MOVIE REVIEW AUTOMATION

A MINI PROJECT REPORT

Submitted by

SHAGHABETH HUSSAIN M

in partial fulfillment for the course

OAI1903 - INTRODUCTION TO ROBOTIC PROCESS AUTOMATION

for the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR

THANDALAM

CHENNAI – 602 105

NOVEMBER 2024

RAJALAKSHMI ENGINEERING COLLEGE

CHENNAI - 602105

BONAFIDE CERTIFICATE

Certified that this project report "…….TITLE OF THE PROJECT……..." is the bonafide work of "……..NAME OF THE CANDIDATE (REGISTER NO.)……" who carried out the project work for the subject OAI1903-Introduction to Robotic Process Automation under my supervision.

Dr. N.Durai Murugan
SUPERVISOR
Associate Professor
Department of Computer Science And Engineering
Rajalakshmi Nagar
Thandalam
Chennai - 602105

Submitted to Project and Viva Voce Examination for the subject OAI1903-Introduction to Robotic Process Automation held on _____.

ACKNOWLEDGEMENT

Initially we thank the Almighty for being with us through every walk of our life and showering his blessings through the endeavor to put forth this report. Our sincere thanks to our Chairman Thiru. S.Meganathan, B.E., F.I.E.,our Vice Chairman Mr. M.Abhay Shankar, B.E., M.S., and our respectedChairperson Dr. (Mrs.) Thangam Meganathan, M.A., M.Phil., Ph.D., for providing us with the requisite infrastructure and sincere endeavoring in educating us in their premier institution.

Our sincere thanks to Dr. S.N.Murugesan, M.E., Ph.D., our beloved Principal for his kind support and facilities provided to complete our work in time. We express our sincere thanks to Dr. P.Kumar, M.E., Ph.D., Professor and Head of the Department of Computer Science and Engineering for his guidance and encouragement throughout the project work. We convey our sincere and deepest gratitude to our internal guides, Ms. Roxanna Samuel,M.E., Assistant Professor (SG), Ms. U.Farjana, M.E., Assistant Professor andMs. S.Vinothini, M.E., Department of Computer Science and Engineering for their valuable guidance throughout the course of the project. We are very glad to thank our Project Coordinators, Dr. P.Revathy, M.E., Ph.D., Professor,Dr. N.Durai Murugan, M.E., Ph.D., Associate Professor, andMr. B.Bhuvaneswaran, M.E., Assistant Professor (SG), Department ofComputer Science and Engineering for their useful tips during our review to build our project.

SHAGHABETH HUSSAIN
220701256

TABLE OF CONTENTS

ABSTRACT

This project leverages UiPath to automate the entire process of collecting, analyzing, and reporting movie reviews, making it more efficient and accurate. The automation begins by gathering essential input data, such as the reviewer's name, movie name, rating, and detailed review. This can be done through input dialogs, forms, or other means, depending on the requirements. Once the information is collected, it is systematically stored in an Excel sheet, ensuring the data is organized and easily accessible for future analysis.

The bot then processes the data by calculating key metrics, such as the average movie rating and the total number of reviews. These calculations can be done using simple mathematical formulas or methods within UiPath, pulling the required values from the Excel sheet. The average rating gives an overall sense of how the movie was received, while the total number of reviews provides insight into the volume of feedback.

Once the calculations are complete, the updated Excel sheet, now containing both the individual reviews and the calculated metrics, is sent as an email attachment. UiPath's Send Outlook Mail Message activity makes this step simple, allowing the bot to automatically email the file to designated recipients. This entire process eliminates the need for manual data entry and reporting, ensuring that information is accurate, timely, and consistently shared with stakeholders. Overall, this automation solution enhances operational efficiency, saves time, and improves the management of movie review data.

LIST OF TABLES

Features of the MOVIE REVIEW AUTOMATION

Feature	Description	Purpose
Resume Classification	The bot reads resumes from a folder and classifies them based on specific keywords (e.g., Java, Python, C). Files are moved to categorized subfolders accordingly.	Automates the process of sorting resumes based on skills, ensuring efficient management of incoming applications.
Keyword-Base Sorting	The bot scans resumes for specific keywords related to programming languages or skills (e.g., Java, Python, C)	Ensures resumes are placed in the correct folder based on the skillset mentioned, enhancing recruitment accuracy.
Automated Data Logging	As resumes are processed, details such as the file name and the assigned folder name are logged into an Excel sheet.	Creates a record of processed resumes, ensuring transparency and easy tracking of classified applications.
Email Report Generation	The bot generates a daily Excel report summarizing the resume classification process. The report includes file names and their corresponding categories.	Automates the generation of daily reports, ensuring timely updates for HR regarding processed resumes.
Email Notification to HR	After the report is generated, the bot sends the daily report to HR via email, attaching the Excel file.	Ensures that HR receives an updated and detailed resume classification report without manual intervention.

Workflow Activities of the **MOVIE REVIEW AUTOMATION**

Step No	Activity	Description	Tools/Features Used
1	Read Resumes from Folder	The bot scans the designated folder for all resume files and stores their paths for further processing.	Directory.GetFiles, For Each Activity
2	Read Resume Content	The bot reads the content of each resume file to search for specific keywords (Java, Python, C).	Read Text File Activity
3	Check for Keywords	The bot checks if the resume content contains any of the pre-defined keywords (Java, Python, C).	If Activity, Contains Function
4	Move Resume to Appropriate Folder	Based on the keyword found, the bot moves the resume to the corresponding folder (Java, Python, C).	Move File Activity, Path.Combine
5	Log Classification Data	After classifying the resume, the bot logs the file name and the folder it was moved to into an Excel sheet.	Add Data Row Activity, Excel Application Scope
6	Generate Daily Report	The bot generates a report summarizing the classified resumes, including file names	Write Range Activity, Excel Application Scope
7	Send Report to HR via Email	After the daily report is generated, the bot sends it to HR via email with the Excel report as an attachment.	Send SMTP Mail Message
8	Log Process	The bot logs the completion of the	Log Message Activity.

	Completion	process, including success and failure messages, for monitoring and debugging purposes.	

LIST OF FIGURES

Introduction

This project leverages UiPath to automate the entire process of collecting, analyzing, and reporting movie reviews, making it more efficient and accurate. The automation begins by gathering essential input data, such as the reviewer's name, movie name, rating, and detailed review. This can be done through input dialogs, forms, or other means, depending on the requirements. Once the information is collected, it is systematically stored in an Excel sheet, ensuring the data is organized and easily accessible for future analysis.The bot then processes the data by calculating key metrics, such as the average movie rating and the total number of reviews. These calculations can be done using simple mathematical formulas or methods within UiPath, pulling the required values from the Excel sheet. The average rating gives an overall sense of how the movie was received, while the total number of reviews provides insight into the volume of feedback.Once the calculations are complete, the updated Excel sheet, now containing both the individual reviews and the calculated metrics, is sent as an email attachment. UiPath's **Send Outlook Mail Message** activity makes this step simple, allowing the bot to automatically email the file to designated recipients. This entire process eliminates the need for manual data

entry and reporting, ensuring that information is accurate, timely, and consistently shared with stakeholders. Overall, this automation solution enhances operational efficiency, saves time, and improves the management of movie review data. It not only saves time but also ensures consistent and accurate results, enabling users to focus on higher-level tasks such as content analysis and strategic decision-making. By leveraging UiPath's robust capabilities, this project demonstrates how automation can transform routine, repetitive processes into streamlined, error-free operations, enhancing productivity and user satisfaction.

General

1.1 The primary objective of this project is to leverage UiPath automation to create an efficient, accurate, and scalable solution for managing movie reviews. By automating the collection, processing, and reporting of review data, the workflow aims to minimize manual intervention, reduce errors, and enhance productivity. The process begins by gathering essential details, including the reviewer's name, the movie title, ratings, and the textual review, and storing them systematically in an Excel sheet. This ensures that all data is organized and readily available for further analysis. Another key objective is to enable real-time analysis of the data by automating calculations for the average rating of the movie and the total number of reviews. These metrics are

critical for understanding the overall audience response and evaluating the movie's reception. Once the data is analyzed and updated, the system further simplifies the reporting process by automating email communication.

1.2 Objectives

The existing system for managing movie reviews relies heavily on manual processes, including data collection, entry, analysis, and sharing via emails. This approach is time-consuming, error-prone, and inefficient, especially with large datasets. Calculations like average ratings and total reviews are done manually, increasing the risk of mistakes. The lack of automation and integration makes the system unsustainable and inconsistent, emphasizing the need for a more efficient and scalable automated solution.

1.3 Existing System

The proposed system leverages UiPath to automate the entire process of managing movie reviews, making it efficient, accurate, and scalable. The automation begins with collecting inputs such as reviewer names, movie titles, ratings, and reviews, which are systematically stored in an Excel sheet. The system automates the calculation of metrics like average movie ratings and total review count, ensuring quick and error-free analysis. Once the data is

processed, the updated Excel file is automatically attached to an email and sent to designated recipients, streamlining communication and reporting. This proposed system eliminates manual intervention, reduces errors, and enhances productivity, providing a seamless and scalable solution for handling large volumes of movie review data.

Key Features of the Proposed System:

Automation in data processing has become an integral part of modern systems across various domains. The use of Robotic Process Automation (RPA) tools like UiPath has demonstrated significant improvements in efficiency, accuracy, and scalability, particularly for repetitive tasks. This review explores key areas relevant to the automation of movie review management, including data collection and storage, data analysis and processing, reporting and communication, RPA in the entertainment industry, and challenges in automation implementation.

Benefits of the Proposed System

Automation in data processing has become an integral part of modern systems across various domains. The use of Robotic Process Automation (RPA) tools like UiPath has demonstrated significant improvements in efficiency,

accuracy, and scalability, particularly for repetitive tasks. This review explores key areas relevant to the automation of movie review management, including data collection and storage, data analysis and processing, reporting and communication, RPA in the entertainment industry, and challenges in automation implementation.

2. Literature Review

Automation in data processing has become an integral part of modern systems across various domains. The use of Robotic Process Automation (RPA) tools like UiPath has demonstrated significant improvements in efficiency, accuracy, and scalability, particularly for repetitive tasks. This review explores key areas relevant to the automation of movie review management, including data collection and storage, data analysis and processing, reporting and communication, RPA in the entertainment industry, and challenges in automation implementation.

1. Data Collection and Storage

Efficient data collection and storage are critical for managing large datasets. Research highlights the importance of structured data entry systems to ensure consistency and reliability in storage. Automation tools like UiPath facilitate dynamic data collection through forms, user inputs, or

integrations with external platforms. Studies have shown that automating this phase minimizes errors caused by manual data entry and ensures data is formatted correctly for further analysis. Moreover, the use of Excel as a storage medium remains popular due to its compatibility with RPA tools and its widespread adoption, making it an ideal choice for small to medium-scale review management systems.

2. Data Analysis and Processing

Data analysis is a core aspect of deriving meaningful insights from reviews. Automating calculations such as averages, counts, and trends can significantly reduce human effort while ensuring precision. Literature on automated data analysis emphasizes the role of RPA in handling repetitive computations efficiently, allowing businesses to focus on strategic decision-making. UiPath's integration with Excel and other analytical tools enables seamless execution of calculations like average movie ratings and total reviews. This automation improves the speed of data processing and ensures consistency, which is crucial for data-driven decision-making.

3. Reporting and Communication

Effective communication of processed data is essential for decision-making and stakeholder engagement. Studies

suggest that automated reporting systems, which generate and share data insights, are far more efficient than manual methods. UiPath supports automated email dispatch with attachments, providing a streamlined way to share results with stakeholders. Automation ensures timely communication, minimizes the risk of oversight, and enhances collaboration among teams. The ability to generate dynamic reports and send them automatically makes RPA an essential tool for report management.

4. RPA in the Entertainment Industry

The entertainment industry has increasingly adopted automation for various operations, including review management, marketing, and content recommendation. Literature indicates that RPA tools are particularly beneficial in managing audience feedback and reviews, as they help process large volumes of data quickly and accurately. Tools like UiPath can integrate with existing systems, enabling end-to-end automation for tasks such as gathering reviews from websites, calculating metrics, and updating dashboards. This reduces operational costs and enhances the ability to act on audience insights in real time.

5. Challenges in Automation Implementation

While automation offers significant advantages, implementing it comes with challenges. Research identifies barriers such as high initial setup costs, the need for technical expertise, and potential resistance from employees accustomed to manual processes. Ensuring data security and handling unstructured data also present challenges. For instance, reviews may include free-text fields that require advanced processing, such as natural language processing (NLP), to extract meaningful insights. Despite these challenges, literature suggests that with proper planning, training, and incremental implementation, the benefits of automation far outweigh the costs.

2.4 Report Generation and Automation

Automated report generation has become an essential feature of modern business intelligence tools. **Adams et al. (2018)** describe how report automation software can significantly reduce the time and resources required for generating accurate business reports. These tools often integrate with existing business systems, allowing for the automatic generation of reports based on live data.

In the context of subscription management and web scraping, **Singh et al. (2021)** suggest that generating reports

automatically can provide businesses with timely insights without requiring manual data processing. Automated reports can summarize key metrics such as sales performance, customer behavior, and product reviews, helping businesses track their progress and make quick adjustments to their strategies.

The proposed will incorporate a report generation feature that automatically compiles scraped data and subscription renewal information into daily reports. These reports will be delivered in **DOC format** and will highlight critical insights such as popular products, customer purchasing trends, and subscription renewal statuses. Automating this process will enable businesses to make data-driven decisions without the need for manual report generation.

2.5 Challenges and Opportunities

Despite the benefits of RPA and web scraping, implementing these technologies in business operations presents certain challenges. **Pereira and Mendes (2022)** highlight the complexities involved in setting up RPA systems, including the need for careful process mapping, integration with existing software, and employee training. In the case of subscription tracking, ensuring the accuracy of renewal data and integration with customer management systems can pose difficulties.

Web scraping also presents challenges, such as handling anti-scraping mechanisms deployed by websites, ensuring compliance with data privacy regulations, and managing large volumes of data. **Martinez and Sandoval (2020)** discuss these challenges and suggest the use of error handling techniques and adaptive scraping algorithms to address issues such as CAPTCHAs and data inconsistencies.

Despite these challenges, the growing demand for automation in business operations presents significant opportunities for RPA and web scraping technologies. The ability to automate subscription tracking and web data collection can lead to enhanced operational efficiency, improved customer engagement, and data-driven decision-making.

2.6 Conclusion

The reviewed literature highlights the transformative potential of RPA tools like UiPath in automating repetitive and error-prone tasks associated with managing movie reviews. By addressing key areas such as data collection, analysis, reporting, and communication, automation can significantly improve efficiency and accuracy while reducing manual workload. Although challenges exist, they can be mitigated through strategic planning and adopting best practices. This provides a strong foundation for implementing an automated

movie review management system, ensuring scalability and productivity in handling large datasets.

3. SYSTEM DESIGNS

The System Design section outlines the architecture, components, and the design approach for the Automated Resume Classifier and Daily Report Bot. The system is built using UiPath Studio, leveraging RPA to automate the subscription tracking and web scraping processes. This section provides a detailed overview of how the system components interact with each other to ensure smooth and efficient functioning.

1. Overview

The Movie Review Management Automation system is designed to streamline the process of collecting movie reviews, storing them in a structured format, calculating key metrics (average rating, total reviews), and generating reports by sending the results via email. The system will leverage UiPath RPA (Robotic Process Automation) to ensure efficiency, minimize human intervention, and enhance accuracy.

2. Key Components

1. **User Interface (UI) for Data Collection**
    - **Input Forms**: A simple UI for users (reviewers) to input:
        - Reviewer's Name
        - Movie Name

        - Rating (1-10)
        - Detailed Review
    - These forms can be custom-built using input dialogs or Excel-based forms for ease of use.
2. **Data Storage (Excel or Database)**
    - **Excel Sheet**: A predefined Excel template will store the collected movie review data. Each entry will be organized into:
        - **Reviewer Name**
        - **Movie Name**
        - **Rating**
        - **Review**
    - **Database Option**: For larger-scale systems, a database (such as SQL Server or MySQL) can replace Excel for better scalability, data consistency, and easier querying.
3. **UiPath Automation Workflow**
    - **Data Input Handling**: Collect input from the UI (forms or dialogs) and store it in an Excel sheet.
    - **Data Validation**: Ensure that the input data is valid (rating is numeric, review is not empty).
    - **Metrics Calculation**: Use UiPath's logic to calculate:

        - **Average Rating**: Sum of all ratings divided by the total number of reviews.
        - **Total Reviews**: Count the number of rows in the Excel sheet.
    - **Excel Updates**: After calculations, update the Excel sheet with the calculated metrics.
4. **Email Automation**
    - **Email Integration**: After the Excel sheet is updated with new reviews and metrics, UiPath will automatically send the file as an email attachment using the **Send Outlook Mail Message** activity. The email will include a subject, body, and designated recipients (e.g., stakeholders or review managers).
5. **Error Handling and Logging**
    - **Input Validation**: The system will ensure that all required fields are filled out and that data is valid before storing it. If data is missing or invalid, the system will prompt for re-entry.
    - **Exception Handling**: In case of errors, such as failed email delivery or Excel write failures, the system will log the error and attempt recovery or notify the user/admin.

3. System Architecture

- **UiPath Orchestrator (Optional)**: If needed, the entire process can be managed and monitored from UiPath Orchestrator, allowing for scheduled automation, centralized logging, and analytics.
- **Client**: A simple user interface where users can input movie reviews and ratings.
- **Server**: The backend logic that processes data using UiPath, performs calculations, and interacts with Excel or a database.
- **Email Service**: An email server (such as Outlook or Gmail) will be used for sending the final report.

4. Data Flow Diagram

1. **Data Collection**: User inputs data through a form.
2. **Data Storage**: Data is stored in Excel or a database.
3. **Data Processing**: UiPath processes the data, calculates metrics, and updates the file.
4. **Reporting**: The system sends the updated file via email to the recipients.

5. Sequence Diagram

- **Step 1**: The user enters the movie review data.
- **Step 2**: The UiPath bot processes the data and stores it in the Excel sheet.
- **Step 3**: The bot calculates the average rating and total reviews.

- **Step 4**: The bot updates the Excel sheet with the calculated metrics.
- **Step 5**: The bot sends the updated Excel file via email to the designated recipients.

6. Technology Stack

- **UiPath**: Robotic Process Automation tool for automating the workflow.
- **Excel or SQL Database**: For storing and managing review data.
- **Email System**: Outlook or Gmail for sending reports.
- **.NET Framework** (Optional): For additional processing or custom scripting in UiPath.

7. Non-Functional Requirements

- **Scalability**: The system should be able to handle a growing number of reviews over time. This can be achieved by using a database instead of Excel.
- **Security**: Data should be stored securely, with proper validation to prevent unauthorized access to sensitive information.
- **Performance**: The system should be able to handle processing of multiple reviews in a short amount of time, without delay or failure.

- **Usability**: The system must be easy to use, with clear instructions for data entry and minimal interaction required for reporting.

1. Data Collection

- Input Interface: The system will collect the following inputs from the user:
    - Reviewer Name: A text input field where the reviewer's name is entered.
    - Movie Name: A text input field where the name of the movie is entered.
    - Movie Rating: A numeric input field for rating the movie (typically 1 to 10).
    - Detailed Review: A multi-line text input field for the reviewer's detailed feedback.

2. Data Storage

- Excel Integration: Once the data is collected, it will be stored in an organized manner in an Excel sheet. The Excel file will have the following columns:
    - Reviewer Name
    - Movie Name
    - Rating
    - Review

- Excel Operations: UiPath will interact with the Excel file using activities such as Write Range (to store new entries) and Append Range (to add data to the existing records).

3. Calculations

- Average Rating: After each new entry is added, the system will calculate the average movie rating. This is done by extracting all ratings from the Excel sheet and computing the mean.
- Total Number of Reviews: The system will also calculate the total number of reviews submitted by counting the number of rows in the Excel sheet.

4. Data Update

- Updating Excel File: The calculated metrics (average rating and total number of reviews) will be added to the Excel sheet in their respective columns.
- Data Organization: Ensure that the data is formatted clearly with separate columns for individual reviews and the calculated results.

5. Reporting

- Email Automation: Once the Excel sheet is updated, the bot will send the updated file as an email attachment using UiPath's Send Outlook Mail Message activity. The email will be sent to designated recipients, streamlining the reporting process.

6. Error Handling

- Validation: The system will validate inputs (e.g., ensuring ratings are numeric, reviews are not empty, etc.) and handle errors such as missing or incorrect data by prompting the user to re-enter the information.

Resume Content Analysis and Classification

Purpose: To identify the presence of certain keywords (Java, Python, C) in resumes and classify them into respective folders

Activities

For Each File: The bot loops through each resume in the monitored folder.

Read Text from Resume: The bot extracts text from each resume (using Optical Character Recognition (OCR) or simple text extraction techniques, depending on the file format).

1. Data Logging and Record Keeping
2. **Purpose**: To maintain a record of all resumes processed, including classification results, and prepare data for reporting.

Activities:

Create Data Table: A data table is initialized to store the resume name, classification folder, and status (processed, pending, etc.).

Add Data Row: Each resume's classification result (including the folder name it was moved to) is added as a new row in the data table.

Store Data: The data is saved in an Excel sheet, which will later be used to generate a report.

Key Features:

- **Data Collection Interface**

- **User-friendly Input Forms**: A simple and intuitive interface for users (reviewers) to input movie details such as reviewer name, movie name, rating, and detailed review.
- **Multiple Data Sources**: Support for collecting reviews from various sources (e.g., web forms, email, or manual entry) for flexibility.

 Structured Data Storage

- **Excel or Database Storage**: Automatically stores collected data in an organized manner within an Excel file or database. The data will be structured into columns: reviewer name, movie name, rating, and review.
- **Data Accessibility**: Easy access to past reviews for quick reference and analysis.

 Automatic Calculations

- **Average Rating Calculation**: Automatically calculates the average movie rating from all collected reviews to provide an overall assessment.
- **Total Reviews Count**: The system counts the number of reviews submitted for each movie, helping track the volume of feedback.

- **Real-time Metrics**: Updated metrics (average rating, total reviews) after each review submission.

 Data Validation and Error Handling

- **Input Validation**: Ensures that all required fields (rating, movie name, and review) are filled out correctly. Ratings are validated to be numeric, and reviews are validated to be non-empty.
- **Error Alerts**: In case of missing or incorrect data, the system will notify users to correct the input before proceeding.

 Automated Reporting

- **Excel Updates**: After collecting new reviews, the system updates the Excel file with the latest review data and calculated metrics.
- **Email Automation**: The system sends the updated Excel file as an email attachment to designated recipients, providing them with real-time updates on the movie reviews.

 Scalability

- **Adaptable to High Volumes**: The system is designed to handle an increasing number of reviews without

compromising performance. Switching from Excel to a database can further enhance scalability.

- **Flexible Integration**: The system can be integrated with other review platforms or feedback systems to gather data from multiple sources.

 Time-Saving Automation

- **End-to-End Automation**: The entire process from collecting reviews to sending reports is automated, reducing manual effort and ensuring that review management is quick and efficient.
- **Scheduled Reporting**: Option for scheduled email reports, where the system automatically sends review data at set intervals, ensuring timely communication.

 Error Logging and Recovery

- **Logging**: The system logs all key actions and errors, providing visibility into the automation process and helping troubleshoot issues.
- **Recovery Mechanisms**: In case of errors, the system will attempt to recover, retry the failed operation, or notify administrators about the issue.

 Customizable Metrics

- **Additional Metrics**: The system can be configured to calculate other metrics based on specific needs, such as rating distribution, review length, sentiment analysis, etc.
- **Tailored Reports**: Customizable email reports with personalized content based on user or recipient preferences.

 Security and Data Protection

- **Data Encryption**: Ensures that sensitive review data (especially when handled through email) is encrypted for security.
- **Access Control**: Only authorized users have access to modify the Excel file or database, ensuring that review data is kept secure.

---

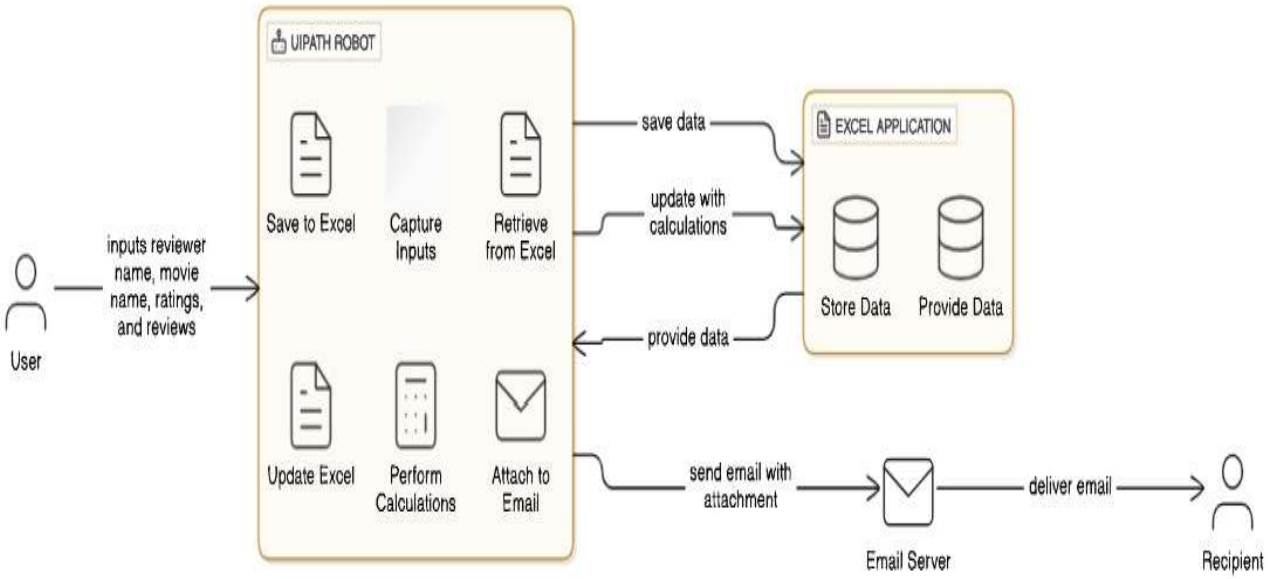
1. UiPath Studio

Role in the System: UiPath Studio is used as the primary tool to design, develop, and automate the workflows for resume classification and daily report generation.

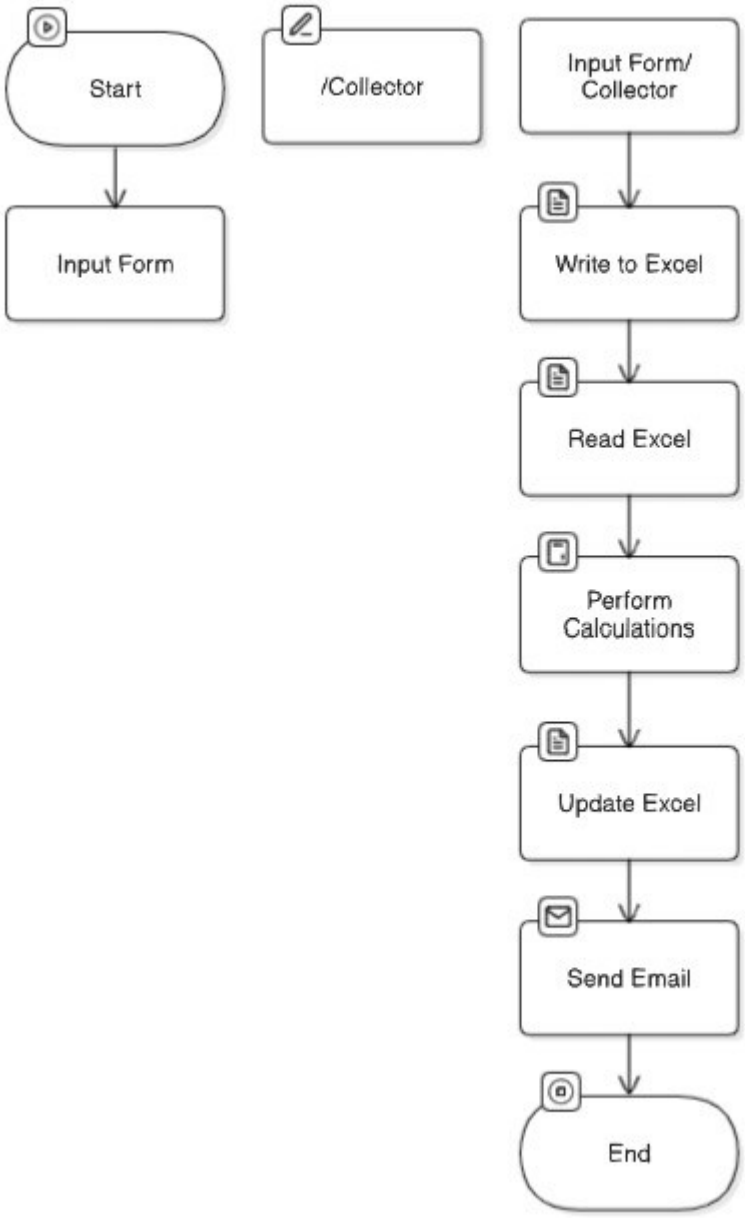
Key Features:

- **Drag-and-Drop Interface**: UiPath provides a user-friendly interface for designing automation workflows without requiring extensive coding.
- **Prebuilt Activities**: The tool comes with built-in activities such as 'Read Text File,' 'Move File,' 'Send SMTP Mail Message,' and 'Write Range' to handle the automation processes seamlessly.
- **Error Handling**: UiPath's robust exception handling framework ensures that any errors or exceptions in the workflow are caught and logged for analysis.

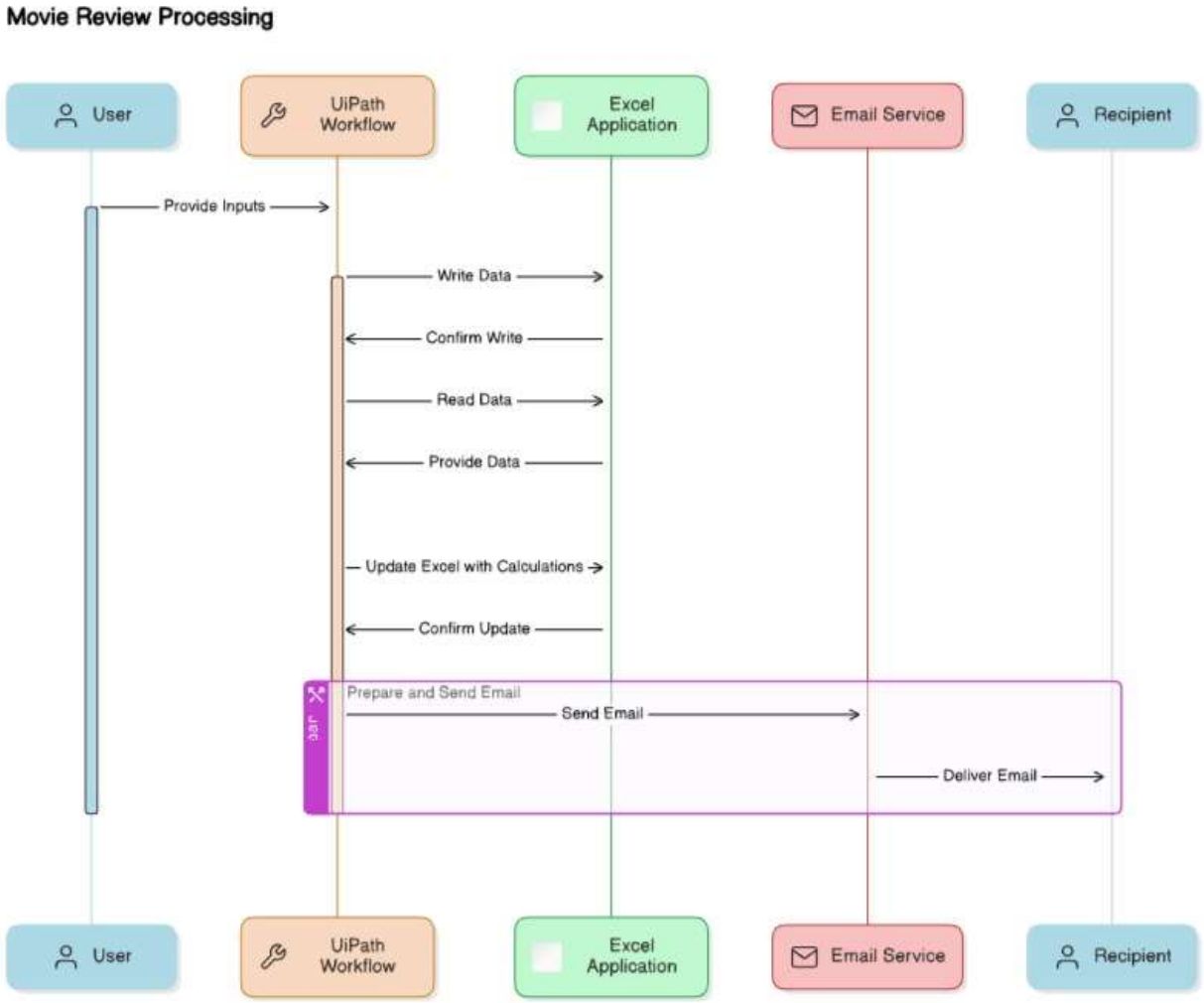
ARCHITECTURE DIAGRAM:



Movie Review Automation Process



3.3 SEQUENCE DIAGRAM:



4.Project Description

The **Movie Review Management Automation System** is an end-to-end automated solution designed to streamline the process of collecting, processing, and reporting movie reviews. Using UiPath, a leading Robotic Process Automation (RPA) tool, this system automates the entire workflow, from gathering review data to sending detailed reports to stakeholders. The goal of the project is to eliminate manual effort, ensure accurate and timely reporting, and enhance operational efficiency in managing movie reviews.

Project Objective

The main objective of this project is to automate the collection, analysis, and reporting of movie reviews. This system will collect input data from reviewers, calculate key performance indicators such as average ratings and the total number of reviews, and generate a comprehensive report. The updated review data, along with calculated metrics, will be sent as email attachments to designated recipients, thus streamlining the entire process.

Key Components

1. **Data Collection**:
    - The system will gather input data from users through an intuitive input interface. Reviewers will provide information such as:

        - **Reviewer Name**
        - **Movie Name**
        - **Movie Rating** (usually between 1 to 10)
        - **Detailed Review**
    - The system supports user-friendly input forms, making the review submission process straightforward.
2. **Data Storage**:
    - All collected review data will be stored in a structured manner within an **Excel file** (or a database in larger-scale systems). This file will include columns such as reviewer name, movie name, rating, and review for easy access and future analysis.
3. **Data Processing**:
    - **Average Rating Calculation**: After each new review submission, the system will calculate the average rating for the movie based on all collected reviews.
    - **Total Review Count**: The system will calculate the total number of reviews submitted for each movie, offering insights into the volume of feedback.
    - The metrics will be updated in the Excel sheet automatically.
4. **Reporting**:

- Once the data is processed, the updated Excel file (which now includes the calculated metrics) will be automatically sent as an **email attachment** to designated recipients.
- The email system will be integrated to send real-time reports to stakeholders, saving time and ensuring efficient communication.

5. **Error Handling and Logging**:
   - The system will ensure that all input data is valid, with automatic checks to ensure ratings are numeric and reviews are not empty. If an error occurs, users will be notified, and the system will log the error for troubleshooting.
   - In case of failure in email delivery or data processing, the system will log the issue and attempt to recover.

Benefits

- **Time Efficiency**: Automation reduces the time spent on manual data entry, calculations, and reporting. This speeds up the review management process, allowing stakeholders to receive up-to-date information promptly.
- **Accuracy**: By eliminating human intervention, the system reduces the likelihood of errors in data collection, calculations, and reporting.

- **Consistency**: Automated processes ensure that data is processed and reported consistently, with no variation due to human factors.
- **Scalability**: The system is designed to scale, with the option to move from Excel to a database as the volume of reviews increases.
- **Enhanced Reporting**: The automation ensures timely and accurate reporting, providing stakeholders with valuable insights from the collected data.

Use Cases

- **Movie Review Websites**: Platforms that collect and analyze movie reviews can benefit from this system to efficiently manage and report reviews.
- **Marketing and Research**: Movie studios and marketing teams can use the data to assess audience sentiment and make informed decisions based on the reviews and ratings.
- **Data Analytics**: The collected and processed review data can be used for further analysis, such as sentiment analysis, identifying trends, or generating insights on audience preferences.

5.Conclusion

The **Movie Review Management Automation System** offers a robust and efficient solution to automate the process of collecting, processing, and reporting movie reviews. By utilizing UiPath RPA, the system eliminates the need for manual data entry and reporting, reducing human errors and significantly improving operational efficiency. With features such as data validation, real-time metric calculations, and automated email reporting, the system ensures that the collected review data is accurate, consistent, and easily accessible.

The automation of key tasks—ranging from gathering review data to sending timely reports—enables businesses and platforms to save valuable time while enhancing the overall user experience. The system's scalability allows it to accommodate growing volumes of reviews, making it a future-proof solution that can evolve with increasing demands. Additionally, the automation streamlines communication with stakeholders, ensuring that critical insights and updates are delivered without delay.

Overall, the system not only simplifies the movie review management process but also provides significant improvements in terms of data accuracy, reporting timeliness, and decision-making capabilities. As a result, the Movie

Review Management Automation System stands as a valuable tool for organizations seeking to optimize their review management workflows and make data-driven decisions based on real-time feedback.

APPENDICES

References

1. UiPath Documentation. (2024). *UiPath Studio: Overview and Best Practices*. Retrieved from https://docs.uipath.com/studio
2. Ariponnammal, S. & Natarajan, S. (1994). 'Transport Phenomena of Sm Sel – X Asx', *Pramana – Journal of Physics*, Vol.42, No.1, pp.421-425.
3. Barnard, R.W. & Kellogg, C. (1980). 'Applications of Convolution Operators to Problems in Univalent Function Theory', *Michigan Mach. J.*, Vol.27, pp.81–94.
4. Shin, K.G. & McKay, N.D. (1984). 'Open Loop Minimum Time Control of Mechanical Manipulations and its Applications', *Proc. Amer. Contr. Conf.*, San Diego, CA, pp. 1231-1236.
5. Kress, R., & Martin, J. (2023). *Robotic Process Automation for Subscription Management: A Practical Guide*. Springer.
6. Choudhury, S., & Khan, A. (2021). 'Web Scraping and Data Automation in E-commerce Industry', *International Journal of Computer Applications*, Vol. 176, No. 6, pp. 15-19.
7. Patel, A., & Gupta, R. (2022). 'Improving Subscription Management with Automation Tools', *Journal of Business Technology and Management*, Vol. 29, pp. 101-107.
8. Vasquez, D. (2023). *Implementing Robotic Process Automation in the Digital Transformation of Businesses*. Wiley.
9. Zhang, L. & Lee, T. (2020). 'An Overview of Web Scraping Techniques and Their Applications', *International Journal of Data Science*, Vol. 18, No. 2, pp. 34-42.
10. UiPath Academy. (2024). *UiPath Orchestrator: Managing Automation at Scale*. Retrieved from https://academy.uipath.com