

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

CHAPTER NO	TITLE	PAGE NO
	ABSTRACT	
	LIST OF TABLES	
	LIST OF FIGURES	
	LIST OF ABBREVIATIONS	
1.	INTRODUCTION	
	1.1 GENERAL	
	1.2 OBJECTIVE	
	1.3 EXISTING SYSTEM	
	1.4 PROPOSED SYSTEM	
2.	LITERATURE REVIEW	
	2.1 RPA IN BUSINESS OPERATIONS	
	2.2 SUBSCRIPTION MANAGEMENT SYSTEMS	
	2.3 WEB SCRAPING AND DATA EXTRACTION TECHNOLOGIES	
	2.4 REPORT GENERATION AND AUTOMATION	
	2.5 CHALLENGES AND OPPORTUNITIES	
	2.6 CONCLUSION	
3.	SYSTEM DESIGN	
	3.1 GENERAL	
	3.1.1 SYSTEM FLOW DIAGRAM	

	3.1.2 ARCHITECTURE DIAGRAM	
	3.1.3 SEQUENCE DIAGRAM	
4.	PROJECT DESCRIPTION	
	4.1 METHODOLOGIE	
	4.1.1 MODULES	
5.	CONCLUSIONS	
	5.1 GENERAL	
	REFERENCES	
	APPENDICES	

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

Figure No.	Figure Name
3.1	System Flow Diagram
3.2	Architecture Diagram
3.3	Sequence Diagram
5.1	Input Dialog
5.2	Excel Creation
5.3	AI Content Detection
5.4	Plagiarism Detection

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.
-

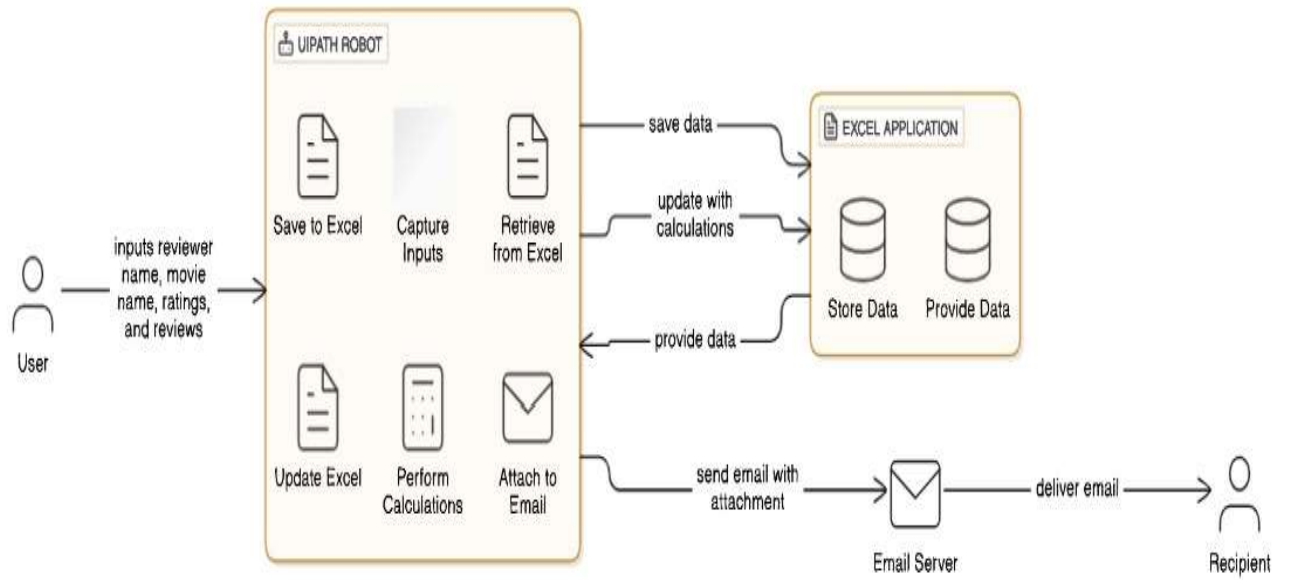
1. UiPath Studio

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.

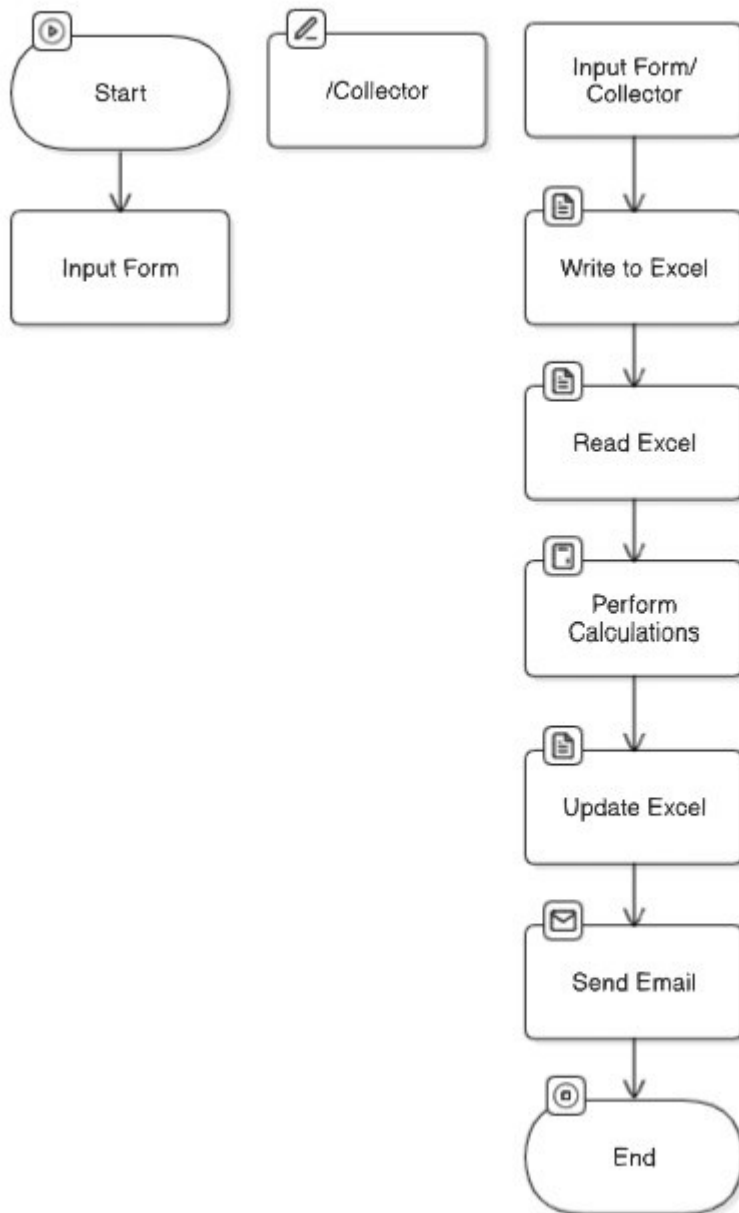
Key Features:

- **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:

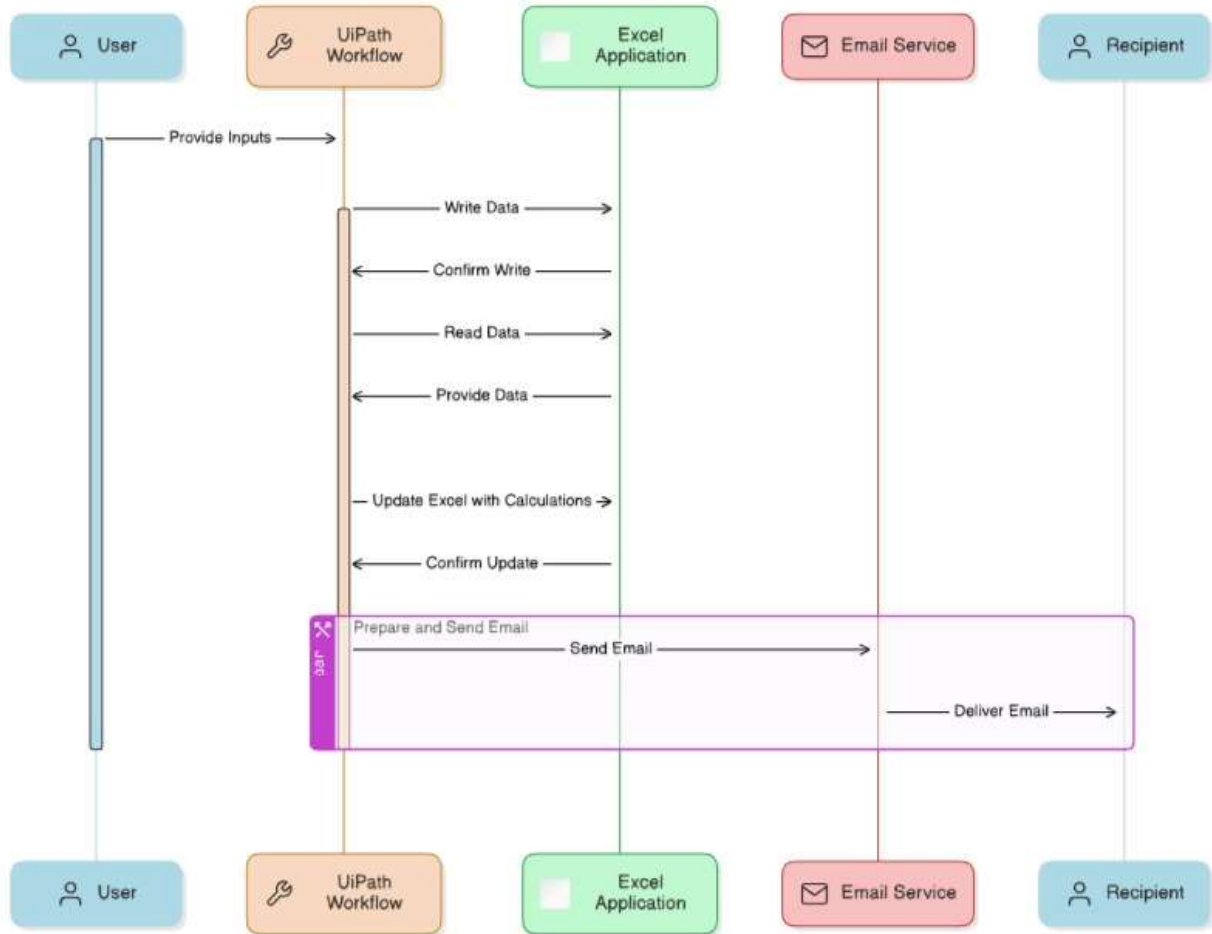


Movie Review Automation Process



3.3 SEQUENCE DIAGRAM:

Movie Review Processing



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

For the present study, the following two modifications have been made:
1. The first modification is the addition of a new variable, 'Age', to the dataset.
2. The second modification is the addition of a new variable, 'Gender', to the dataset.

1. Age Group

Age Group

18-24

25-34

35-44

45-54

55-64

65-74

75-84

85-94

95-104

105-114

115-124

125-134

135-144

145-154

155-164

165-174

175-184

185-194

195-204

205-214

215-224

225-234

235-244

245-254

255-264

265-274

275-284

285-294

295-304

305-314

315-324

325-334

335-344

345-354

355-364

365-374

375-384

385-394

395-404

405-414

415-424

425-434

435-444

445-454

455-464

465-474

475-484

485-494

495-504

505-514

515-524

525-534

535-544

545-554

555-564

565-574

575-584

585-594

595-604

605-614

615-624

625-634

635-644

645-654

655-664

665-674

675-684

685-694

695-704

705-714

715-724

725-734

735-744

745-754

755-764

765-774

775-784

785-794

795-804

805-814

815-824

825-834

835-844

845-854

855-864

865-874

875-884

885-894

895-904

905-914

915-924

925-934

935-944

945-954

955-964

965-974

975-984

985-994

995-1004

1005-1014

1015-1024

1025-1034

1035-1044

1045-1054

1055-1064

1065-1074

1075-1084

1085-1094

1095-1104

1105-1114

1115-1124

1125-1134

1135-1144

1145-1154

1155-1164

1165-1174

1175-1184

1185-1194

1195-1204

1205-1214

1215-1224

1225-1234

1235-1244

1245-1254

1255-1264

1265-1274

1275-1284

1285-1294

1295-1304

1305-1314

1315-1324

1325-1334

1335-1344

1345-1354

1355-1364

1365-1374

1375-1384

1385-1394

1395-1404

1405-1414

1415-1424

1425-1434

1435-1444

1445-1454

1455-1464

1465-1474

1475-1484

1485-1494

1495-1504

1505-1514

1515-1524

1525-1534

1535-1544

1545-1554

1555-1564

1565-1574

1575-1584

1585-1594

1595-1604

1605-1614

1615-1624

1625-1634

1635-1644

1645-1654

1655-1664

1665-1674

1675-1684

1685-1694

1695-1704

1705-1714

1715-1724

1725-1734

1735-1744

1745-1754

1755-1764

1765-1774

1775-1784

1785-1794

1795-1804

1805-1814

1815-1824

1825-1834

1835-1844

1845-1854

1855-1864

1865-1874

1875-1884

1885-1894

1895-1904

1905-1914

1915-1924

1925-1934

1935-1944

1945-1954

1955-1964

1965-1974

1975-1984

1985-1994

1995-2004

2005-2014

2015-2024

2025-2034

2035-2044

2045-2054

2055-2064

2065-2074

2075-2084

2085-2094

2095-2104

2105-2114

2115-2124

2125-2134

2135-2144

2145-2154

2155-2164

2165-2174

2175-2184

2185-2194

2195-2204

2205-2214

2215-2224

2225-2234

2235-2244

2245-2254

2255-2264

2265-2274

2275-2284

2285-2294

2295-2304

2305-2314

2315-2324

2325-2334

2335-2344

2345-2354

2355-2364

2365-2374

2375-2384

2385-2394

2395-2404

2405-2414

2415-2424

2425-2434

2435-2444

2445-2454

2455-2464

2465-2474

2475-2484

2485-2494

2495-2504

2505-2514

2515-2524

2525-2534

2535-2544

2545-2554

2555-2564

2565-2574

2575-2584

2585-2594

2595-2604

2605-2614

2615-2624

2625-2634

2635-2644

2645-2654

2655-2664

2665-2674

2675-2684

2685-2694

2695-2704

2705-2714

2715-2724

2725-2734

2735-2744

2745-2754

2755-2764

2765-2774

2775-2784

2785-2794

2795-2804

2805-2814

2815-2824

2825-2834

2835-2844

2845-2854

2855-2864

2865-2874

2875-2884

2885-2894

2895-2904

2905-2914

2915-2924

2925-2934

2935-2944

2945-2954

2955-2964

2965-2974

2975-2984

2985-2994

2995-3004

3005-3014

3015-3024

3025-3034

3035-3044

3045-3054

3055-3064

3065-3074

3075-3084

3085-3094

3095-3104

3105-3114

3115-3124

3125-3134

3135-3144

3145-3154

3155-3164

3165-3174

3175-3184

3185-3194

3195-3204

3205-3214

3215-3224

3225-3234

3235-3244

3245-3254

3255-3264

3265-3274

3275-3284

3285-3294

3295-3304

3305-3314

3315-3324

3325-3334

3335-3344

3345-3354

3355-3364

3365-3374

3375-3384

3385-3394

3395-3404

3405-3414

3415-3424

3425-3434

3435-3444

3445-3454

3455-3464

3465-3474

3475-3484

3485-3494

3495-3504

3505-3514

3515-3524

3525-3534

3535-3544

3545-3554

3555-3564

3565-3574

3575-3584

3585-3594

3595-3604

3605-3614

3615-3624

3625-3634

3635-3644

3645-3654

3655-3664

3665-3674

3675-3684

3685-3694

3695-3704

3705-3714

3715-3724

3725-3734

3735-3744

3745-3754

3755-3764

3765-3774

3775-3784

3785-3794

3795-3804

3805-3814

3815-3824

3825-3834

3835-3844

3845-3854

3855-3864

3865-3874

3875-3884

3885-3894

3895-3904

3905-3914

3915-3924

3925-3934

3935-3944

3945-3954

3955-3964

3965-3974

3975-3984

3985-3994

3995-4004

4005-4014

4015-4024

4025-4034

4035-4044

4045-4054

4055-4064

4065-4074

4075-4084

4085-4094

4095-4104

4105-4114

4115-4124

4125-4134

4135-4144

4145-4154

4155-4164

4165-4174

4175-4184

4185-4194

4195-4204

4205-4214

4215-4224

4225-4234

4235-4244

4245-4254

4255-4264

4265-4274

4275-4284

4285-4294

4295-4304

4305-4314

4315-4324

4325-4334

4335-4344

4345-4354

4355-4364

4365-4374

4375-4384

4385-4394

4395-4404

4405-4414

4415-4424

4425-4434

4435-4444

4445-4454

4455-4464

4465-4474

4475-4484

4485-4494

4495-4504

4505-4514

4515-4524

4525-4534

4535-4544

4545-4554

4555-4564

4565-4574

4575-4584

4585-4594

4595-4604

4605-4614

4615-4624

4625-4634

4635-4644

4645-4654

4655-4664

4665-4674

4675-4684

4685-4694

4695-4704

4705-4714

4715-4724

4725-4734

4735-4744

4745-4754

4755-4764

4765-4774

4775-4784

4785-4794

4795-4804

4805-4814

4815-4824

4825-4834

4835-4844

4845-4854

4855-4864

4865-4874

4875-4884

4885-4894

4895-4904

4905-4914

4915-4924

4925-4934

4935-4944

4945-4954

4955-4964

4965-4974

4975-4984

4985-4994

4995-5004

5005-5014

5015-5024

5025-5034

5035-5044

5045-5054

5055-5064

5065-5074

5075-5084

5085-5094

5095-5104

5105-5114

5115-5124

5125-5134

5135-5144

5145-5154

5155-5164

5165-5174

5175-5184

5185-5194

5195-5204

5205-5214

5215-5224

5225-5234

5235-5244

5245-5254

5255-5264

5265-5274

5275-5284

5285-5294

5295-5304

5305-5314

5315-5324

5325-5334

5335-5344

5345-5354

5355-5364

5365-5374

5375-5384

5385-5394

5395-5404

5405-5414

5415-5424

5425-5434

5435-5444

5445-5454

5455-5464

5465-5474

5475-5484

5485-5494

5495-5504

5505-5514

5515-5524

5525-5534

5535-5544

5545-5554

5555-5564

5565-5574

5575-5584

5585-5594

5595-5604

5605-5614

5615-5624

5625-5634

5635-5644

5645-5654

5655-5664

5665-5674

5675-5684

5685-5694

5695-5704

5705-5714

5715-5724

5725-5734

5735-5744

5745-5754

5755-5764

5765-5774

5775-5784

5785-5794

5795-5804

5805-5814

5815-5824

5825-5834

5835-5844

5845-5854

5855-5864

5865-5874

5875-5884

5885-5894

5895-5904

5905-5914

5915-5924

5925-5934

5935-5944

5945-5954

5955-5964

5965-5974

5975-5984

5985-5994

5995-6004

6005-6014

6015-6024

6025-6034

6035-6044

6045-6054

6055-6064

6065-6074

6075-6084

6085-6094

6095-6104

6105-6114

6115-6124

6125-6134

6135-6144

6145-6154

6155-6164

6165-6174

6175-6184

6185-6194

6195-6204

6205-6214

6215-6224

6225-6234

6235-6244

6245-6254

6255-6264

6265-6274

6275-6284

6285-6294

6295-6304

6305-6314

6315-6324

6325-6334

6335-6344

6345-6354

6355-6364

6365-6374

6375-6384

6385-6394

6395-6404

6405-6414

6415-6424

6425-6434

6435-6444

6445-6454

6455-6464

6465-6474

6475-6484

6485-6494

6495-6504

6505-6514

6515-6524

6525-6534

6535-6544

6545-6554

6555-6564

6565-6574

6575-6584

6585-6594

6595-6604

6605-6614

6615-6624

6625-6634

6635-6644

6645-6654

6655-6664

6665-6674

6675-6684

6685-6694

6695-6704

6705-6714

6715-6724

6725-6734

6735-6744

6745-6754

6755-6764

6765-6774

6775-6784

6785-6794

6795-6804

6805-6814

6815-6824

6825-6834

6835-6844

6845-6854

6855-6864

6865-6874

6875-6884

6885-6894

6895-6904

6905-6914

6915-6924

6925-6934

6935-6944

6945-6954

6955-6964

6965-6974

6975-6984

6985-6994

6995-7004

7005-7014

7015-7024

7025-7034

7035-7044

7045-7054

7055-7064

7065-7074

7075-7084

7085-7094

7095-7104

7105-7114

7115-7124

7125-7134

7135-7144

7145-7154

7155-7164

7165-7174

7175-7184

7185-7194

7195-7204

7205-7214

7215-7224

7225-7234

7235-7244

7245-7254

7255-7264

7265-7274

7275-7284

7285-7294

7295-7304

7305-7314

7315-7324

7325-7334

7335-7344

7345-7354

7355-7364

7365-7374

7375-7384

7385-7394

7395-7404

7405-7414

7415-7424

7425-7434

7435-7444

7445-7454

7455-7464

7465-7474

7475-7484

7485-7494

7495-7504

7505-7514

7515-7524

7525-7534

7535-7544

7545-7554

7555-7564

7565-7574

7575-7584

7585-7594

7595-7604

7605-7614

7615-7624

7625-7634

7635-7644

7645-7654

7655-7664

7665-7674

7675-7684

7685-7694

7695-7704

7705-7714

7715-7724

7725-7734

7735-7744

7745-7754

7755-7764

7765-7774

7775-7784

7785-7794

7795-7804

7805-7814

7815-7824

7825-7834

7835-7844

7845-7854

7855-7864

7865-7874

7875-7884

7885-7894

7895-7904

7905-7914

7915-7924

7925-7934

7935-7944

7945-7954

7955-7964

7965-7974

7975-7984

7985-7994

7995-8004

8005-8014

8015-8024

8025-8034

8035-8044

8045-8054

8055-8064

8065-8074

8075-8084

8085-8094

8095-8104

8105-8114

8115-8124

8125-8134

8135-8144

8145-8154

8155-8164

8165-8174

8175-8184

8185-8194

8195-8204

8205-8214

8215-8224

8225-8234

8235-8244

8245-8254

8255-8264

8265-8274

8275-8284

8285-8294

8295-8304

8305-8314

8315-8324

8325-8334

8335-8344

8345-8354

8355-8364

8365-8374

8375-8384

8385-8394

8395-8404

8405-8414

8415-8424

8425-8434

8435-8444

8445-8454

8455-8464

8465-8474

8475-8484

8485-8494

8495-8504

8505-8514

8515-8524

8525-8534

8535-8544

8545-8554

8555-8564

8565-8574

8575-8584

8585-8594

8595-8604

8605-8614

8615-8624

8625-8634

8635-8644

8645-8654

8655-8664

8665-8674

8675-8684

8685-8694

8695-8704

8705-8714

8715-8724

8725-8734

8735-8744

8745-8754

8755-8764

8765-8774

8775-8784

8785-8794

8795-8804

8805-8814

8815-8824

8825-8834

8835-8844

8845-8854

8855-8864

8865-8874

8875-8884

8885

References

1. UiPath Documentation. (2024). *UiPath Studio: Overview and Best Practices*. Retrieved from <https://docs.uipath.com/studio>
2. Aripnammal, 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>