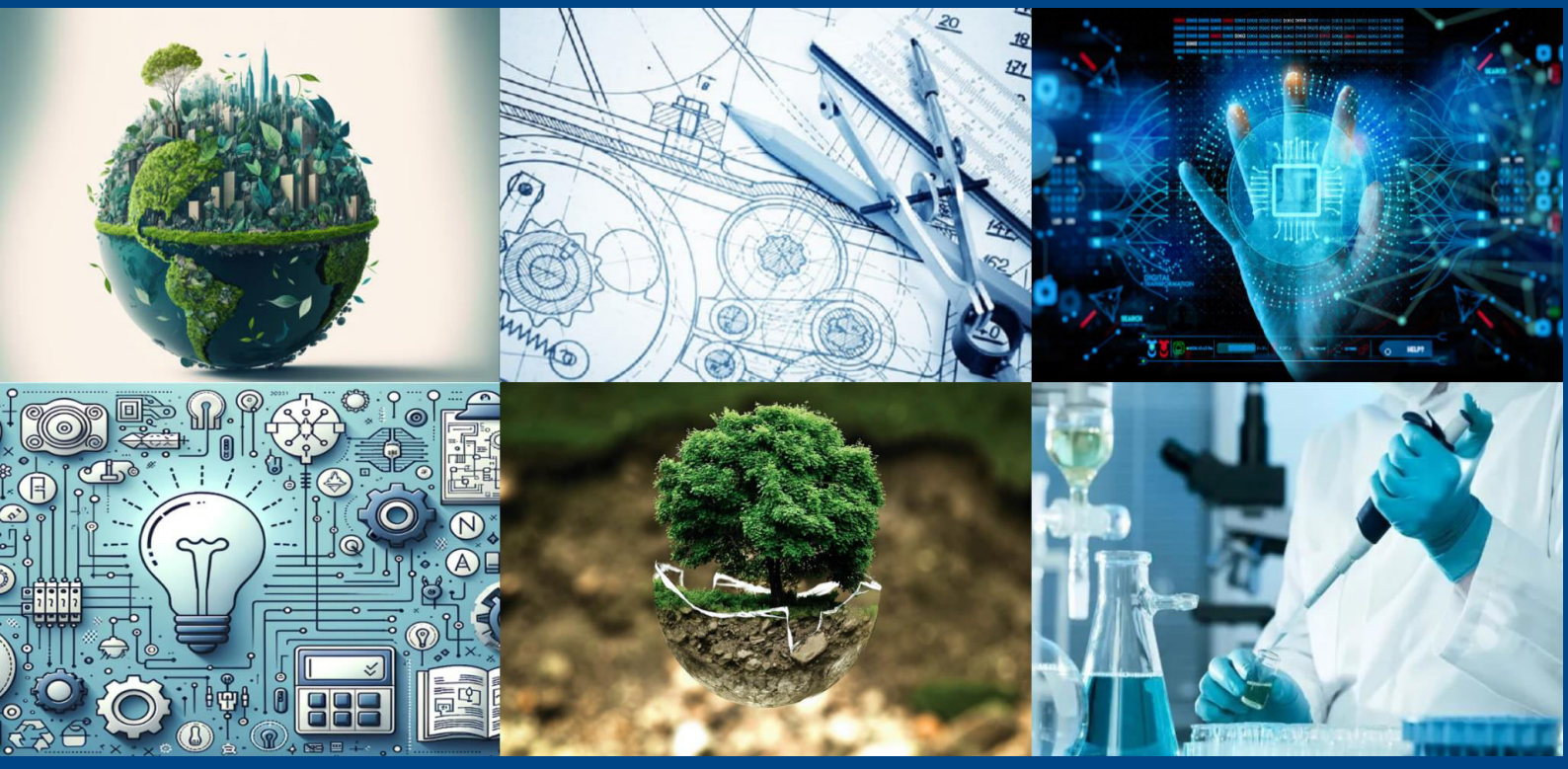

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Intelligent Document Processing Bot for Automated Invoice Extraction and Validation Using Uipath Studio

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ABSTRACT: This project presents an Intelligent Document Processing Bot developed using Uipath Studio for automated invoice extraction and validation. The objective of the system is to reduce manual effort, improve processing accuracy, and streamline invoice management through robotic process automation.

The bot monitors unread and read emails in the mailbox and automatically downloads invoice PDF attachments. All unread invoice emails are stored in a designated folder of invoice in the file explorer. The extracted invoice details such as invoice number, invoice date, due date, ship-to address, and email ID are captured and recorded in an Excel file for structured data management and validation.

The system supports two operational modes. When the user selects **Type 1**, the bot processes and stores all available invoice files into the specified directory .When the user selects **Type 2**, the bot sends an acknowledgement email to four predefined recipients, confirming that the invoice has been received and that payment will be processed shortly

This automation solution ensures faster invoice handling, minimizes human errors, improves tracking efficiency, and enhances communication with vendors. The project demonstrates the practical implementation of Robotic Process Automation using UiPath for real-time invoice processing and validation.

I. INTRODUCTION

In many organizations, invoice processing is still handled manually by checking emails, downloading PDF attachments, extracting invoice details, validating them, and updating records in spreadsheets. This manual approach is time-consuming, error-prone, and inefficient, especially when handling a high volume of invoices daily. Delays in processing can also affect vendor relationships and payment cycles.

To address these challenges, this project develops an automated invoice processing bot using UiPath Studio. The system is designed to monitor incoming emails, identify unread messages containing invoice attachments, and automatically download and store the invoice PDFs in a designated folder within the file explorer. Once processed, the emails are marked as read to avoid duplication.

The bot extracts key invoice details such as invoice number, invoice date, due date, ship-to address, and sender email ID. These extracted values are recorded and validated using Microsoft Excel for structured data management and tracking. The automation also provides two operational options:

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- **Type 1:** Process and store all available invoice files into the specified directory and update the corresponding records in Excel.
- **Type 2:** Send an acknowledgement email to predefined recipients confirming receipt of the invoice and informing that payment will be processed shortly

This project demonstrates how rule-based Robotic Process Automation can streamline invoice management, reduce manual workload, improve accuracy, and ensure timely communication with vendors. It highlights the practical application of automation tools in real-world business processes without relying on machine learning or advanced artificial intelligence models.

II. OBJECTIVE

The primary objective of this paper is to design and implement an automated invoice processing system using UiPath Studio to streamline email-based invoice management. The proposed system aims to reduce manual intervention in handling invoice emails, downloading attachments, extracting relevant data, and updating records. By automating repetitive financial tasks, the solution enhances operational efficiency and minimizes human errors in invoice processing workflows.

Another key objective is to develop a rule-based mechanism that monitors unread emails, identifies invoice attachments, and stores PDF files in a structured directory. The system ensures that processed emails are marked as read to prevent duplication. It also extracts critical invoice details such as invoice number, invoice date, due date, ship-to address, and sender email ID for systematic validation and storage in Microsoft Excel.

Furthermore, the paper aims to demonstrate structured data validation and tracking through automated Excel updates. By maintaining organized invoice records, the system supports accurate financial monitoring and improved transparency. The automation also includes user-defined operational modes, such as bulk invoice storage and automated acknowledgement email generation for vendors.

Overall, the objective of this work is to present a practical implementation of Robotic Process Automation in financial document handling. The proposed solution highlights how rule-based automation can improve accuracy, processing speed, and communication efficiency without relying on advanced artificial intelligence models.

III. EXISTING SYSTEM

In the existing system, invoice processing is handled manually by employees. When invoice emails are received, staff members open each email individually, download the attached PDF files, and store them in a local folder. The invoice details such as invoice number, invoice date, due date, and vendor information are then manually entered into Microsoft Excel for record maintenance. This process requires continuous human monitoring and involvement.

The manual approach consumes significant time, especially when handling a large volume of invoices daily. Employees must carefully read each invoice to extract relevant information, which increases workload and reduces overall productivity. Since the process depends entirely on human effort, it is repetitive and inefficient.

Another major limitation of the existing system is the high probability of human error. Mistakes such as incorrect data entry, missing invoice details, duplicate processing, or improper file storage can occur frequently. Additionally, there is no automatic mechanism to track whether an invoice email has already been processed, which may lead to duplication or oversight.

Furthermore, vendor communication is also handled manually. Sending acknowledgement emails or payment confirmation messages requires separate effort, which further increases processing time. Overall, the existing system lacks automation, scalability, and real-time tracking, making it unsuitable for organizations handling high invoice volumes.

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IV. METHODOLOGY

The proposed system is developed using UiPath Studio to automate invoice extraction and validation through a structured, rule-based workflow. The methodology begins with configuring the email integration to monitor unread messages in the inbox. The bot continuously checks for new emails containing invoice PDF attachments and filters them for further processing.

Once an unread invoice email is detected, the system downloads the attached PDF file and stores it in a predefined directory within the file explorer. After successful download, the email status is updated to "Read" to prevent duplicate processing. This ensures controlled and traceable execution of the workflow.

The next stage involves extracting key invoice details such as invoice number, invoice date, due date, ship-to address, and sender email ID from the PDF document. These extracted values are validated and recorded in Microsoft Excel to maintain structured data storage and tracking. Any discrepancies or missing fields can be flagged during validation.

Finally, the system provides two operational modes based on user input. In Type 1 mode, all available invoices are processed and stored automatically. In Type 2 mode, the system sends an acknowledgement email to predefined recipients confirming receipt of the invoice and informing that payment will be processed soon. This structured methodology ensures efficiency, accuracy, and streamlined invoice management.

V. RESULT AND DISCUSSION

The implementation of the automated invoice processing system using UiPath Studio successfully reduced manual intervention in handling email-based invoices. The bot was able to monitor unread emails, download invoice attachments, extract required details, update Excel records, and mark emails as read without human assistance. The automation executed the workflow accurately and consistently for multiple invoice files.

The results indicate a significant reduction in processing time compared to the manual system. Tasks that previously required continuous employee monitoring were completed automatically within a shorter duration. The chances of human errors such as incorrect data entry, duplicate invoice storage, or missed invoices were minimized due to rule-based validation and structured data recording.

From an operational perspective, the system improved document organization and data tracking. All invoice files were stored in a predefined directory, and extracted information was maintained systematically in Excel. The inclusion of user-controlled modes (Type 1 for bulk processing and Type 2 for acknowledgement email generation) enhanced flexibility and ensured better vendor communication.

Overall, the discussion shows that rule-based Robotic Process Automation can effectively streamline financial document workflows. The system demonstrates improved accuracy, efficiency, and scalability when compared to the existing manual approach. However, the solution currently depends on predefined rules and structured invoice formats, and future enhancements could include intelligent data extraction for handling unstructured documents.

VI. CONCLUSION

This project successfully demonstrates the development of an automated invoice processing system using UiPath Studio to streamline email-based invoice management. The proposed solution effectively automates the process of monitoring unread emails, downloading invoice attachments, extracting relevant data, updating Excel records, and marking processed emails as read. By eliminating repetitive manual tasks, the system improves operational efficiency and ensures consistent workflow execution.

REFERENCES

1. UiPath Studio, *UiPath Studio Documentation*, UiPath Inc., Available: https://docs.uipath.com
2. UiPath, "Robotic Process Automation (RPA) Overview," Official Website, Available: https://www.uipath.com

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3. A. Willcocks, L. Lacity, and A. Craig, "The IT Function and Robotic Process Automation," *The Outsourcing Unit Working Research Paper Series*, London School of Economics, 2015.
4. IEEE Task Force on Intelligent Process Automation, "Intelligent Process Automation: The Engine at the Core of the Next-Generation Operating Model," *IEEE Publications*, 2017.
5. M. Aguirre and A. Rodriguez, "Automation of a Business Process Using Robotic Process Automation (RPA): A Case Study," *Journal of Information Systems Engineering*, 2017.

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