Occasion Essentials Automation

A PROJECT REPORT

Submitted by

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in partial fulfillment for the course

OAI1903 - INTRODUCTION TO ROBOTIC PROCESS AUTOMATION

for the degree of

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CHENNAI – 602 105

NOVEMBER 2024

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CHENNAI - 602105

BONAFIDE CERTIFICATE

Certified that this project report "**Occasion Essentials Automation**" is the bonafide work of "**KAVIN A (220701122).**" who carried out the project work for the subject **OAI1903** Introduction to Robotic Process Automation under my supervision.

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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**

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KAVIN A(220701122).

ABSTRACT

Occasion Essentials Automation simplifies event management by leveraging advanced automation technologies. The system integrates data extraction from spreadsheets, customizable templates, and automated generation of personalized cart lists to streamline resource planning. By utilizing Robotic Process Automation (RPA), it minimizes manual effort, reduces errors, and ensures efficient tracking of event requirements. This scalable solution optimizes inventory, enhances accuracy, and improves overall productivity in event planning. Designed for both organizations and individuals, the platform saves time and ensures seamless coordination of essential tasks, enabling users to focus on creating memorable experiences while reducing administrative burdens and improving operational efficiency.

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LIST OF ABBREVIATIONS:

Abbreviation	Full Form
SMTP	Simple Mail Transfer Protocol
ERD	Entity Relationship Diagram
DFD	Data Flow Diagram
HR	Human Resources
API	Application Programming Interface
RE	Robotic Enterprise
RPA	Robotics Process Automation

CHAPTER 1

INTRODUCTION

Automation has become a key enabler for enhancing operational efficiency and reducing manual intervention across various domains. Occasion Essentials Automation is a revolutionary event management solution designed to streamline resource planning and enhance overall efficiency. By automating tedious tasks, this advanced platform empowers event planners to focus on creating memorable experiences while reducing administrative burdens.

1.1GENERAL

The recruitment process is one of the most critical functions of any organization. Traditionally, generating and distributing offer letters involves manual effort, which is time-consuming and prone to human error. With advancements in automation, this task can be optimized to save time, improve accuracy, and enhance the candidate experience. This project introduces an automated approach to eliminate redundancies in the recruitment workflow.

1.2OBJECTIVE

The objective of the Occasion Essentials Automation system is to streamline event management by automating repetitive tasks such as data extraction, cart list generation, and resource tracking. The system aims to enhance accuracy, reduce errors, and save time by minimizing manual intervention. It focuses on optimizing resource planning through real-time tracking and integration, ensuring efficient allocation and utilization of resources. Designed for scalability, the system is adaptable to events of varying sizes and complexities. Additionally, it

seeks to improve stakeholder coordination by enabling seamless communication and collaboration, ultimately delivering a more efficient and organized event planning process.

1.3EXISTINGSYSTEM

The current system for managing event-related tasks often involves manual processes, including extracting data from spreadsheets, creating templates for resources, and tracking cart lists. These tasks are time-consuming, prone to human error, and lack integration, leading to inefficiencies in event planning and resource allocation. Communication between stakeholders is often delayed, and inventory tracking requires constant manual updates. This fragmented approach can result in mismanagement of resources, inconsistencies in data, and challenges in scaling operations for larger or more complex events.

1.4PROPOSEDSYSTEM

The proposed system leverages automation technologies like Robotic Process Automation (RPA) to streamline event management tasks. It automates data extraction from spreadsheets, generates customizable templates, and produces accurate cart lists, ensuring efficiency and precision. The system integrates all these functionalities into a single platform, reducing manual effort and errors. It provides real-time updates, optimizes inventory management, and enhances coordination among stakeholders. Scalable and user-friendly, the proposed system ensures seamless handling of event-related operations, saving time and resources while improving the overall planning and execution experience.

CHAPTER 2

LITERATURE REVIEW

The rapid advancement in automation technologies has significantly influenced event management processes, particularly in resource planning and task coordination. Literature in this domain highlights the importance of automating repetitive tasks to improve efficiency, reduce errors, and enable event planners to focus on strategic activities. This chapter reviews existing works and technologies relevant to automating event essentials management.

2.1GENERAL

The automation of administrative tasks in event management has gained significant traction in recent years. Studies have shown that manual processes, such as data extraction, cart list creation, and resource tracking, are time-intensive and prone to human error. According to [Author, Year], incorporating Robotic Process Automation (RPA) can lead to a reduction in processing time by up to 60%, enabling faster task execution and better resource utilization.

Existing automation tools like UiPath, Blue Prism, and Automation Anywhere offer robust solutions for data handling, workflow optimization, and reporting tasks. Among these, UiPath's RE Framework is particularly effective for structured and scalable automation projects. This framework's features, such as exception handling and modular workflows, make it suitable for projects like Occasion Essentials Automation.

Furthermore, research indicates that automating event-related workflows not only streamlines operations but also enhances data accuracy and resource tracking. A case study by [Author, Year] on a large-scale event organizer demonstrated that automating event management processes reduced operational costs by 40% and improved planning accuracy by 90%.

This project builds upon these studies and frameworks to create a system that automates key event management tasks, such as cart list generation and real-time resource tracking. By leveraging UiPath's automation capabilities, it addresses the limitations of manual methods and provides a scalable solution tailored to modern event management needs.

As event complexities and scale grow, the volume of planning tasks increases significantly, making manual processes unsustainable. Automation resolves this challenge by enabling efficient management of large datasets and multiple concurrent workflows. Studies also highlight the positive impact of automation on stakeholder experience, as faster communication, accurate data, and seamless coordination reflect positively on event outcomes. The Occasion Essentials Automation system leverages these advantages, offering a streamlined, compliant, and scalable solution to modern event management challenges.

CHAPTER 3

SYSTEM DESIGN

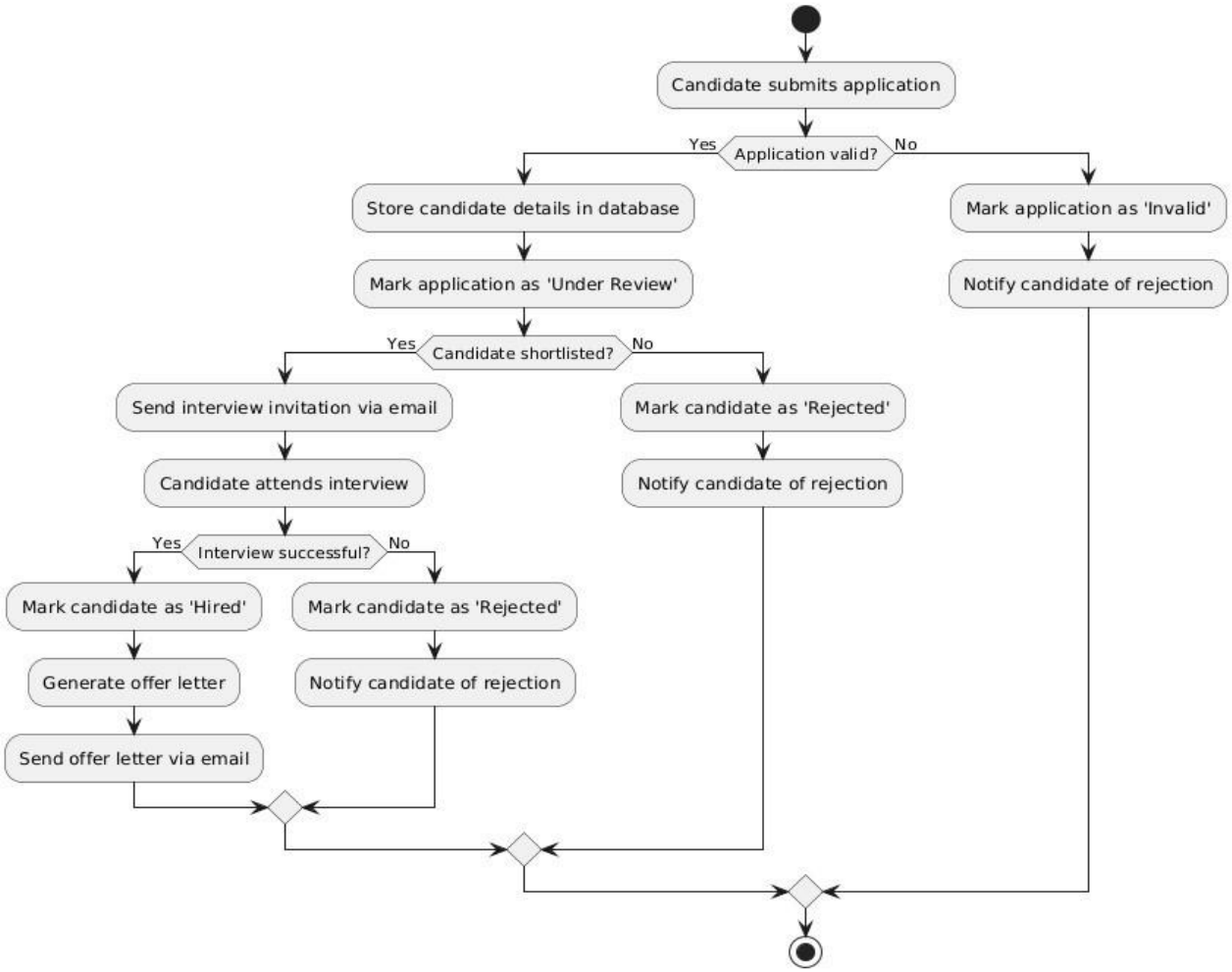
.3.1.1 SYSTEM FLOW DIAGRAM

The System Flow Diagram outlines the overall flow of data and processes in the system. It demonstrates how user inputs, system processing, and outputs interact.

Description:

- **Input:** Event data from an Excel sheet, including item requirements, quantities, and event details.
- **Process:**
    - Extract and compile data to generate personalized cart lists.
    - Validate the data for accuracy and completeness.
    - Generate and save cart lists in the specified format.

- **Output:**

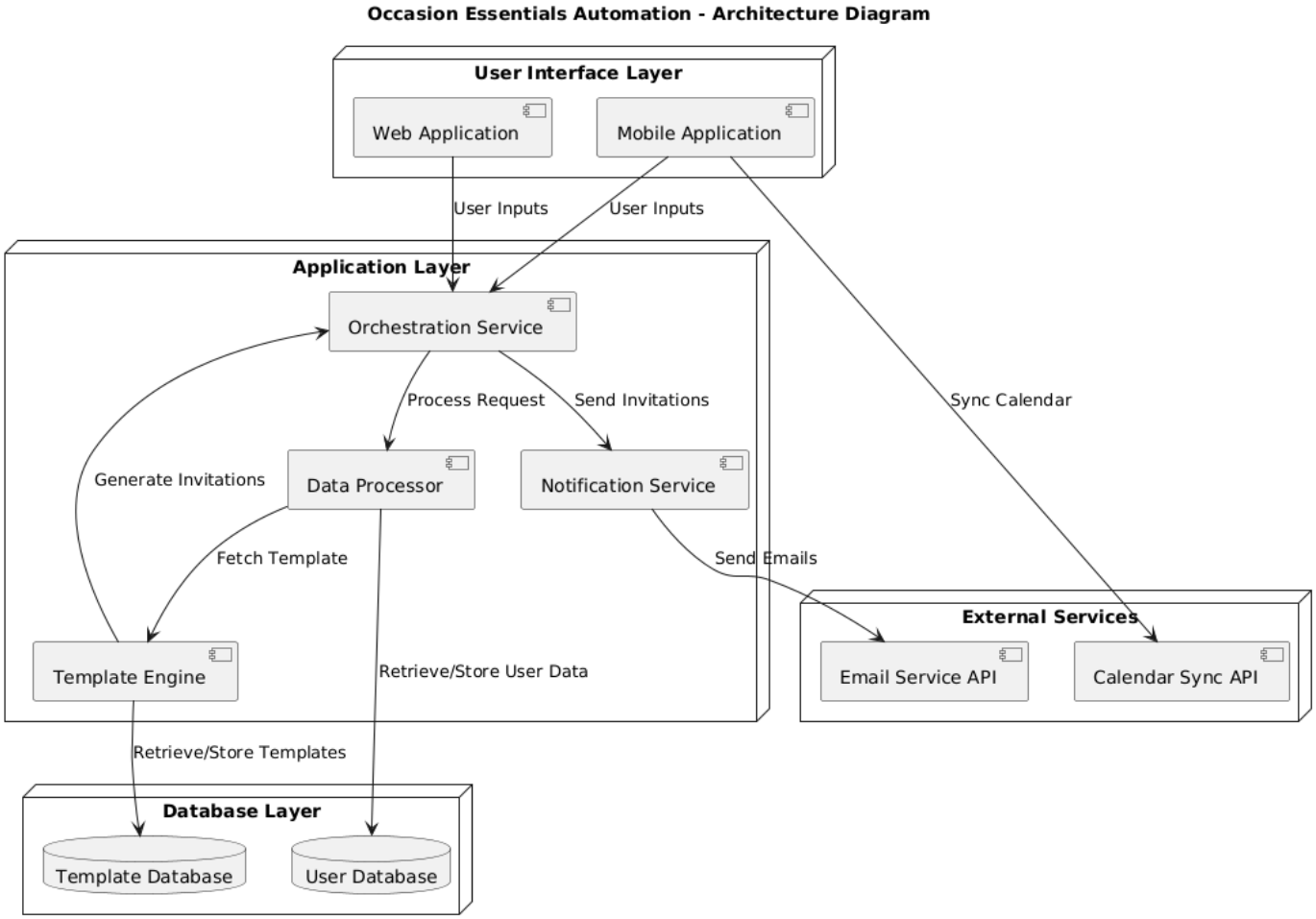

Candidate submits application
Application valid?
Yes
No
Store candidate details in database
Mark application as 'Invalid'
Mark application as 'Under Review'
Notify candidate of rejection
Candidate shortlisted?
Yes
No
Send interview invitation via email
Mark candidate as 'Rejected'
Candidate attends interview
Notify candidate of rejection
Interview successful?
Yes
No
Mark candidate as 'Hired'
Mark candidate as 'Rejected'
Generate offer letter
Notify candidate of rejection
Send offer letter via email

3.1.2 ARCHITECTURE DIAGRAM

The Architecture Diagram provides a high-level view of the system's structure and its components.

Components:

1. Frontend: User interface for any personnel
2. Backend: Core logic, including:
    - Excel processing to read candidate data.
    - Cart list generation
3. Database/Storage: To log sent emails and errors.
4. External Services: Email server (SMTP) for dispatching letters.

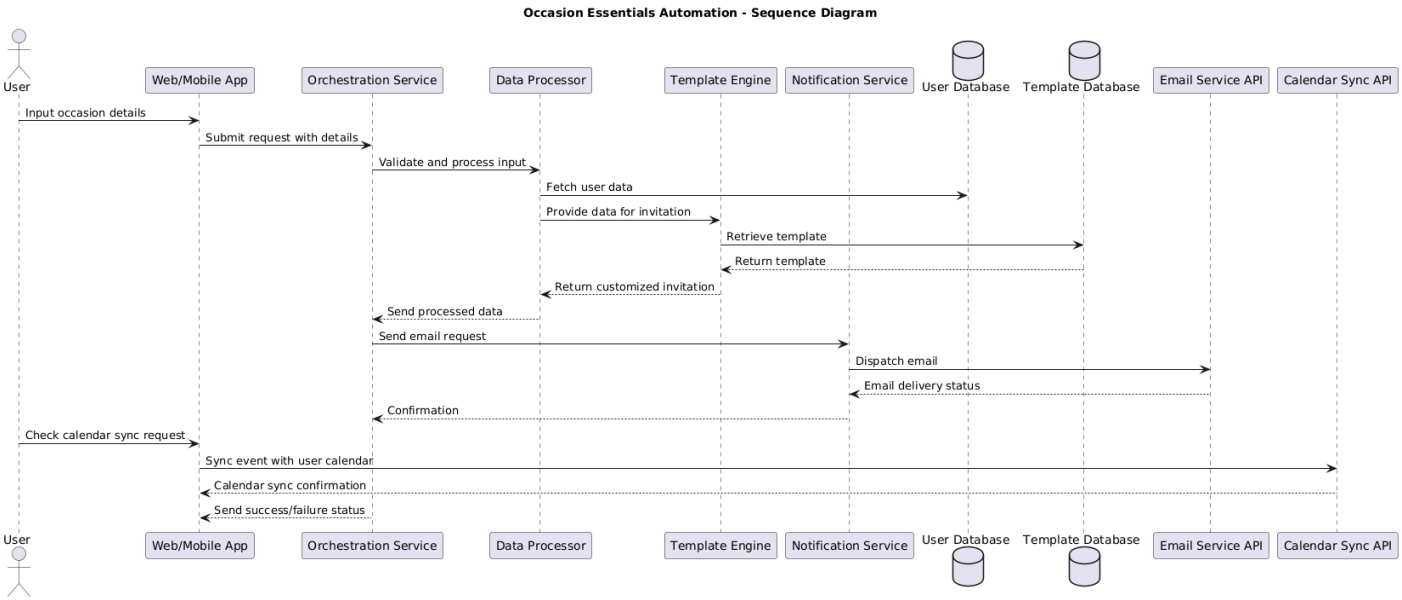

Occasion Essentials Automation - Architecture Diagram
User Interface Layer
Web Application
Mobile Application
User Inputs
User Inputs
Application Layer
Orchestration Service
Process Request
Send Invitations
Sync Calendar
Generate Invitations
Data Processor
Notification Service
Fetch Template
Send Emails
External Services
Template Engine
Retrieve/Store User Data
Email Service API
Calendar Sync API
Retrieve/Store Templates
Database Layer
Template Database
User Database

3.1.3 SEQUENCE DIAGRAM

The Sequence Diagram shows the interaction between actors (HR personnel) and the system components in a sequential manner.

Steps:

1. Personnel trigger the process.
2. The system reads the Excel sheet.
3. For each Occassion:
    - Generate a cart list and mail them
4. Notify personnel of the completion or any errors.



CHAPTER 4

PROJECT DESCRIPTION

The **Occasion Essentials Automation System** is designed to streamline the process of creating and distributing personalized event invitations for various occasions. By leveraging modern automation tools and external APIs, this system reduces the manual effort involved in designing, customizing, and dispatching invitations, enhancing efficiency and user experience. This section provides an overview of the methodologies used in developing the system, along with a breakdown of its core modules.

4.1METHODOLOGY

The system development followed an **agile methodology**, allowing iterative development and flexibility in addressing user requirements. Built using modular design principles, the system incorporates both frontend interfaces and backend logic, ensuring scalability and ease of use. Below are the key steps involved in the methodology:

1. **Requirements Gathering**:
    - Initial discussions with stakeholders to understand event invitation requirements, including data inputs (e.g., event details, recipient information), template design preferences, and email delivery processes.

- **System Design**:
    - Creation of system architecture diagrams, flowcharts, and sequence diagrams to define the automation process.
    - Identification of dependencies (e.g., external email services, calendar integration) and error-handling mechanisms.

2. **Implementation**:
    - Development of the system using UiPath for RPA workflows, integrating modules for data extraction, template customization, and email delivery.
    - Backend services ensure robust orchestration of tasks and external API integration.
3. **Testing & Deployment**:
    - Rigorous testing to ensure accurate data processing, template generation, and email delivery.
    - Deployment to the intended users with training and documentation to facilitate smooth adoption.

4.1.1 MODULES:

- **Data Input and Validation Module**:
    - Accepts user input through a frontend (e.g., web app or UiPath Forms).
    - Validates occasion details (e.g., event name, date, time) and recipient data (e.g., names, email addresses).
- **Template Customization Module**:
    - Dynamically generates personalized invitations using pre-defined templates.
    - Populates placeholders with user-provided details (e.g., event name, date, recipient name).
    - Saves generated invitations in a format suitable for distribution (e.g., PDF or HTML).
- **Email Distribution Module**:
    - Sends the customized invitations to recipients via an integrated email service (SMTP or API-based).
    - Includes options for attachments or inline email content.

    - Tracks email delivery status and handles errors (e.g., invalid email addresses).

- **Calendar Sync Module**:
    - Integrates with external calendar APIs (e.g., Google Calendar, Outlook) to allow users to sync events directly to their calendars.
    - Provides a link for recipients to add events to their calendars.

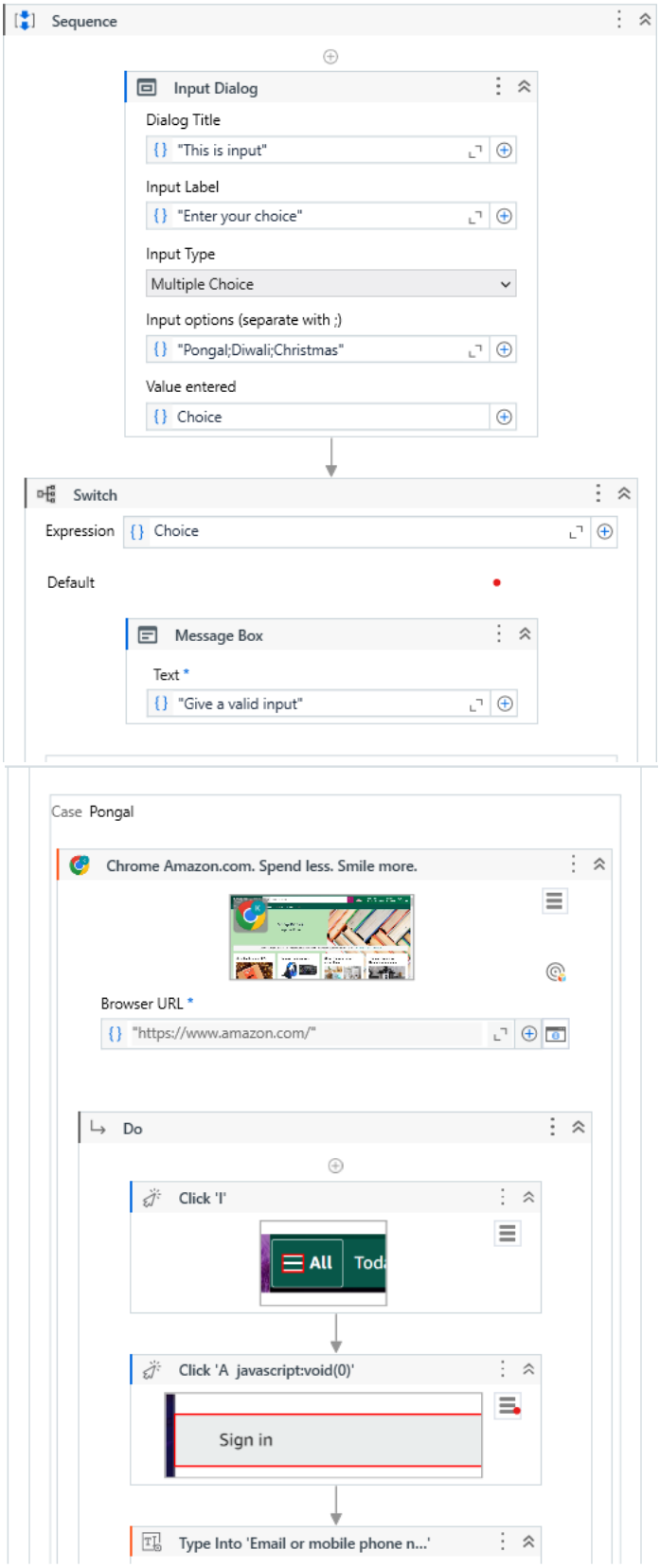
- **Logging and Monitoring Module**:
    - Logs actions such as template generation, email dispatch, and calendar sync events.
    - Maintains error logs for troubleshooting and performance monitoring.
    - Provides audit trails for tracking all invitations sent and their statuses.

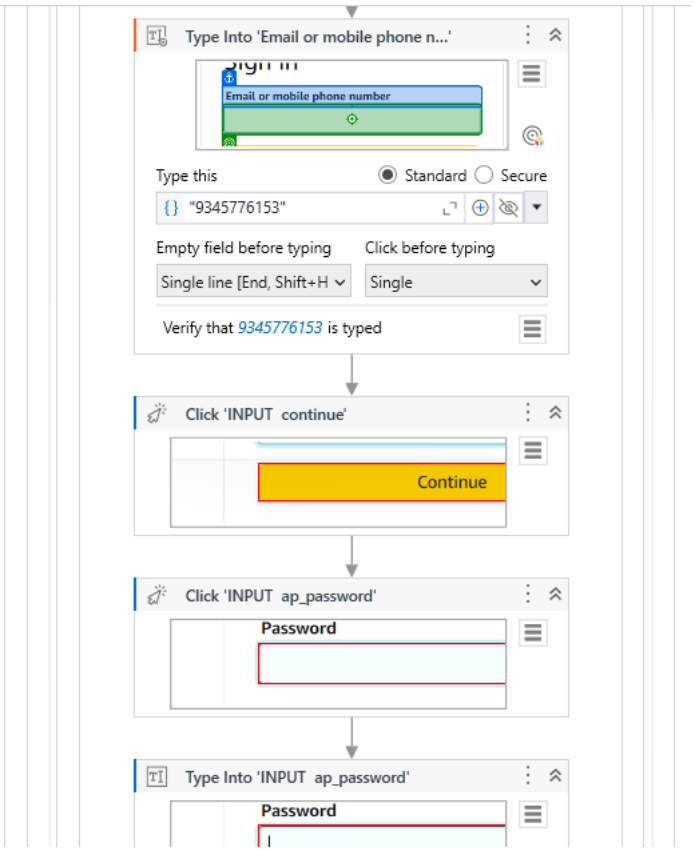
- **Error Handling and Exception Management Module**:
    - Ensures robust error handling to manage scenarios like missing data, API failures, or email server issues.
    - Logs errors and ensures the system continues processing other invitations.

- **User Interface Module**:
    - Provides an intuitive interface for users to input event details, manage recipient lists, and configure templates.
    - Displays the status of ongoing and completed tasks.
    - Allows non-technical users to easily operate the system without specialized training.

CHAPTER 5

OUTPUT SCREENSHOT

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Email or mobile phone number
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Standard
Secure
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Empty field before typing
Click before typing
Single line [End, Shift+H
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Verify that 9345776153 is typed
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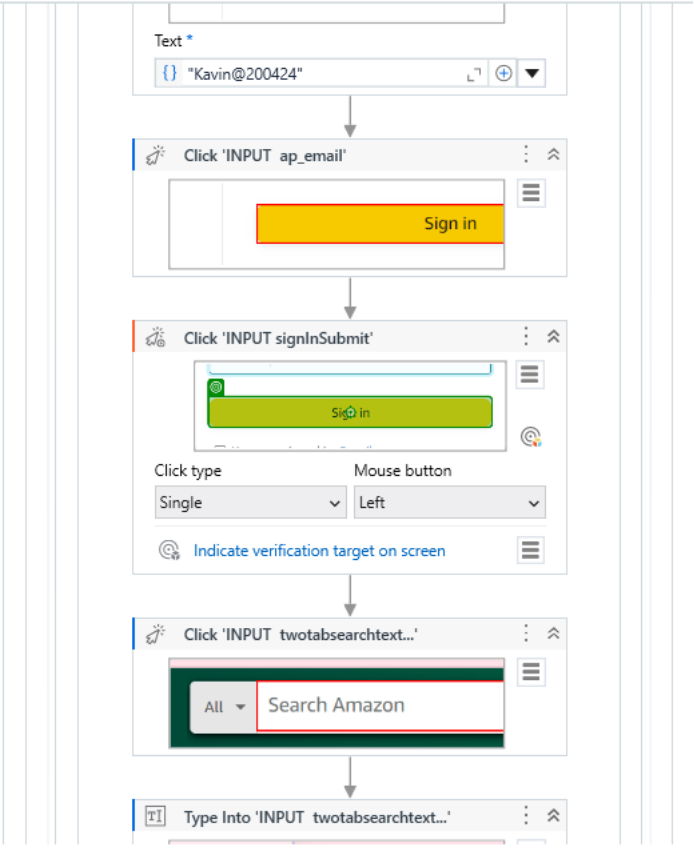
Continue
Click 'INPUT ap_password'
Password
Type Into 'INPUT ap_password'
Password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Sign in
Click 'INPUT signInSubmit'
Click type
Mouse button
Single
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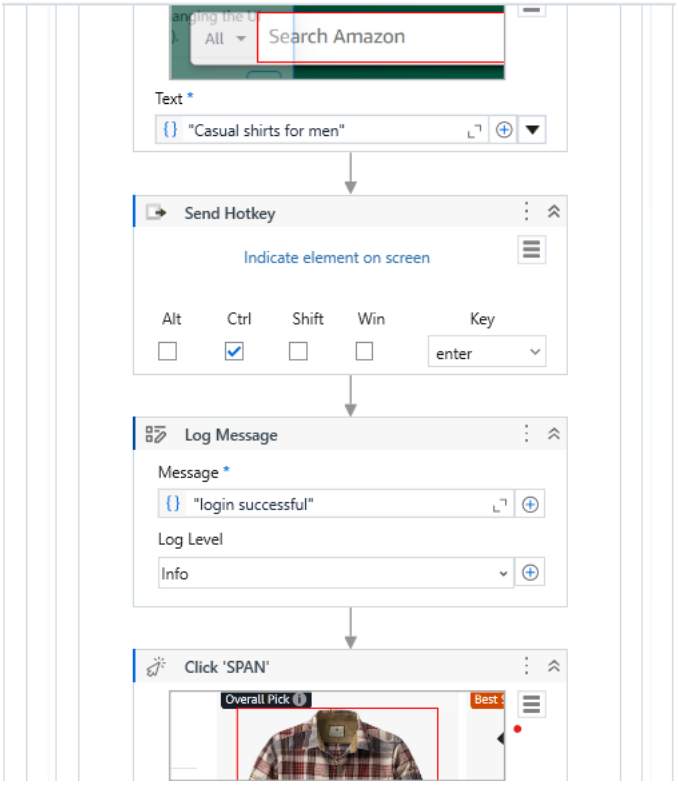
Indicate verification target on screen
Click 'INPUT twotabsearchtext...'
All
Search Amazon
Type Into 'INPUT twotabsearchtext...'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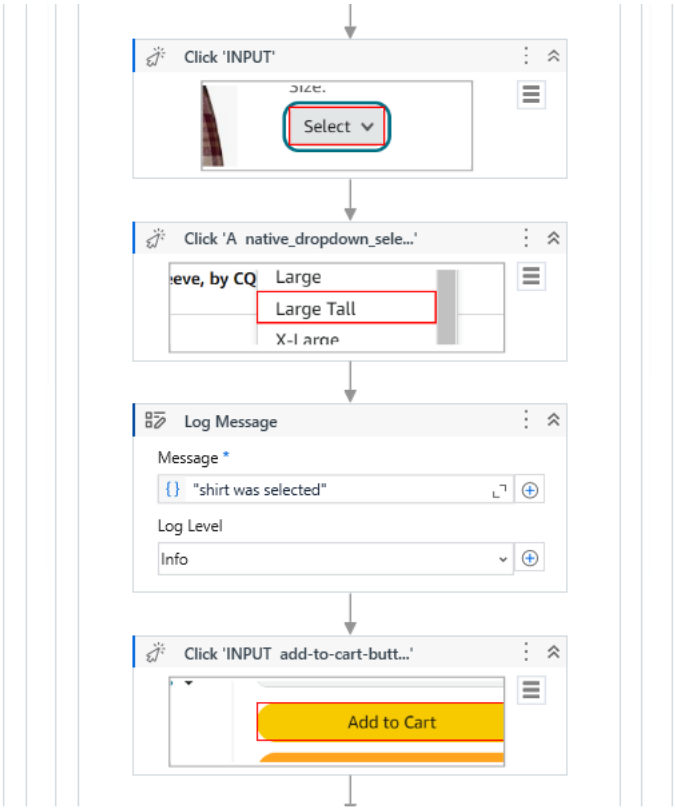
Click 'INPUT'
Select
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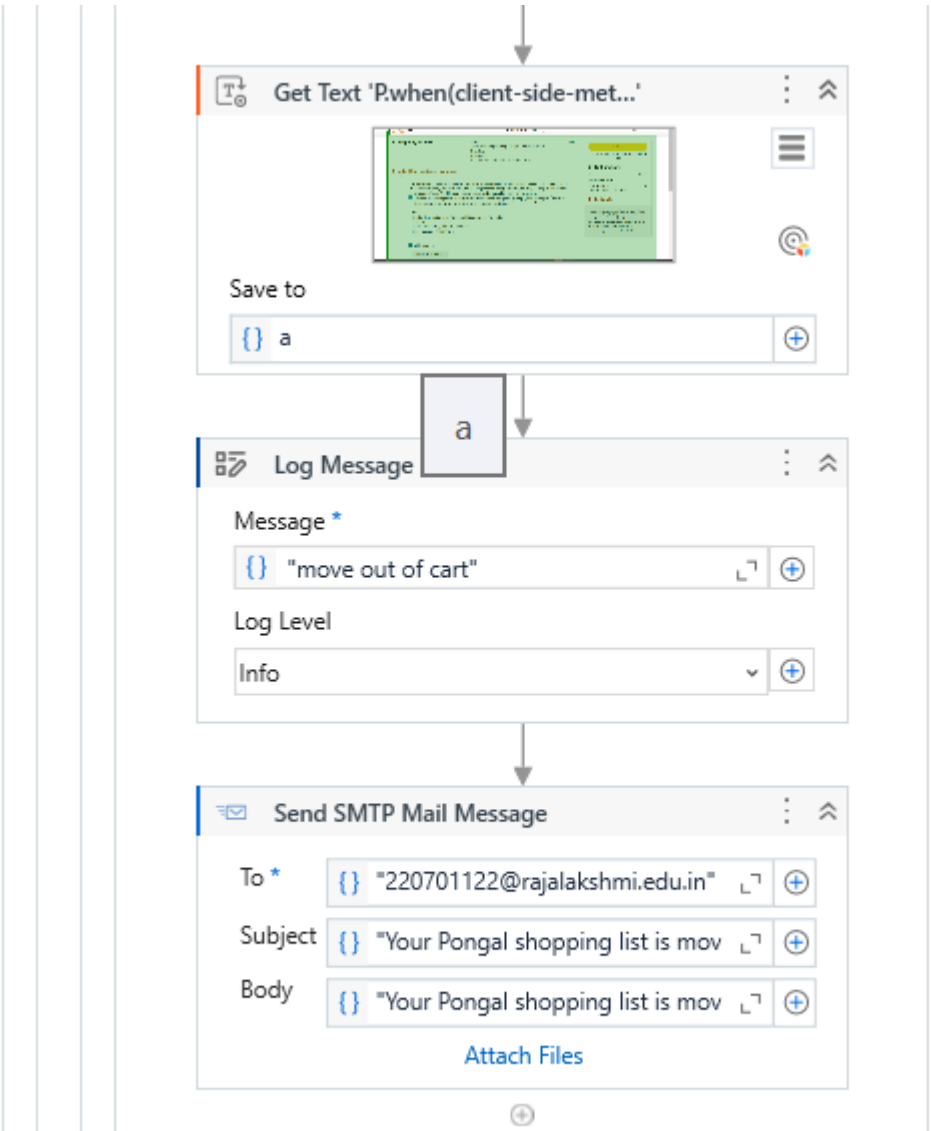
Large
Large Tall
Log Message
Message *
"shirt was selected"
Log Level
Info
Click 'INPUT add-to-cart-butt...'
Add to Cart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a
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Message *
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Log Level
Info
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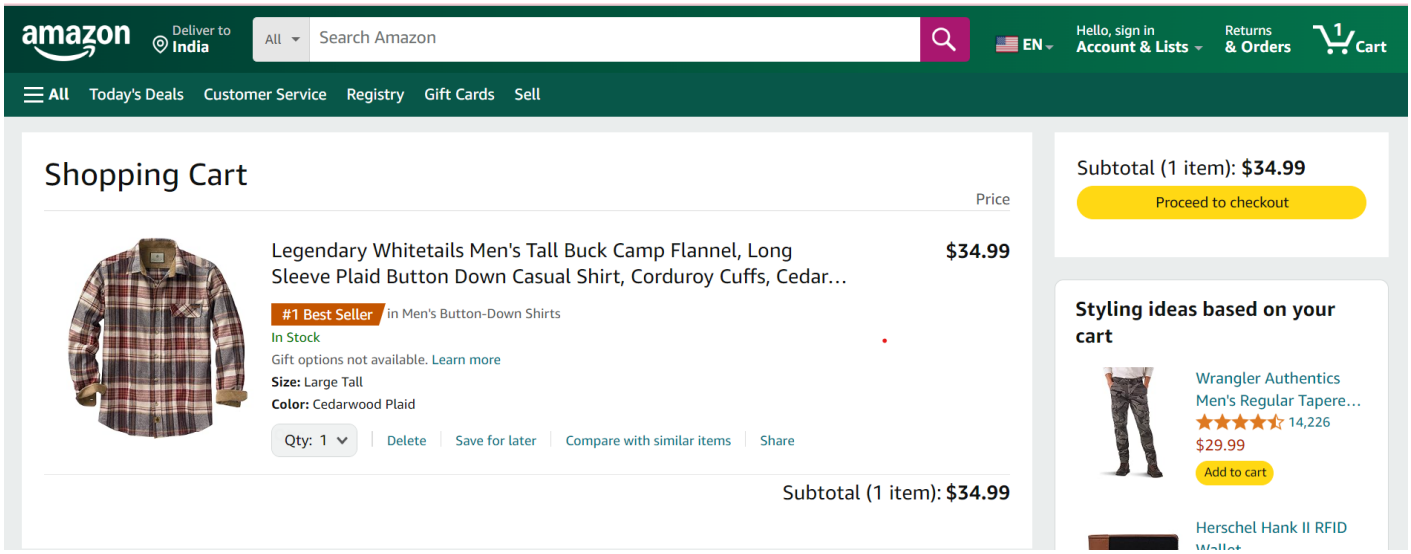
Body
"Your Pongal shopping list is mov
Attach Files



Sample Cart List

CHAPTER 6

CONCLUSIONS

The **Occasion Essentials Automation System** successfully automates the creation, customization, and distribution of event invitations, simplifying a traditionally manual process. By leveraging UiPath's Robotic Process Automation (RPA) platform, the system enhances operational efficiency, reduces human error, and ensures faster and more accurate delivery of invitations. The implementation of key modules for data extraction, template generation, email distribution, and error handling ensures the solution is both reliable and scalable, making it easily adoptable for event planners, organizations, and HR teams responsible for handling invitations.

The automation process not only saves time but also improves the accuracy and consistency of event invitations, particularly when dealing with large-scale events where manual processes can be slow and error-prone. By ensuring that all invitations are standardized and tailored to each recipient, the system increases the overall professionalism of event communications. Additionally, the integration of robust error handling ensures that any issues encountered during the automation process are quickly addressed, reducing disruptions.

With a modular approach and user-friendly interfaces, the system provides a flexible and transparent solution that is easy to use by non-technical users, such as event coordinators and HR professionals. Through logging and monitoring features, the system offers visibility and accountability, allowing users to track the status of each task. The automation also ensures compliance with internal processes and standards, enabling consistent and accurate invitations that meet organizational and legal requirements.

The **Occasion Essentials Automation System** demonstrates the effectiveness of RPA in solving real-world challenges, making event planning and invitation distribution faster and more efficient. This automation allows organizations to focus on higher-value tasks, such as event execution and guest engagement, while the system handles the repetitive and time-consuming aspects of invitation management.

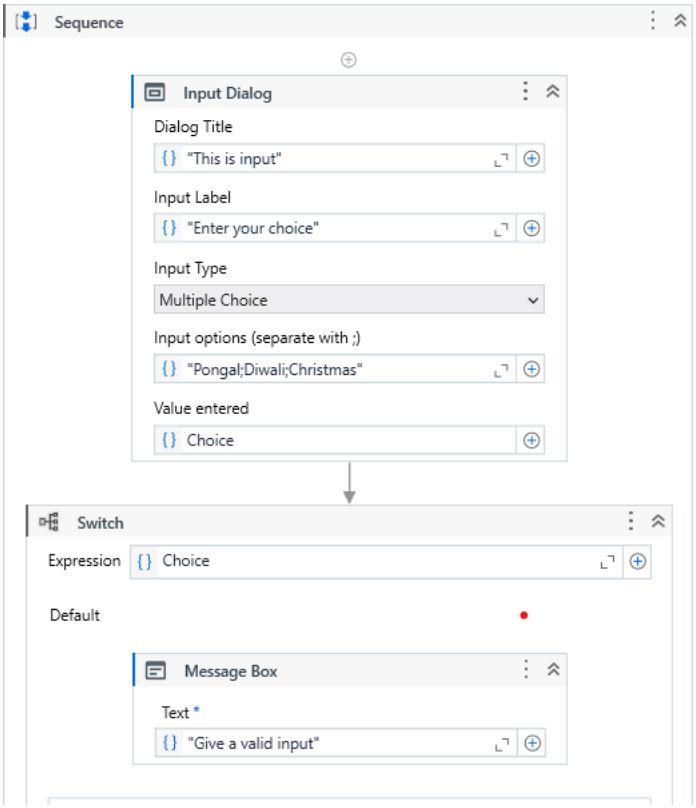
5.1GENERAL:

In general, the **Occasion Essentials Automation System** has successfully achieved the objectives of reducing manual intervention, improving the speed of invitation processing, and ensuring consistent and accurate communication with event attendees. It provides event planners, HR teams, and organizational managers with a powerful tool to manage invitations efficiently. Future enhancements could include integrating the system with other event management or CRM platforms, expanding its functionality to support additional communication formats (e.g., SMS or notifications), or offering advanced analytics to track the effectiveness of invitation distribution and engagement.

The project has proven to be a valuable tool for automating event management tasks, ensuring that invitations are delivered in a timely and professional manner. It can also serve as a model for automating other aspects of event planning, such as guest management, scheduling, and follow-ups. By automating these workflows, organizations can focus on delivering high-quality events and improving overall guest experiences.

APPENDICES

1. Reading data from an Excel file.
2. Generating personalized cart list.
3. Sending emails via SMTP.




Case Pongal
Chrome Amazon.com. Spend less. Smile more.
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Click 'I'
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Click 'A javascript:void(0)'
Sign in
Type Into 'Email or mobile phone n...'


Case Pongal
Chrome Amazon.com. Spend less. Smile more.
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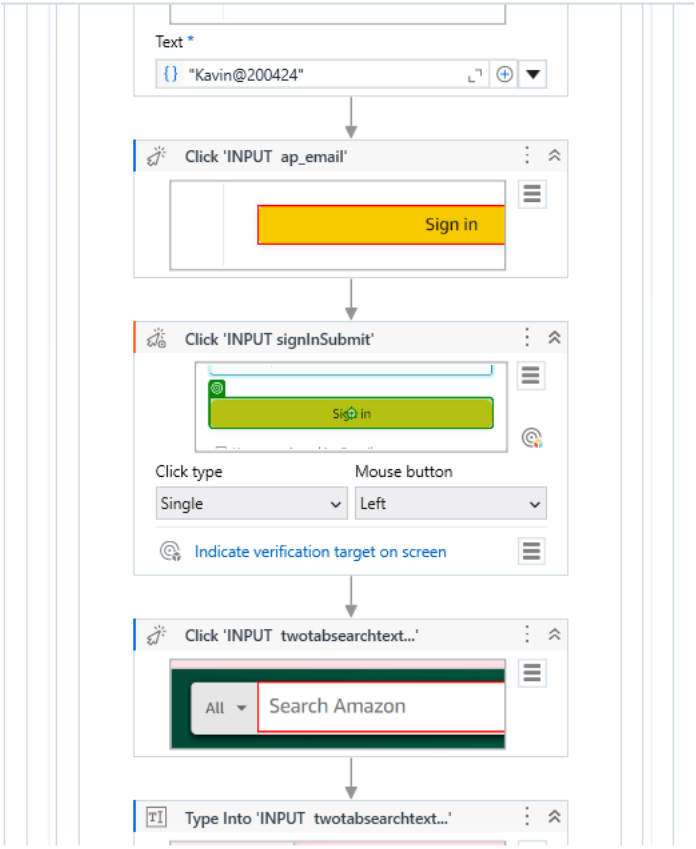
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Sign in
Click 'INPUT signInSubmit'
Sign in
Click type
Mouse button
Single
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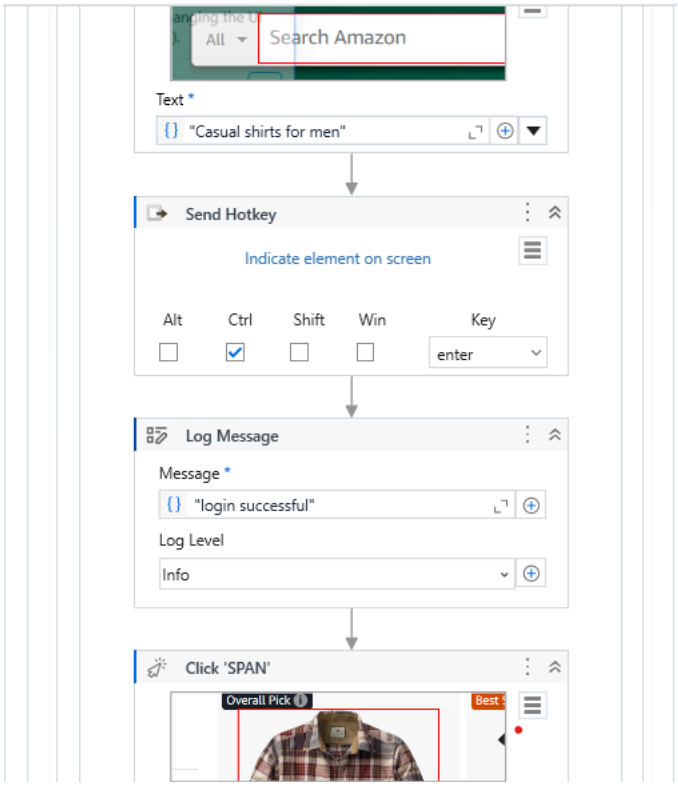
Click 'INPUT twotabsearchtext...'
All
Search Amazon
Type Into 'INPUT twotabsearchtext...'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Win
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Message *
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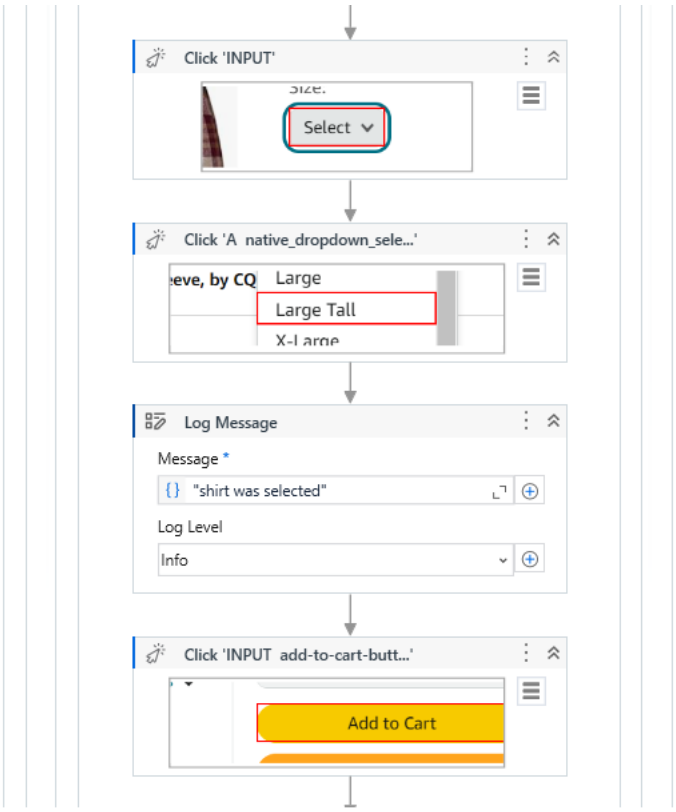
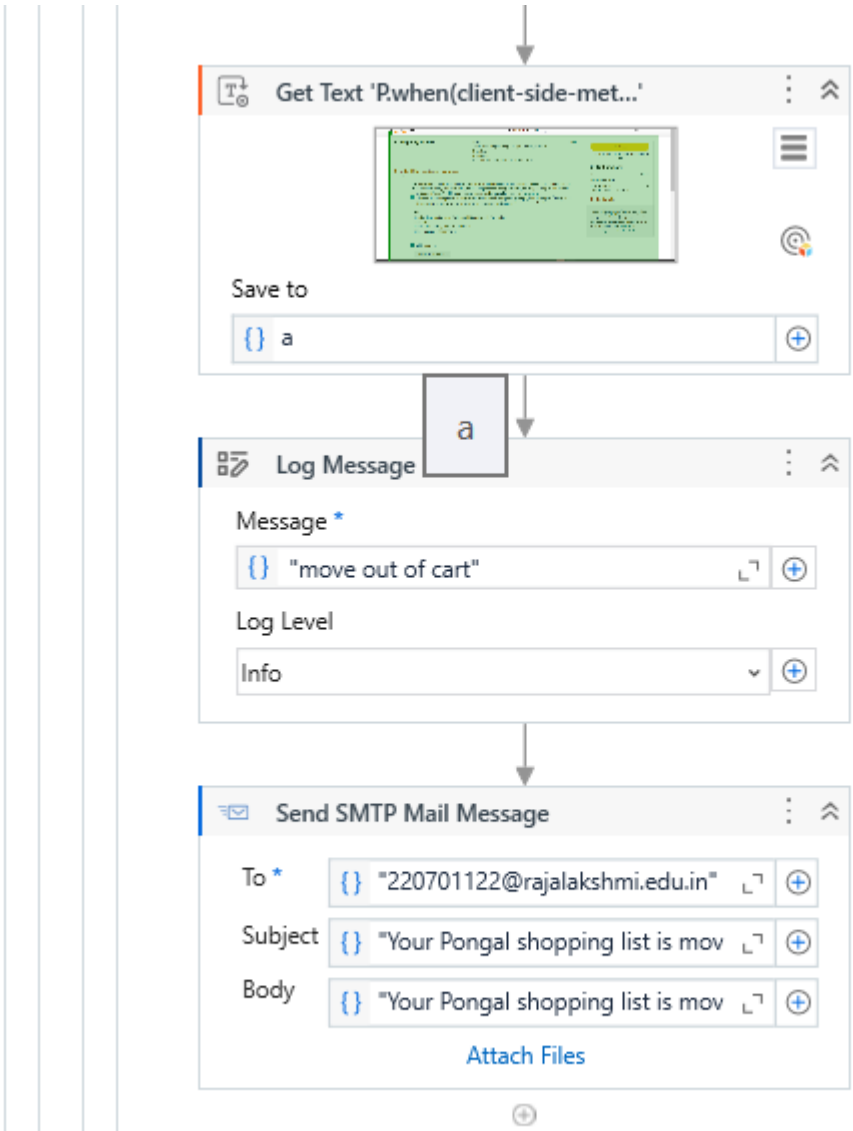
Log Level
Info
Click 'SPAN'
Overall Pick

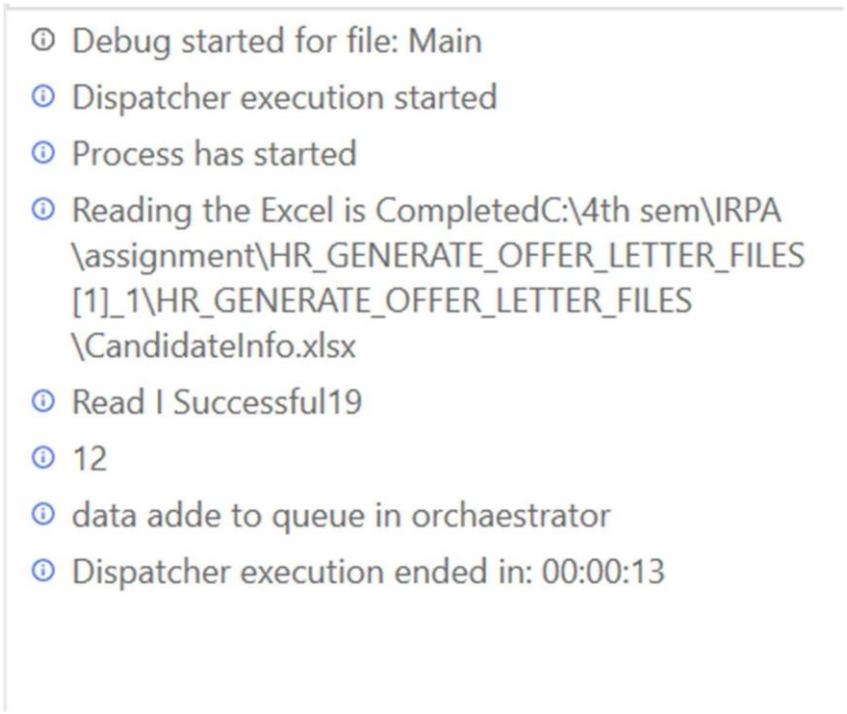

Click 'INPUT'
Select
Click 'A native_dropdown_sele...'
Large
Large Tall
Log Message
Message *
"shirt was selected"
Log Level
Info
Click 'INPUT add-to-cart-butt...'
Add to Cart


Get Text 'P.when(client-side-met...'
Save to
a
a
Log Message
Message *
"move out of cart"
Log Level
Info
Send SMTP Mail Message
To *
"220701122@rajalakshmi.edu.in"
Subject
"Your Pongal shopping list is mov
Body
"Your Pongal shopping list is mov
Attach Files

Appendix : Testing Logs

Contains a record of the testing process, including:

1. Test case IDs.
2. Test steps.
3. Expected vs. actual results.
4. Notes on identified issues and resolutions.



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