EVENT REMAINDER AUTOMATION BOT

A PROJECT REPORT

Submitted by

CHITHRA K (220701054)

in partial fulfillment for the course

OAI1903 - INTRODUCTION TO ROBOTIC PROCESS AUTOMATION

for the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

NOVEMBER 2024

RAJALAKSHMI ENGINEERING COLLEGE CHENNAI – 602 105

RAJALAKSHMI ENGINEERING COLLEGE

CHENNAI - 602105

BONAFIDE CERTIFICATE

Certified that this project report **"The Smart Assignment Integrity Verification Bot"** is the bonafide work of **"CHITHRA K (220701054)"** who carried out the project work for the subject OAI1903 - Introduction to Robotic Process Automation under my supervision.

SIGNATURE

Mrs. J. Jinu Sophia
SUPERVISOR
Assistant Professor(SG)
Department of
Computer Science and Engineering
Rajalakshmi Engineering College
Rajalakshmi Nagar
Thandalam, Chennai - 602105

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

Internal Examiner **External Examiner**

ABSTRACT

The Event Reminder Automation System is an advanced Robotic Process Automation (RPA) solution that automates the process of sending event registration reminders, designed to streamline event management tasks. Using UiPath, the system scrapes event details from the Knowafest website, specifically focusing on events in Tamil Nadu. It efficiently extracts key information such as event names, registration deadlines, and event posters. The system automatically monitors event deadlines and sends dynamic reminder emails to participants 7 days and 3 days before the registration closes, ensuring timely notifications. Additionally, the bot enhances the email content by extracting images from event pages after clicking the 'View More' button and attaching relevant event posters to the reminders, making them more engaging and informative. The solution also includes error handling to flag any inconsistencies in the data, ensuring data accuracy and smooth operation. By automating these repetitive tasks, the system not only saves time and effort for event organizers but also ensures that users are always kept informed, leading to increased participation and more efficient event registration processes. This project demonstrates the effectiveness of RPA in improving user engagement, reducing administrative workload, and optimizing event management workflows.

ACKNOWLEDGEMENT

Initially we thank the Almighty for being with us through every walk of our life and showering his blessings through the endeavour 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 respected Chairperson **Dr. (Mrs.) Thangam Meganathan, M.A., M.Phil., Ph.D.,** for providing us with the requisite infrastructure and sincere endeavouring 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, **Mrs. J. Jinu Sophia, M.E., (Ph.D)** Assistant Professor (SG) Department of Computer Science and Engineering for their valuable guidance throughout the course of the project. We are very glad to thank our Project Coordinator Professor, **Dr. N. Durai Murugan, M.E., (Ph.D),** Associate Professor and Mr. **B. Bhuvaneswaran, M.E.,** Assistant Professor (SG), Department of Computer Science and Engineering for their useful tips during our review to build our project.

Chithra (220701054)

TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
	ABSTRACT	**iii**
	LIST OF FIGURES	**vi**
	LIST OF ABBREVIATIONS	**vii**
1.	**INTRODUCTION**	**1**
	1.1 INTRODUCTION	1
	1.2 OBJECTIVE	3
	1.3 EXISTING SYSTEM	3
	1.4 PROPOSED SYSTEM	3
2.	**LITERATURE REVIEW**	**5**
3.	**SYSTEM DESIGN**	**8**
	3.1 SYSTEMFLOW DIAGRAM	8
	3.2 ARCHITECTURE DIAGRAM	9
	3.3 SEQUENCE DIAGRAM	10
4.	**PROJECT DESCRIPTION**	**11**
	4.1 MODULES	11
	4.1.1. INPUT HANDLING AND INITIALIZATION	11
	4.1.2. EVENT REMAINDER AUTOMATION	11
	4.1.3. DATA MANAGEMENT	12
	4.1.4. COMPLETION AND REPORTING	12
5.	**OUTPUT SCREENSHOTS**	**13**
6.	**CONCLUSION**	**17**
	APPENDIX	**18**
	REFERENCES	**22**

LIST OF FIGURES

Figure No.	Figure Name	Page No.
3.1	System Flow Diagram	9
3.2	Architecture Diagram	10
3.3	Sequence Diagram	11
5.1	Data Collection	14
5.2	Excel Creation	14
5.3	Scrap Events	15
5.4	Download images	16
5.5	Email sent	17

LIST OF ABBREVIATIONS

ABBREVIATION	ACCRONYM
RPA	Robotic Process Automation
AI	Artificial Intelligence
UI	User Interface
URL	Uniform Resource Locator
HTTP	Hypertext Transfer Protocol
OCR	Optical Character Recognition

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Event management involves numerous tasks, with sending timely reminders for event registrations being one of the most repetitive and time-consuming. For organizers, manually tracking registration deadlines and ensuring that participants are reminded on time can lead to errors and inconsistencies. The Event Reminder Automation System addresses these challenges by utilizing Robotic Process Automation (RPA) to streamline and automate the reminder process, saving time and effort while ensuring efficient communication.

The system is designed to scrape event details from the Knowafest website, focusing on events in Tamil Nadu. Using UiPath, the RPA bot extracts key information such as event names, registration deadlines, and event posters. This enables the system to monitor upcoming registration deadlines and generate automatic reminders for users at 7-day and 3-day intervals before registration closes, ensuring that participants are always informed.

One of the system's key features is its ability to send dynamic, personalized reminder emails. These emails, which contain the event details and registration deadlines, are automatically sent based on the extracted data. This eliminates the need for manual email management and ensures consistent communication with participants, reducing the chances of missing important deadlines.

The system also enhances the reminder emails by extracting images from the event pages. After clicking the 'View More' button, the bot retrieves event posters and attaches them to the emails, making the reminders more visually appealing and engaging for the recipients. This added feature helps improve user interaction with the reminder messages.

Additionally, the system includes error detection to flag inconsistencies in the scraped data. This ensures that the event details are accurate and up to date. By automating these tasks, the *Event Reminder Automation System* significantly reduces manual effort, improves efficiency, and enhances user engagement through timely, personalized reminders.

1.2 OBJECTIVE

The objective of the Event Reminder Automation System is to automate the monitoring of event registration deadlines and send timely, personalized reminders to participants. By utilizing RPA with UiPath, the system scrapes event details from the Knowafest website and sends reminders at 7- and 3-day intervals before registration closes. It also retrieves relevant event images to enhance the reminder emails. The goal is to improve efficiency, reduce errors, and increase participation by automating the reminder process.

1.3 EXISTING SYSTEM

The existing system involves manually tracking event deadlines and sending reminders to participants. Organizers check event websites, update spreadsheets, and send generic reminder emails. This process is time-consuming and requires constant attention. It is prone to human errors, such as missed deadlines or incorrect details. Additionally, the reminder emails lack personalization and often miss event images, reducing engagement. The system relies entirely on manual effort, which becomes inefficient, especially with multiple events. There is no automation, leading to potential delays and missed notifications.

1.4 PROPOSED SYSTEM

The proposed system automates the process of tracking event registration deadlines and sending reminders to participants using Robotic Process Automation (RPA) with UiPath. The system scrapes event details from the Knowafest website, focusing on events in Tamil Nadu, and extracts key information such as event names, registration deadlines, and event posters.

It then sends dynamic, personalized reminder emails to participants at 7-day and 3-day intervals before registration closes. The system also retrieves event images and attaches them to the reminder emails to enhance visual engagement. By automating these tasks, the proposed system reduces manual effort, minimizes errors, ensures timely communication, and improves user participation.

CHAPTER 2

LITERATURE REVIEW

2.1 WEB SCRAPING TECHNIQUES AND APPLICATIONS:

Overview: Web scraping is widely used to extract structured data from websites, enabling the automation of information collection. Tools like Python's Beautiful Soup, Scrapy, and automation platforms like UiPath simplify this process.

Relevant Studies:

- In "Web Data Extraction for Automation" (Journal of Computing, 2021), researchers highlighted the efficiency of automated scraping in academic and industrial domains, emphasizing its role in minimizing human intervention.
- Knowafest and similar event aggregation platforms are valuable for disseminating information, and automating data extraction ensures users stay updated with minimal effort.

Application to Project: The use of UiPath for scraping event details from Knowafest demonstrates the effectiveness of RPA (Robotic Process Automation) in managing repetitive tasks.

2.2 EVENT MANAGEMENT SYSTEM:

Overview: Automated event management systems streamline processes like event tracking, reminders, and participant registration.

Relevant Studies:

- A study on "Automating Event Notifications for Enhanced Participation" (IEEE, 2020) proposed automated reminders to increase event attendance by over 30%.
- Event automation platforms like Eventbrite emphasize integrating reminders and updates to ensure user engagement.

Application to Project: Your project aligns with these systems by focusing on timely reminders and dynamic email updates.

2.3 EMAIL NOTIFICATION SYSTEM:

Overview: Automated email systems are critical in ensuring timely communication. These systems dynamically generate emails based on triggers (e.g., deadlines).

Relevant Studies:

- The paper "Effectiveness of Automated Email Campaigns in Event Registrations" (ACM Digital Library, 2019) demonstrated that personalized email notifications with attached resources increased user engagement.
- Tools like SMTP, Mailgun, and Gmail API enable seamless email automation for customized messages and attachments.

Application to Project: Sending reminders with attached posters and event links enhances user experience and ensures relevance.

2.4 SCHEDULER SYSTEM IN RPA:

Overview: Scheduler modules automate recurring tasks, ensuring timely execution without manual intervention.

Relevant Studies:

- Research on "Task Scheduling in Robotic Process Automation" (Springer, 2022) highlighted the importance of schedulers in managing workflows effectively, reducing latency and error rates.
- UiPath Orchestrator provides robust scheduling capabilities that support time-based and event-based triggers.

Application to Project: By leveraging UiPath Orchestrator, your project schedules web scraping and email reminders at predefined intervals.2.4 Summary of the intersection of RPA, AI Detection, and Plagiarism Checks in Event management:

CHAPTER 3

SYSTEM DESIGN

3.1 SYSTEM FLOW DIAGRAM

A flowchart is a type of diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem. Thus system flow diagram

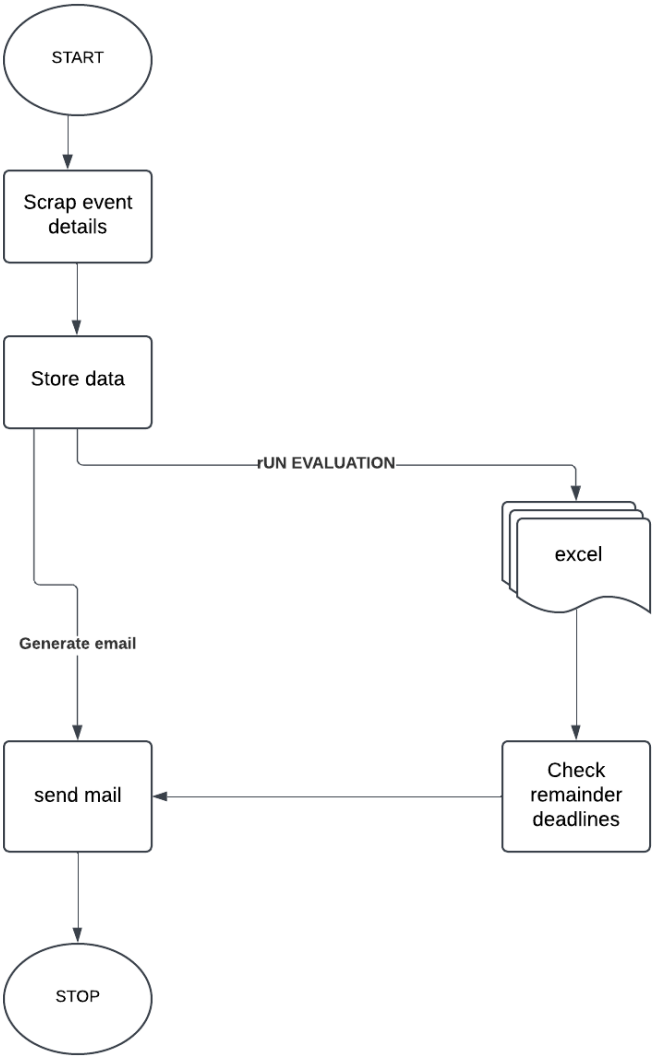


Fig 3.1 System Flow Diagram

3.2 ARCHITECTURE DIAGRAM

An architecture diagram is a graphical representation of a set of concepts, that are part of an architecture, including their principles, elements and components. The architecture diagram for this project is in Fig. 3.2.

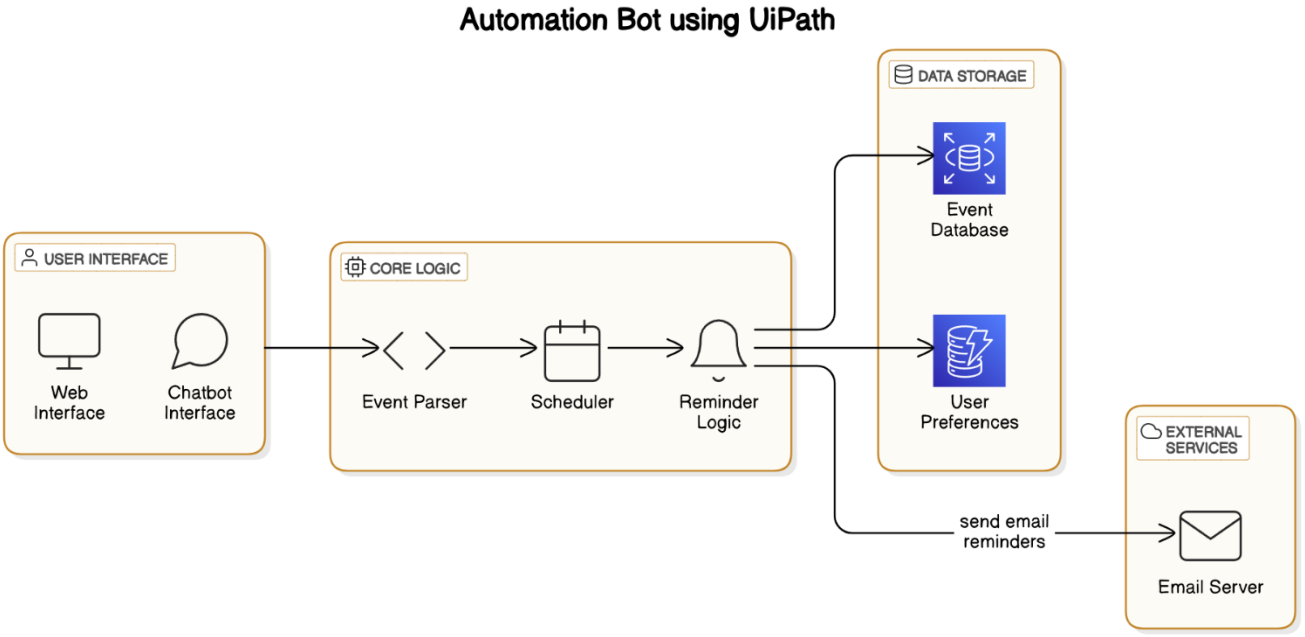


Fig 3.2 Architecture Diagram

3.3 SEQUENCE DIAGRAM

A sequence diagram is a type of interaction diagram because it describe and s how in what order a group of objects works together. The sequence diagram for this project is in Fig. 3.3.

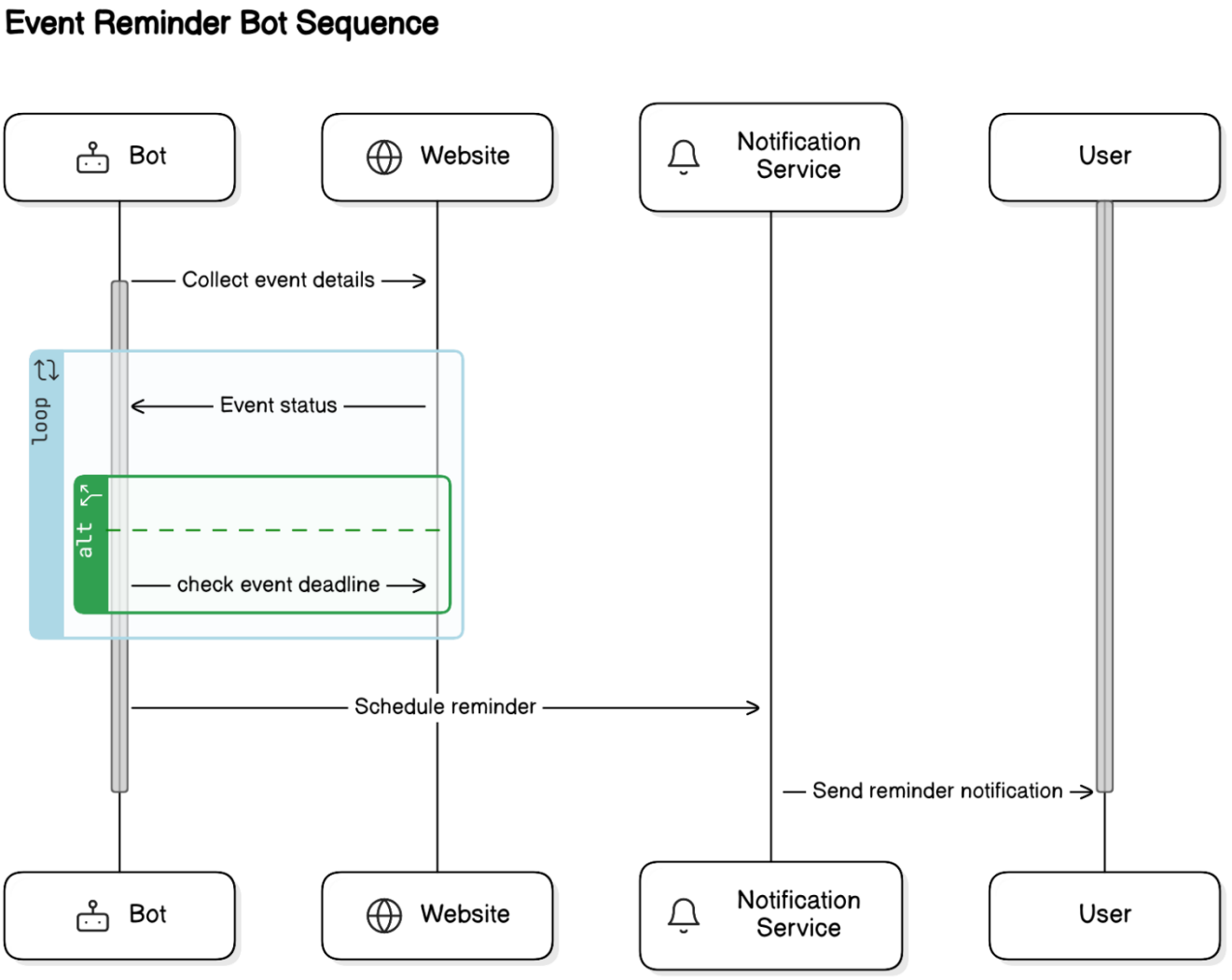


Fig 3.3 Sequence Diagram

CHAPTER 4

PROJECT DESCRIPTION

"The Event Reminder Automation System" is an RPA project built with UiPath to automate event registration reminders. The bot scrapes event details from the Knowafest website, extracts registration deadlines, and sends reminder emails 7 and 3 days before the deadline. It also attaches event posters to the emails, ensuring efficient and timely communication for event organizers.

4.1. MODULES:

4.1.1. INPUT HANDLING AND INITIALIZATION:

4.1.1.1. Website Data Scraping:

- Scrape the Knowafest website for event details like event name, registration deadlines, and event poster URLs.

4.1.1.2. Subfolder Creation for Event Data:

- Dynamically create a folder or subfolder to store the event data and reminder information.

4.1.1.3 Excel Report Generation:

- Dynamically create an Excel sreport named "Report" within the chosen subfolder.

4.1.2 EMAIL REMINDER AUTOMATION:

4.1.2.1 Reminder Email Generation:

- Dynamically generate email templates with event details.
- Attach event posters to the emails for visual appeal.

4.1.2.2 Scheduled Email Dispatch:

- Send emails 7 days and 3 days before registration deadlines.

- Ensure reliable delivery using email automation tools.

4.1.3 DATA MANAGEMENT:

4.1.3.1Event Data Validation:

Validate URLs, dates, and duplicate entries.

4.1.3.1 Real-time Updates:

Display scraping progress and email dispatch statuses.

4.1.4 COMPLETION AND REPORTING:

4.1.4.1 Task Completion Message:

- Conclude the operation with a message indicating the successful completion of the Email sent.

4.1.4.2 Summary Report:

- Include a count of events processed, emails sent, and errors (if any).

CHAPTER 5

OUTPUT SCREENSHOTS

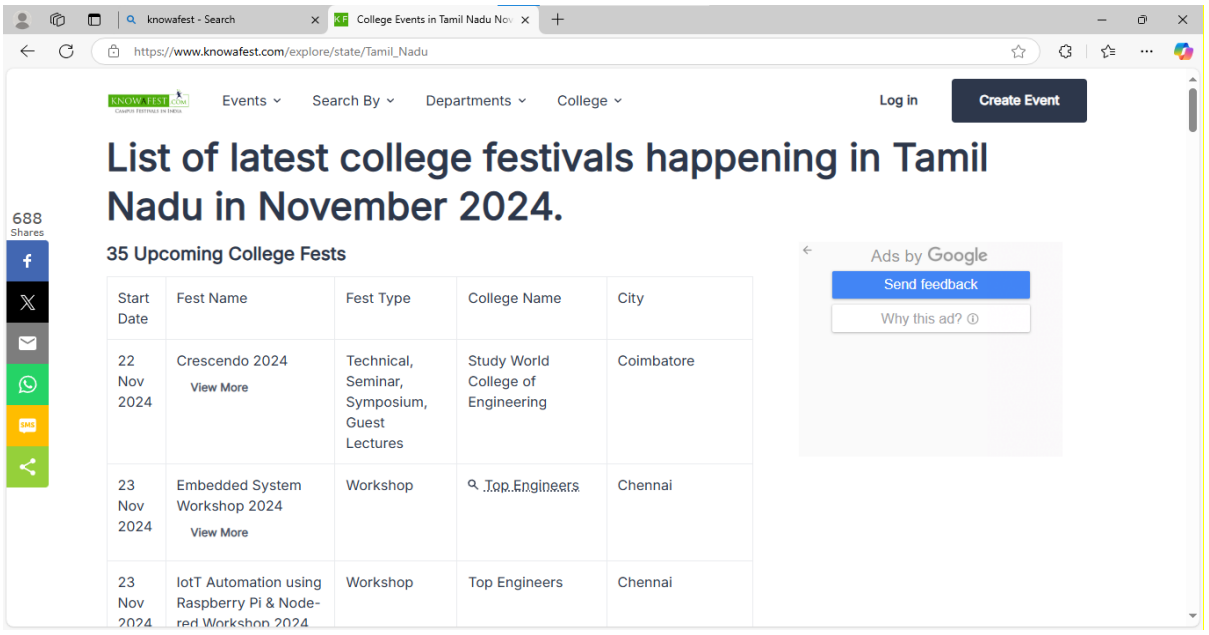


Fig 5.1 – Data Collection

From this website we have to collect the events details across the tamilNadu shown in Fig 5.1.

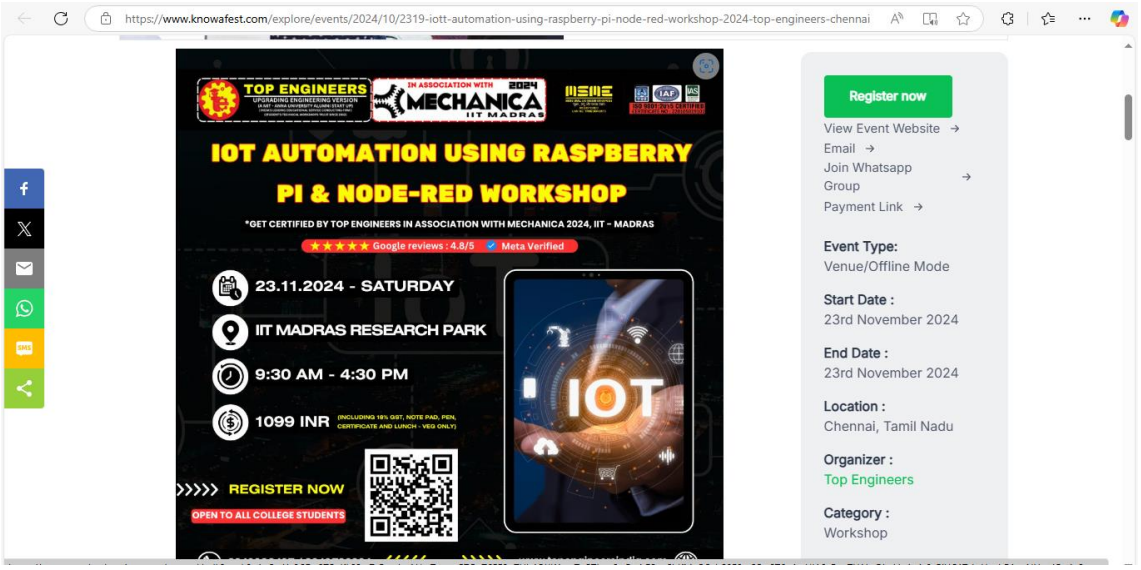


Fig 5.2 Scrap event

Afetr scraping the events list and the bot loop through each event and when we click view more the page goesw to event details page and then it will scrap the event details shown the above fig 5.3 like poster or near the poster like event link or website link.

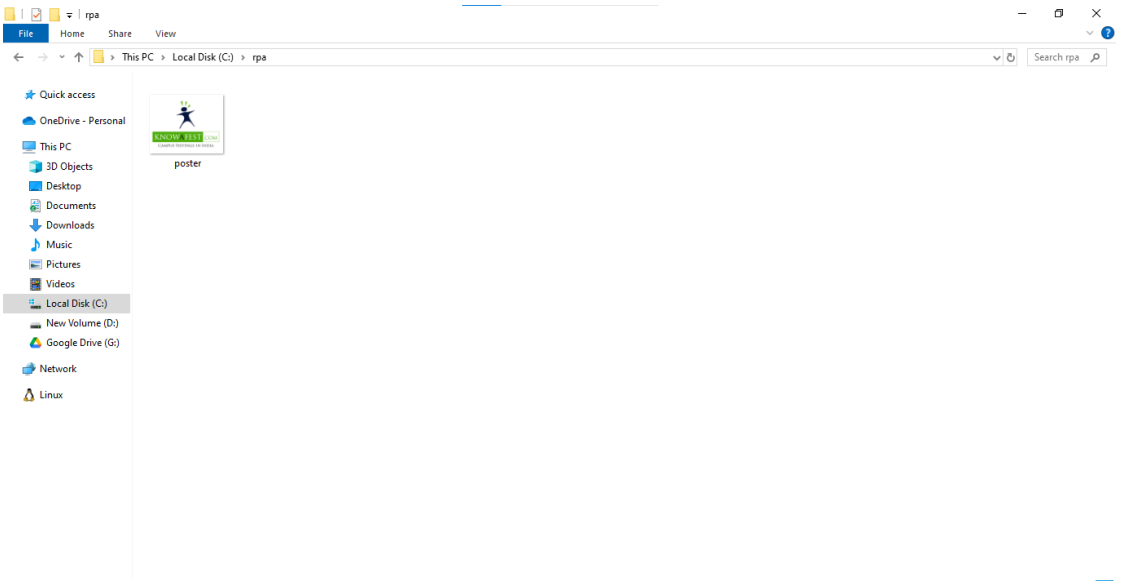


Fig 5.3 Download images

After the bot scraps the poster we want to download the images as png file for this I use HTTP request and then it will save the file local folder called as rpa and the file rpa.

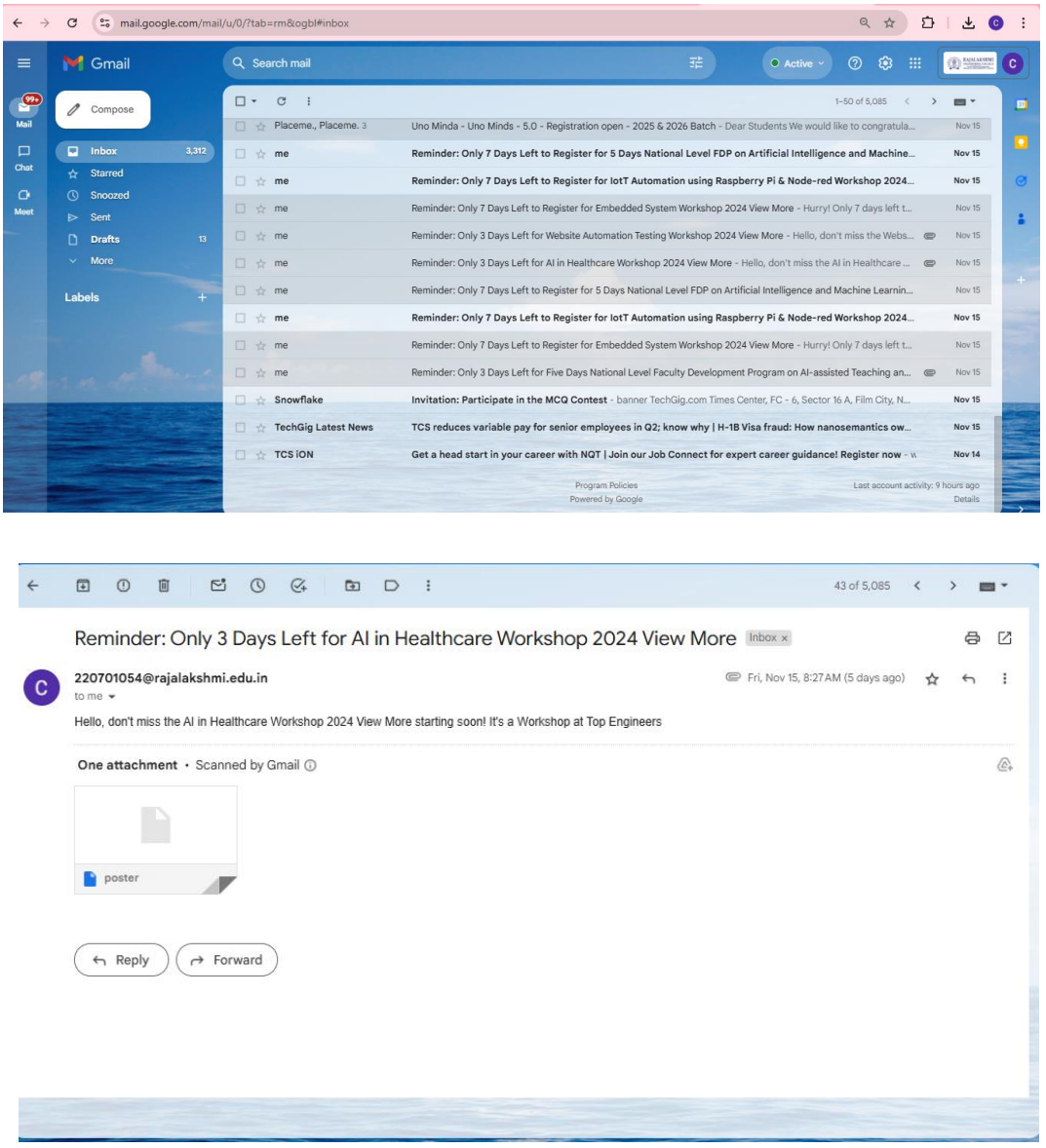


Fig 5.4 Email sent

The bot after saving the images in the file location send Email through SMTP for 3 rd day and 7th day events deadline remainder to participants. The email likesw the above second screenshot for reaminder for 3 rd day and I attach the poster along with mail.

CHAPTER 6

CONCLUSION

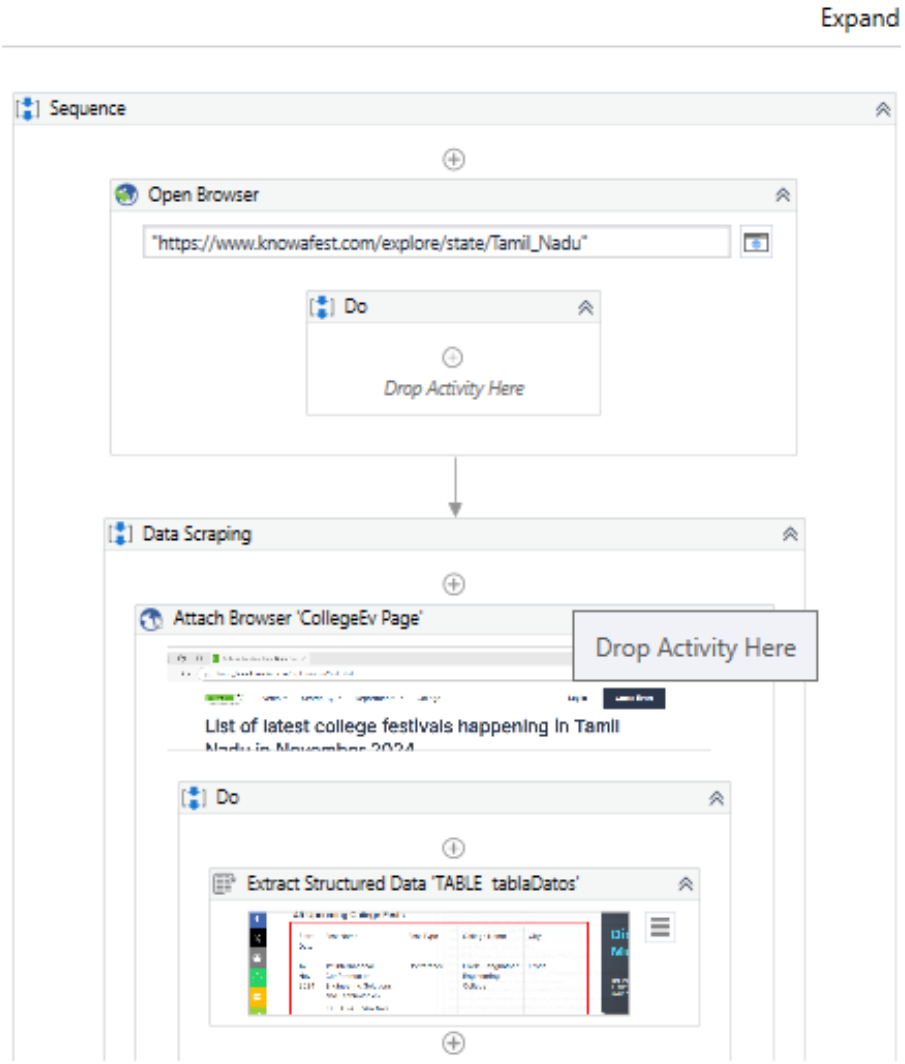
The **Event Reminder Automation System** provides an efficient solution for managing and automating event reminders by leveraging UiPath's robust RPA capabilities. Through modules such as **Web Scraping**, **Email Automation**, and **Data Management**, the system simplifies the process of gathering event details from the Knowafest website, scheduling reminders, and dynamically managing data with organized folders and Excel reports.

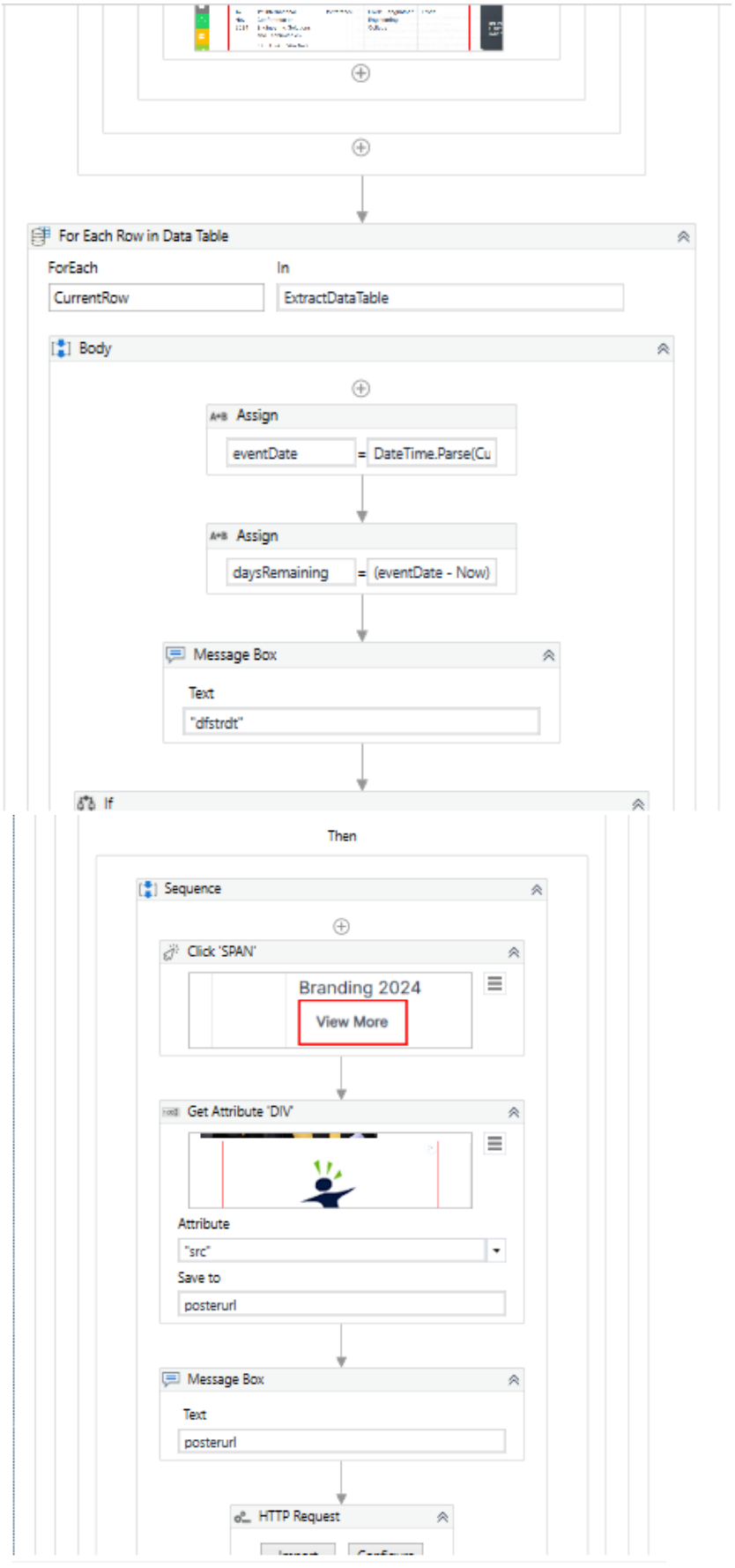
The integration of **screenshot documentation** ensures transparency, traceability, and enhanced reporting for all stages of the process, from data scraping to email dispatch and file downloads. By automating repetitive tasks, this system reduces human effort, minimizes errors, and ensures timely communication, ultimately increasing participation in events.

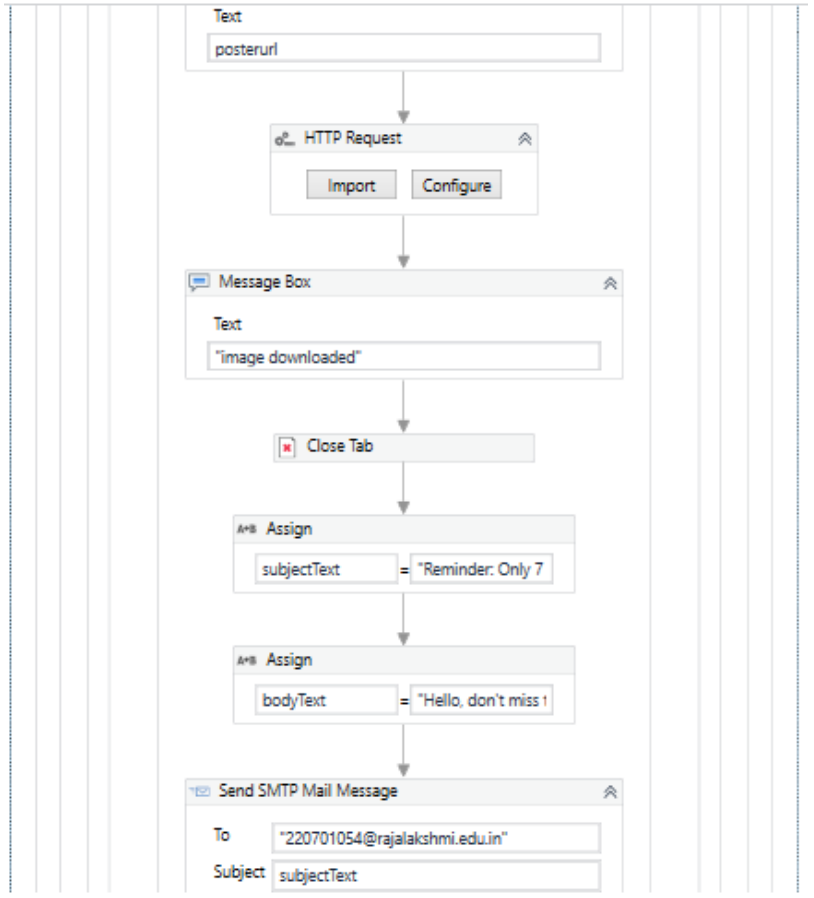
This project not only demonstrates the potential of automation in real-world applications but also serves as a foundation for further enhancements, such as incorporating AI-based event recommendations and real-time analytics.

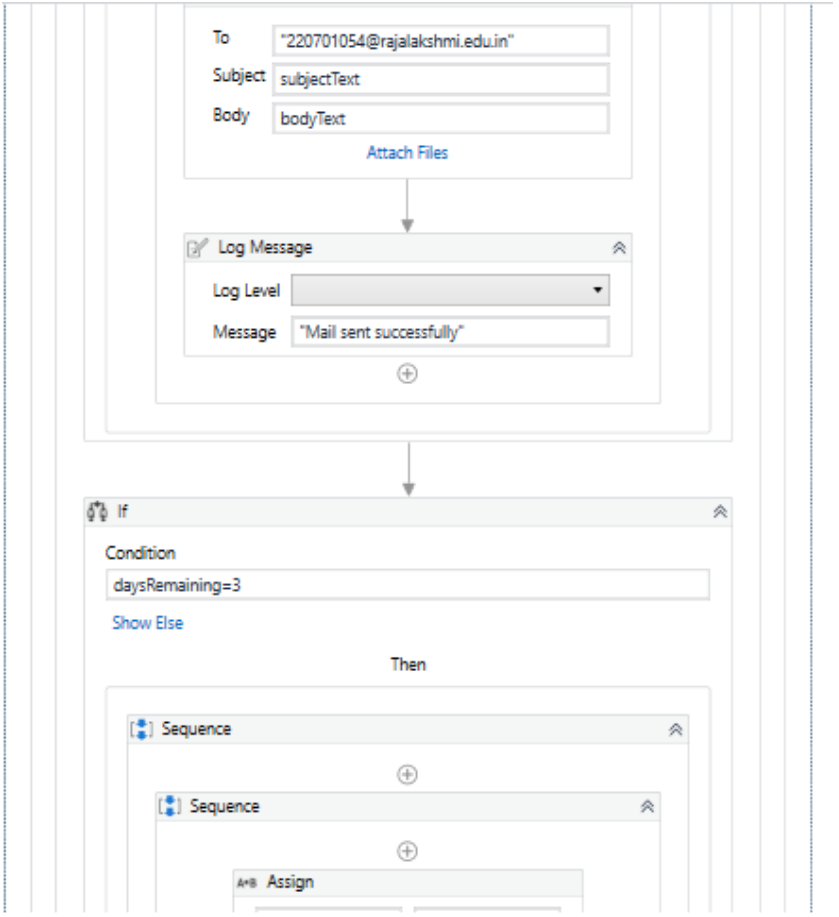
.

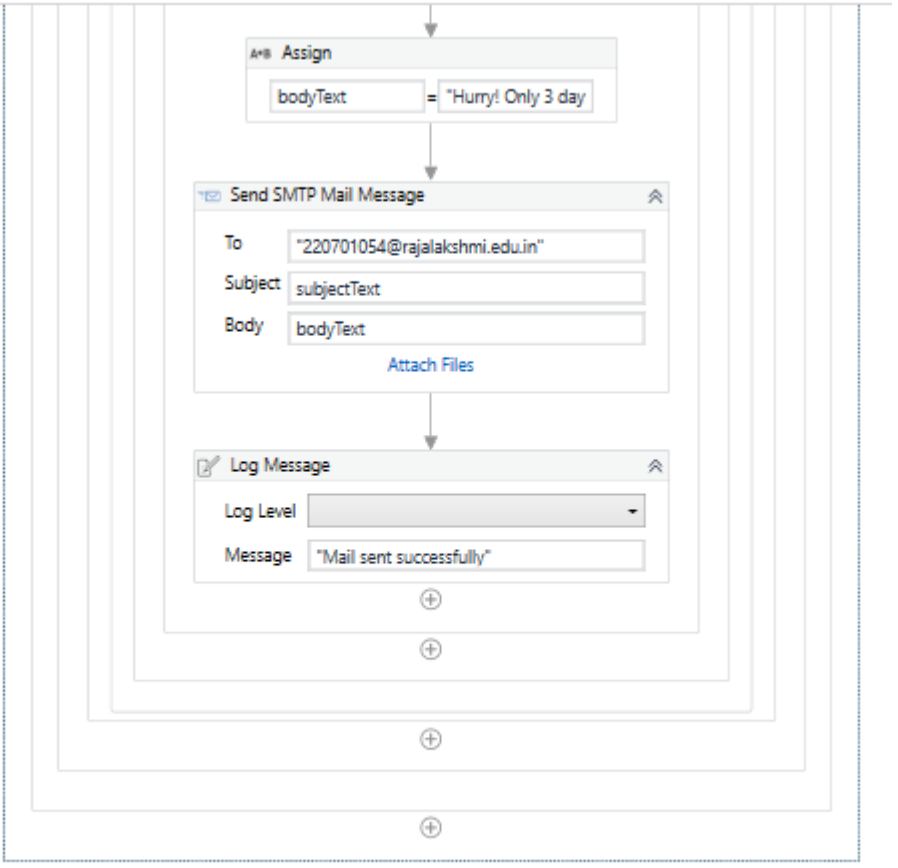
APPENDIX PROCESS WORK FLOW




For Each Row in Data Table
ForEach
CurrentRow
In
ExtractDataTable
Body
Assign
eventDate
DateTime.Parse(Cu
Assign
daysRemaining
(eventDate - Now)
Message Box
Text
"dfstrdt"
If
Then
Sequence
Click 'SPAN'
Branding 2024
View More
Get Attribute 'DIV'
Attribute
"src"
Save to
posterurl
Message Box
Text
posterurl
HTTP Request


Text
posterurl
HTTP Request
Import
Configure
Message Box
Text
"image downloaded"
Close Tab
Assign
subjectText
= "Reminder: Only 7
Assign
bodyText
= "Hello, don't miss t
Send SMTP Mail Message
To
"220701054@rajalakshmi.edu.in"
Subject
subjectText


To
"220701054@rajalakshmi.edu.in"
Subject
subjectText
Body
bodyText
Attach Files
Log Message
Log Level
Message
"Mail sent successfully"
If
Condition
daysRemaining=3
Show Else
Then
Sequence
Sequence
Assign


Assign
bodyText
=
"Hurry! Only 3 day
Send SMTP Mail Message
To
"220701054@rajalakshmi.edu.in"
Subject
subjectText
Body
bodyText
Attach Files
Log Message
Log Level
Message
"Mail sent successfully"

REFERENCES

[1] **Knowafest Website**: Event details and posters for Tamil Nadu events. Retrieved from https://www.knowafest.com.

[2] **UiPath Documentation**: Comprehensive guides on web scraping, email automation, and Excel file handling. Retrieved from https://docs.uipath.com.

[3] Sharma, S., & Singh, R. (2021). Automation with UiPath: A Complete Guide to Robotic Process Automation. Packt Publishing.

[4] Microsoft Excel Support: Automating dynamic Excel reports. Retrieved from https://support.microsoft.com.

[5] Gupta, R., & Kumar, V. (2022). "Enhancing Event Participation Through Automated Reminder Systems." IEEE Conference on Automation and Management.