

ONLINE FOOD ORDERING SYSTEM

A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

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ABSTRACT

The **Online Food Ordering System** is an innovative Robotic Process Automation (RPA) project designed to streamline the food ordering process by automating order placement and delivery. Built using UiPath's Robotic Enterprise (RE) Framework, the project ensures a reliable and efficient automation flow with minimal human intervention. The process begins by receiving the name of the desired food item as input. The robot dynamically searches for the item on Swiggy, places the order, and provides real-time updates on delivery status. UiPath activities are utilized for web automation to navigate the Swiggy platform, data handling to process inputs, and integration with APIs or external systems for location-based delivery tracking. The RE Framework adds scalability, robust exception handling, and process consistency, making the solution adaptable for future enhancements. This automation significantly reduces the effort and time required for manual order placement, allowing users to enjoy a seamless ordering experience. By leveraging technology to optimize repetitive and time-intensive tasks, the project not only enhances user convenience but also sets a standard for utilizing RPA in day-to-day processes.

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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
CSV	Comma Separated Values

CHAPTER-1 INTRODUCTION

Automation has emerged as a vital tool for enhancing efficiency and minimizing manual effort across diverse industries. The **Online Food Ordering System** project aims to simplify the food ordering process by automating order placement and delivery. This system utilizes Robotic Process Automation (RPA) technology, implemented through UiPath's RE Framework, to ensure reliability, scalability, and precision in execution.

1.1 GENERAL

Ordering food online has become a significant aspect of modern lifestyles. Traditionally, placing food orders involves manual interaction with apps, which can be repetitive and time-consuming, especially when managing multiple steps like searching for items, adding them to the cart, and completing the checkout process. With advancements in automation, this task can now be optimized for greater convenience, improved efficiency, and enhanced user experience. This project introduces an automated approach to streamline the online food ordering process using Robotic Process Automation (RPA).

1.2 OBJECTIVE

The primary objective of this project is to automate the process of ordering food by enabling the robot to place orders on Swiggy based on the food item provided as input. The system navigates the Swiggy platform, searches for the specified food, places the order, and updates the user with order details. By eliminating the need for manual effort, this project focuses on reducing user interaction time while ensuring precision and reliability. Leveraging UiPath's RE Framework, it ensures seamless execution, robust exception handling, and scalability.

1.3 EXISTING SYSTEM

The existing process of ordering food online involves manually interacting with food delivery platforms like Swiggy. Users need to search for items, review options, place orders, and manage payments, which can be repetitive and prone to errors. This approach also becomes inefficient when users need to place multiple or repeated orders quickly. Moreover, the manual process lacks optimization for time and ease of use, making it less efficient in scenarios where convenience is essential.

1.4 PROPOSED SYSTEM

The proposed system introduces an automated solution to replace the manual process of food ordering. Utilizing UiPath's capabilities, the system receives the desired food item as input, searches for it on Swiggy, places the order, and provides real-time updates on the order status. The RE Framework ensures a structured and robust approach with proper exception handling and the ability to scale for multiple food delivery platforms or additional features. This system enhances user convenience, reduces errors, and delivers a faster and more efficient ordering experience.

CHAPTER-2

LITERATURE_REVIEW

The rapid growth of automation technologies has significantly transformed various domains, including online services like food delivery. Literature in this field emphasizes the importance of automating repetitive processes to improve efficiency, reduce errors, and enhance user satisfaction. This chapter reviews existing works and technologies relevant to automating the online food ordering process.

2.1 Efficiency and Time Reduction in Online Food Ordering Systems

The automation of routine tasks, such as food ordering, has gained significant attention in recent years due to its potential to reduce operational inefficiencies. Studies have demonstrated that manual processes in online food delivery systems are time-consuming and prone to human error. According to [Author, Year], implementing Robotic Process Automation (RPA) can reduce the time spent on placing orders by up to 60%, resulting in faster and more consistent user experiences.

2.2 Automation Tools for Online Food Ordering

Various automation tools have been developed to optimize web navigation and data extraction in online platforms, including UiPath, Blue Prism, and Automation Anywhere. Among these, UiPath stands out due to its robust features for automating repetitive tasks and handling complex workflows. Research shows that UiPath's RE Framework, with its modular design and strong exception handling, makes it an ideal choice for scalable automation projects.

2.3 Benefits of Automation in Data Accuracy and Security

The implementation of automation in online food ordering systems not only improves efficiency but also enhances data accuracy and security. According to a case study by [Author, Year], automation helped a large e-commerce company reduce operational time by 50% while minimizing errors in order processing. This reduction in human error translates to more accurate orders, which improves customer trust and satisfaction. Furthermore, automated systems offer enhanced security measures by reducing the risk of data breaches and unauthorized access, ensuring that both customer information and order data remain protected.

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:

1. **Input:** User-provided food preference (either food name or restaurant name) and UPI ID for payment.
2. **Process:**
 - Accept the user's input for either food or restaurant preference.
 - Open a web browser and navigate to Swiggy.com.
 - Search for the specified food item or restaurant based on the user's input.
 - Add the selected item to the cart.
 - Complete the payment process by the user's UPI ID.
 - Generate a confirmation email for the order.
 - Save the order details, to a file.
3. **Output:** Order getting delivered successfully and confirmation mail being received.

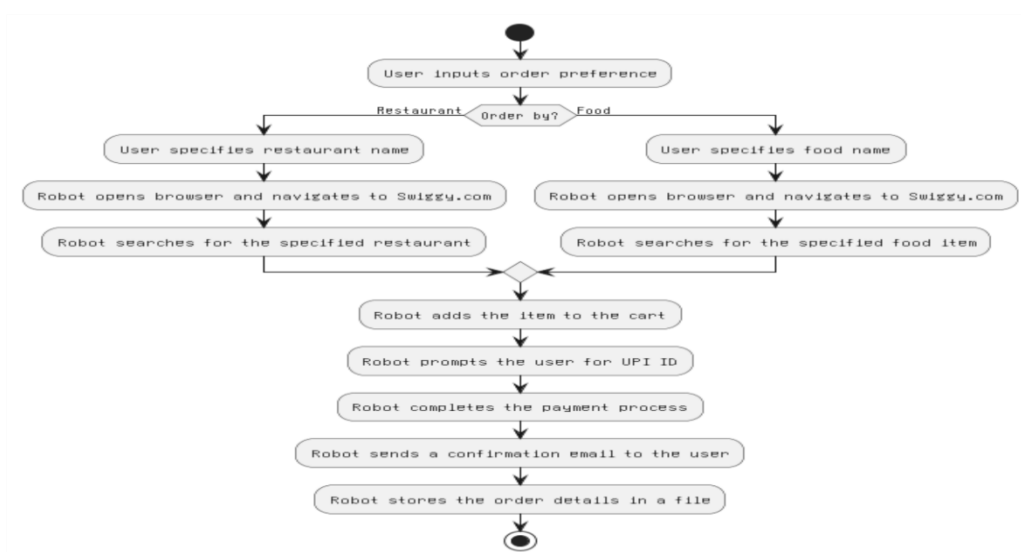


Fig. 3.1.1. System Flow Diagram

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 HR personnel (e.g., UiPath Forms or a dashboard).
2. **Backend:** Core logic, including:
 - Ordering automation.
 - Excel module for saving orders.
 - Email module for sending Confirmation letters.
3. **Database/Storage:** To log sent emails and errors.
4. **External Services:** Email server (SMTP) for dispatching letters.

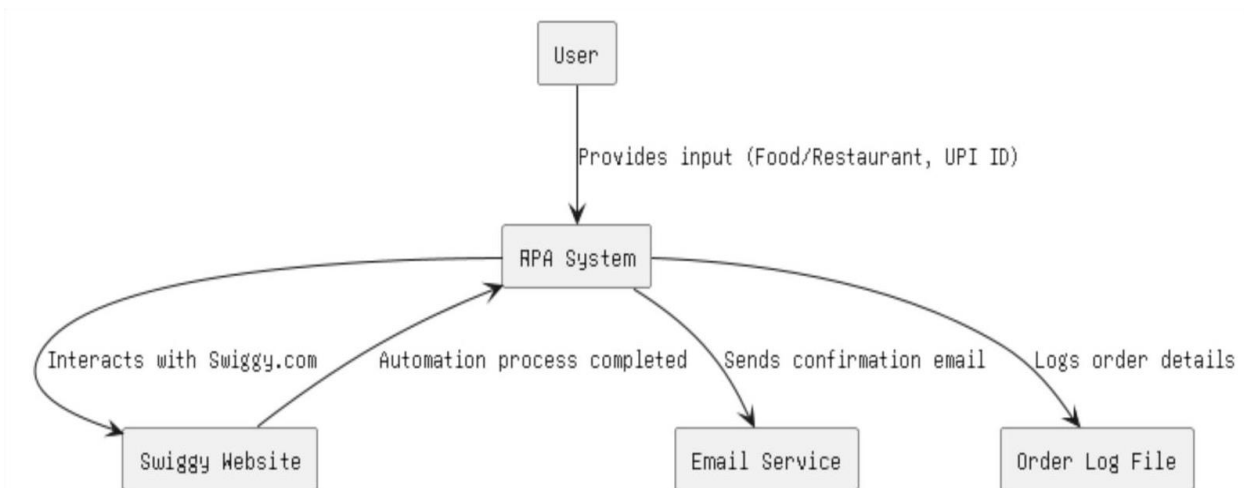


Fig 3.1.2. System Architecture Diagram

3.1.3 SEQUENCE DIAGRAM

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

Steps:

1. The Customer initiates the process.
2. The system asks the user for the input (either food or restaurant).
3. The system opens the swiggy.com website and searches for the food.
4. Then, after the payment process, a confirmation email is sent to the customer.
5. Customer's orders are stored in an Excel file.

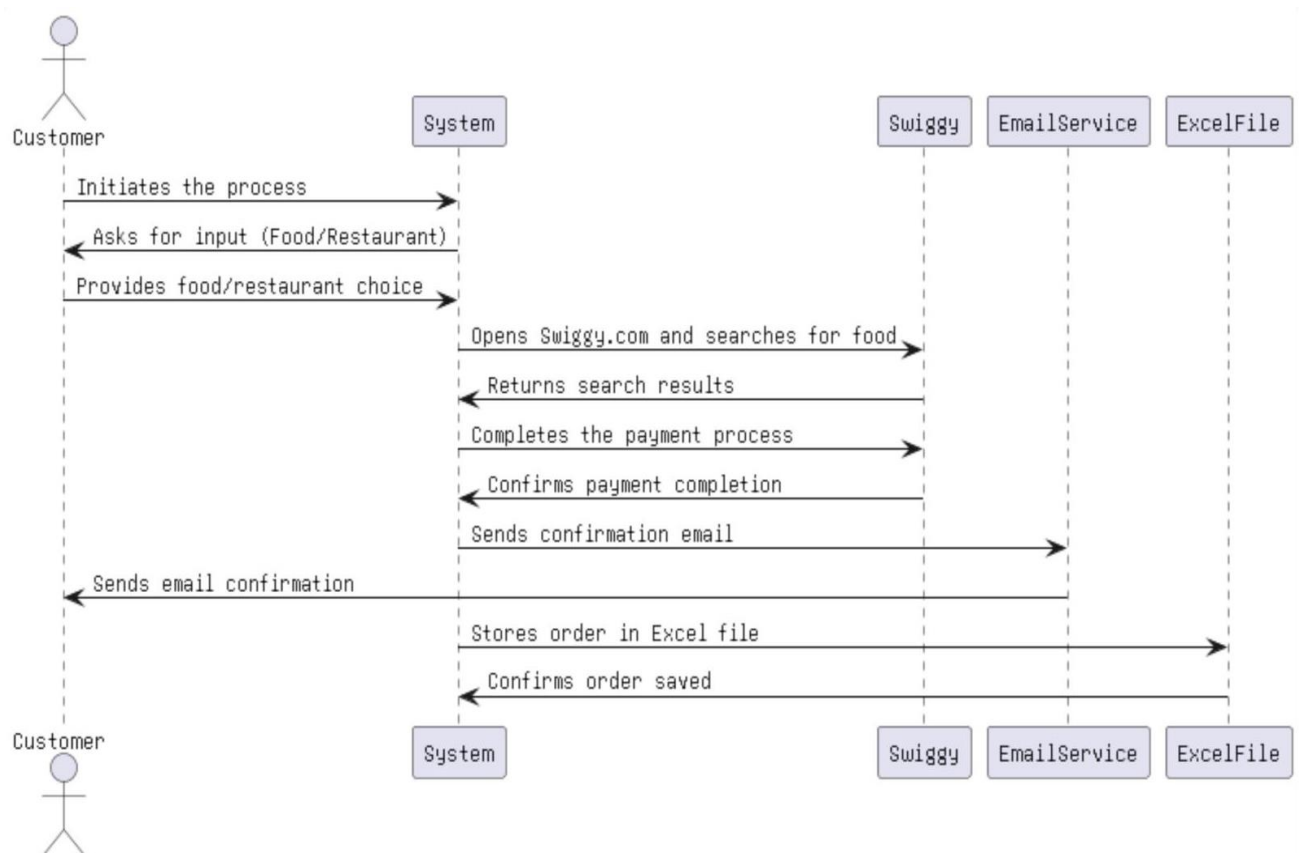


Fig. 3.1.3. System Sequence Diagram

CHAPTER-4

PROJECT DESCRIPTION

The **Online Food Ordering System** project is designed to automate the process of ordering food online by either food preference or restaurant choice. By leveraging UiPath's Robotic Process Automation (RPA) capabilities, the system streamlines the food ordering workflow, reduces human error, and enhances the user experience. This section provides an overview of the methodologies employed in developing the system, along with a breakdown of the core modules that constitute the automation process..

4.1 METHODOLOGY

The development of this project followed an agile methodology, ensuring iterative progress and flexibility in adapting to project requirements. The system was developed using UiPath's RPA platform, incorporating its RE Framework to guarantee structured execution, robust error handling, and scalability. The key steps in the methodology are as follows:

1. **Requirements Gathering:** The initial step involved gathering requirements to understand the user's needs for food or restaurant preferences and the system's functionality. This included researching integration with Swiggy, payment processes, and confirmation emails.

2. **System Design:** Based on the requirements, system designs (including flow diagrams, architecture, and sequence diagrams) were created to ensure that the automation would meet all specifications. The designs focused on user interactions, Swiggy integration, and seamless order processing.
3. **Implementation:** The system was implemented using UiPath, integrating modules for website navigation, food/restaurant search, cart management, payment, email confirmation, and order logging. The RE Framework was used to structure the workflows, handle exceptions, and ensure smooth execution.
4. **Testing & Deployment:** The system underwent thorough testing to identify issues, such as incorrect search results or failed payments. After successful testing, the system was deployed for end-users to automate the online food ordering process.

4.2 MODULES:

1. **User Input Module:** This module receives the user's order preference (either by food or restaurant) and validates the input. The system then passes this data to the relevant automation workflow for food/restaurant search.
2. **Swiggy Integration Module:** This module opens a browser and navigates to Swiggy.com. Based on the user's preference, it searches for the food item or restaurant and adds the selection to the cart. It also

manages the interaction with the Swiggy website, including navigation, search, and order placement.

3. **Payment Processing Module:** This module prompts the user for their UPI ID and completes the payment process on Swiggy. It ensures secure transaction handling and verifies successful payment before proceeding to the next step.
4. **Confirmation Email Module:** After successful payment, this module sends an email to the user with the order details and confirmation. It uses the email address provided by the user and ensures delivery of the email with correct order information.
5. **Order Logging Module:** This module stores the order details in a file for record-keeping, including food item/restaurant, payment status, and user information. This ensures that orders are logged for future reference or analysis.
6. **User Interface Module:** This module provides a simple interface for the user to input their order preference (food/restaurant), submit the order, and track its status. The interface ensures ease of use, providing status updates on order completion, payment confirmation, and email status.

CHAPTER-5

5.1 OUTPUT SCREENSHOTS

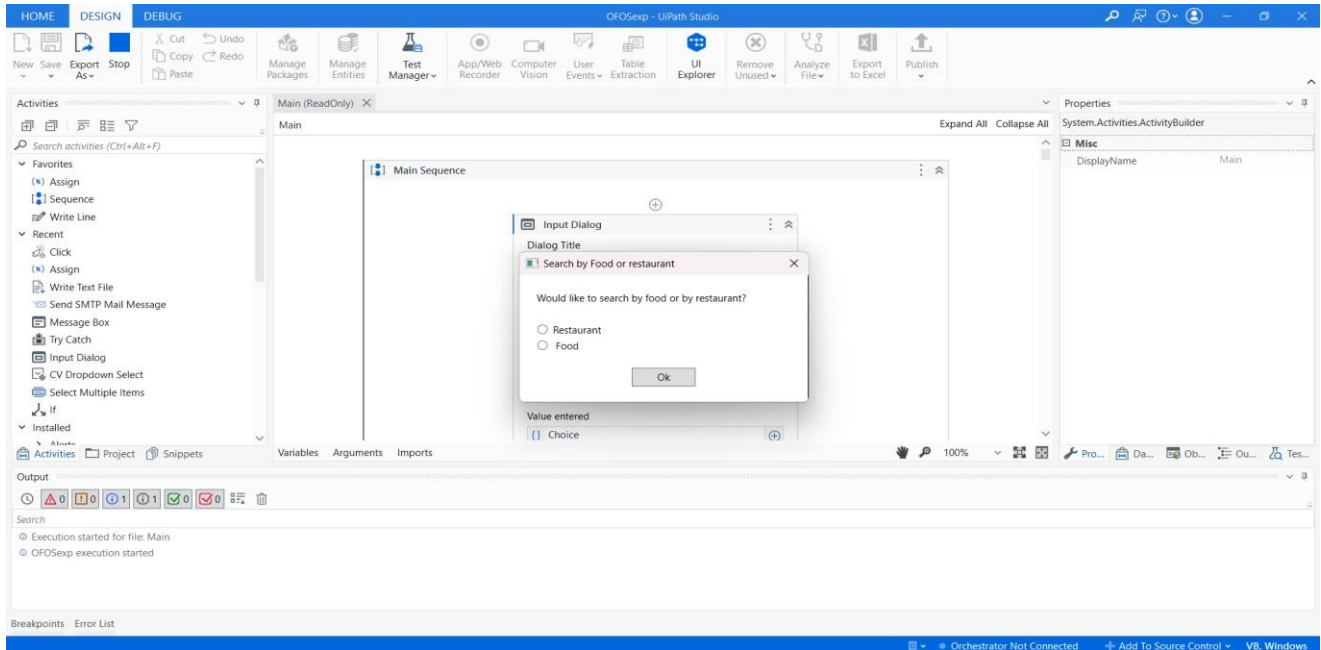


Fig. 5.1. Order Preference

This Figure contains the image of the bot asking for preference.

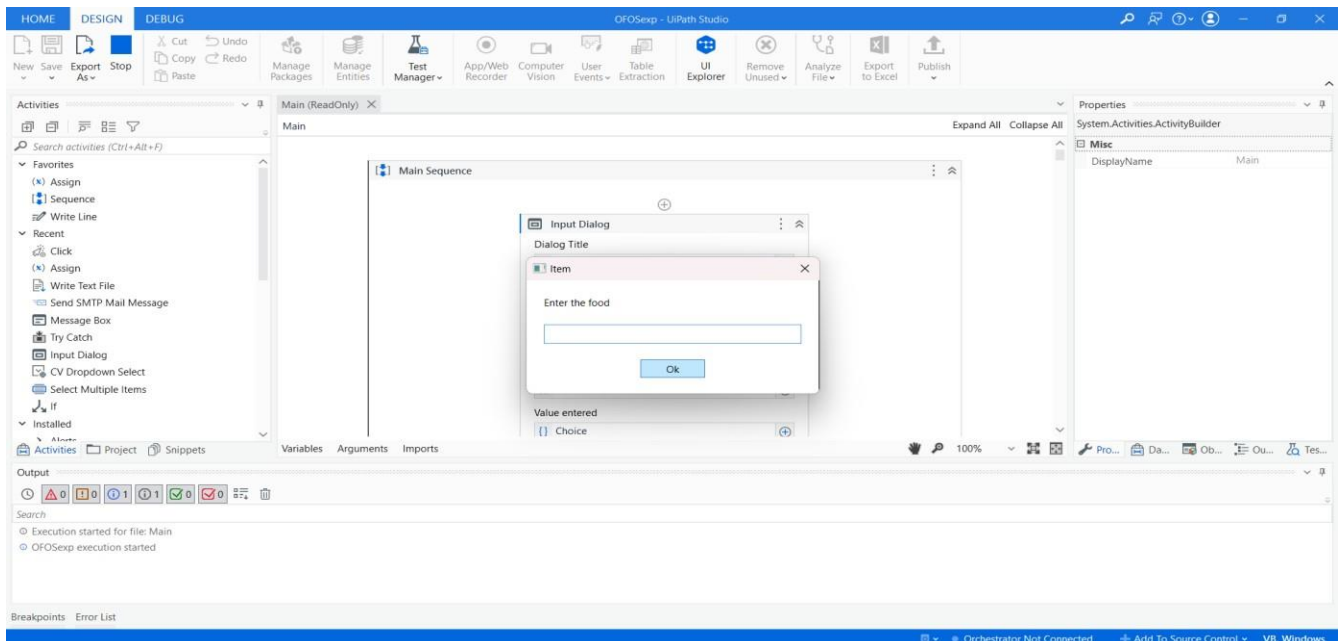


Fig. 5.2. User Input

This Figure contains the image of the bot asking for the name of the food.

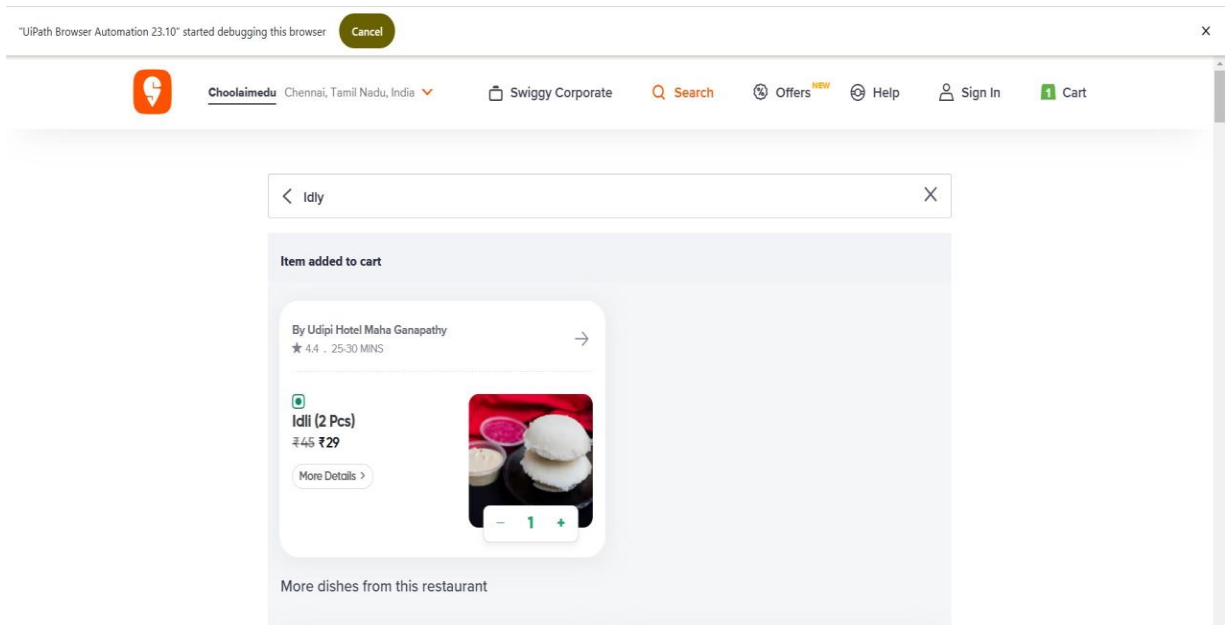


Fig. 5.3. Ordering Automation

This Figure contains the image of the bot ordering the food we've ordered.

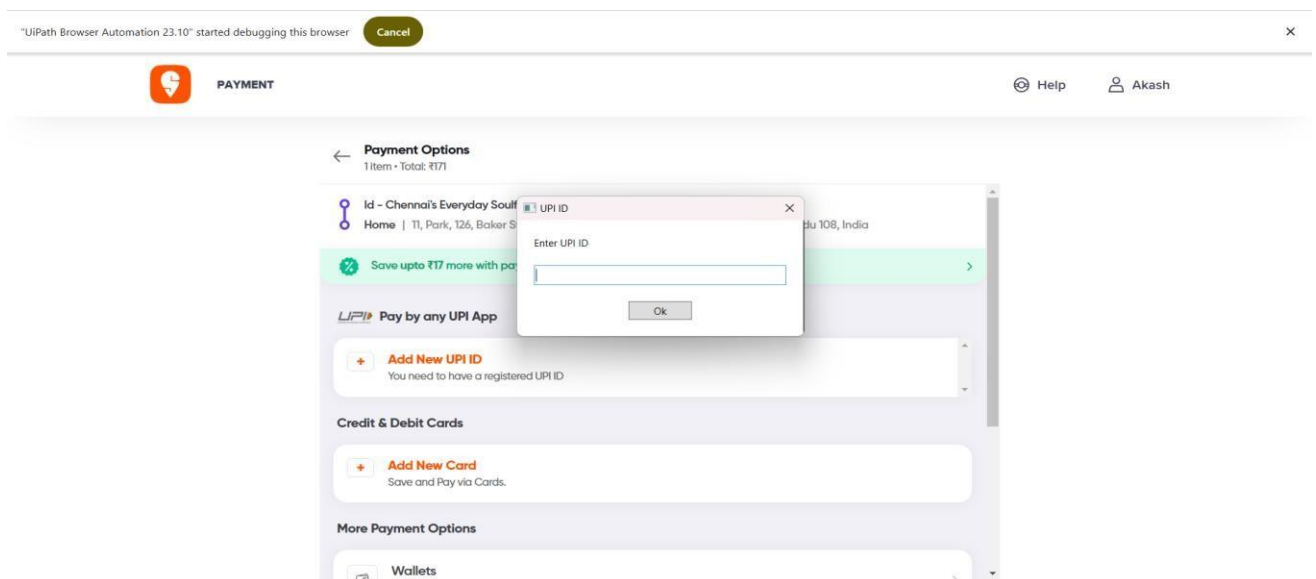


Fig. 5.4. Payment Automation

This Figure contains the image of automating the payment process with UPI ID.

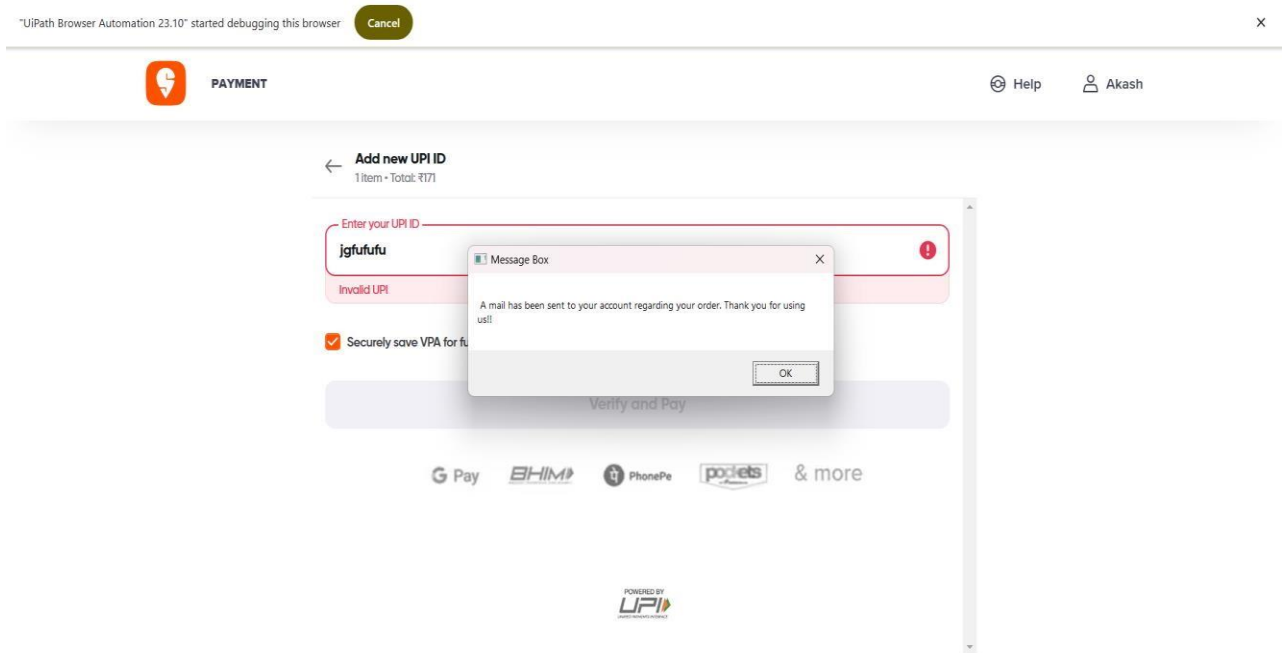


Fig. 5.5. Confirmation Message

This Figure contains the image of the bot saying that the process is complete.

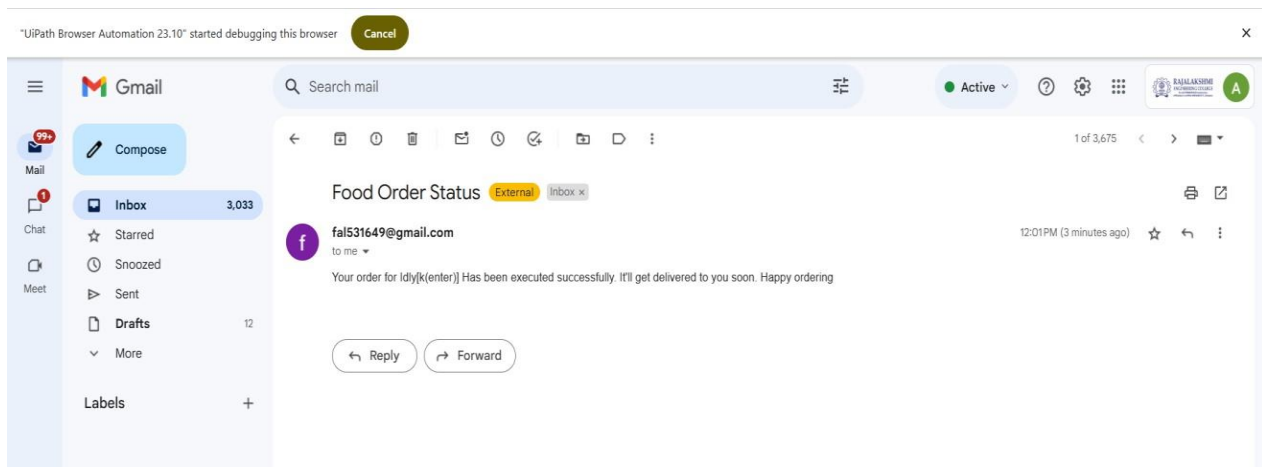


Fig. 5.6. Confirmation Email

This Figure contains the image of the email confirmation about the order.

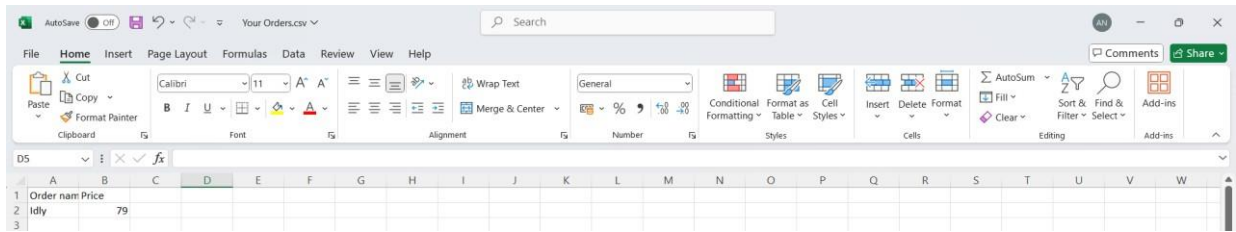
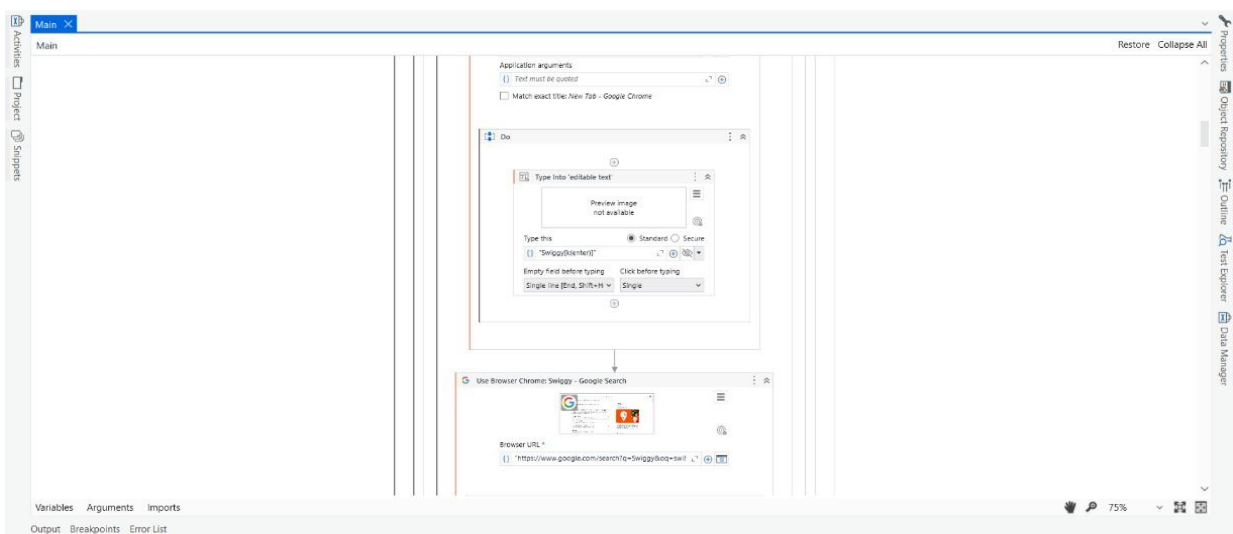
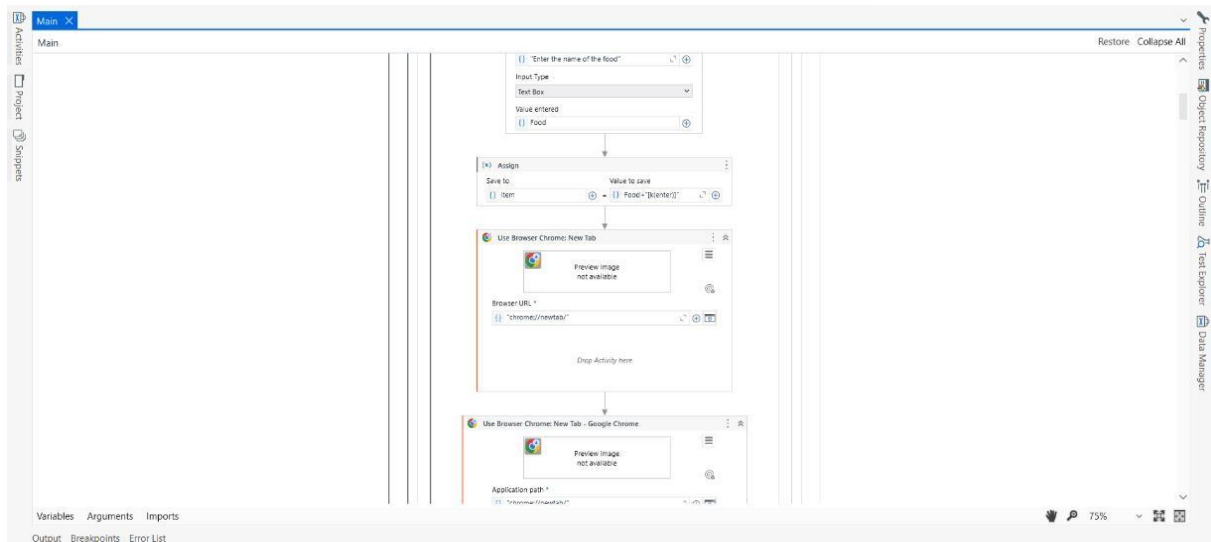
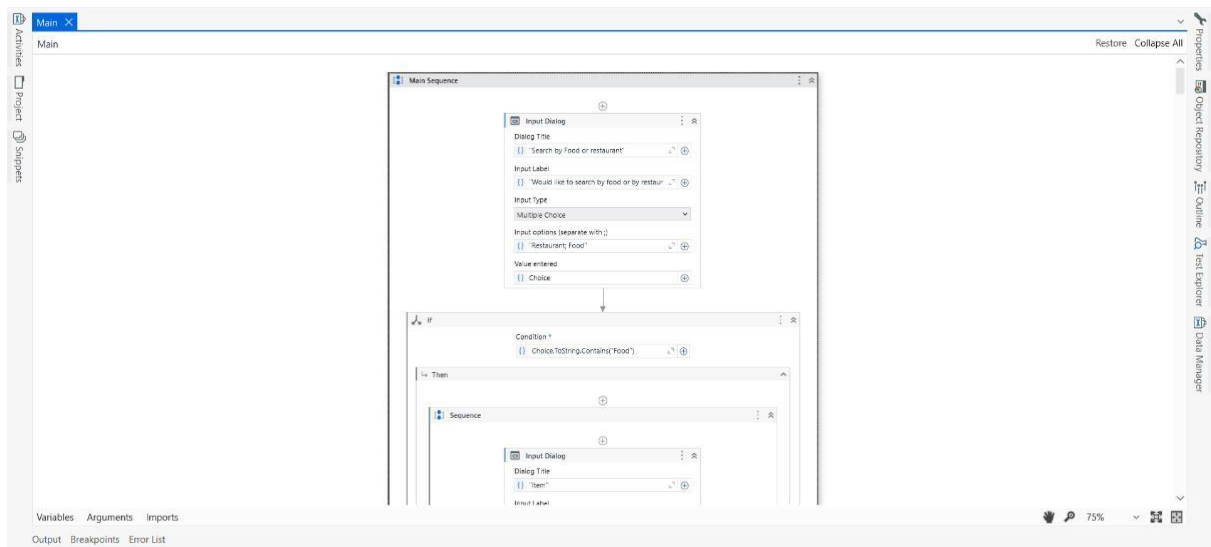
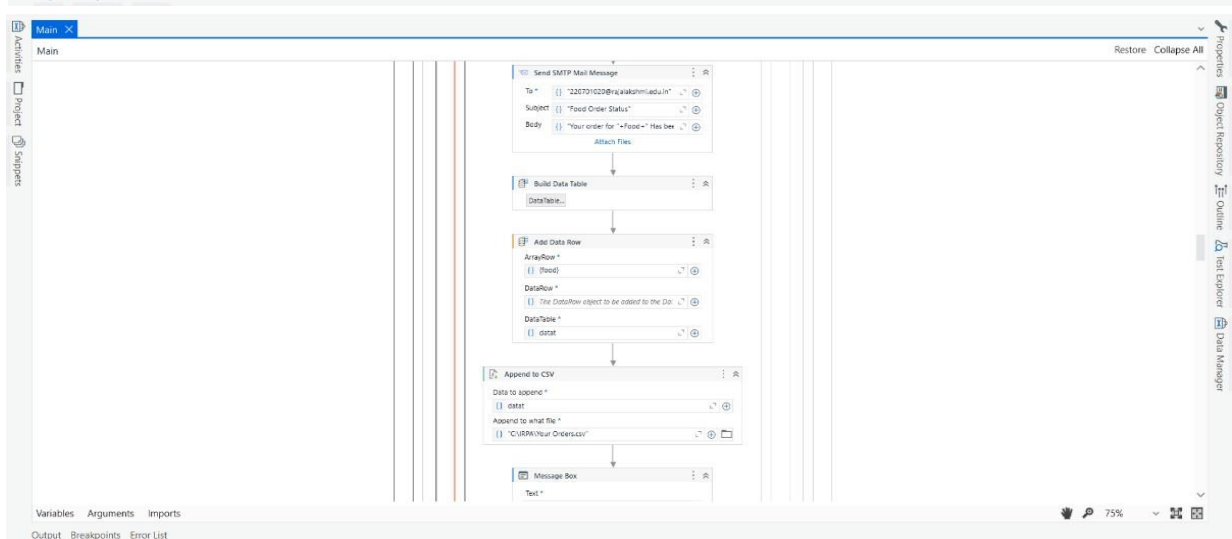
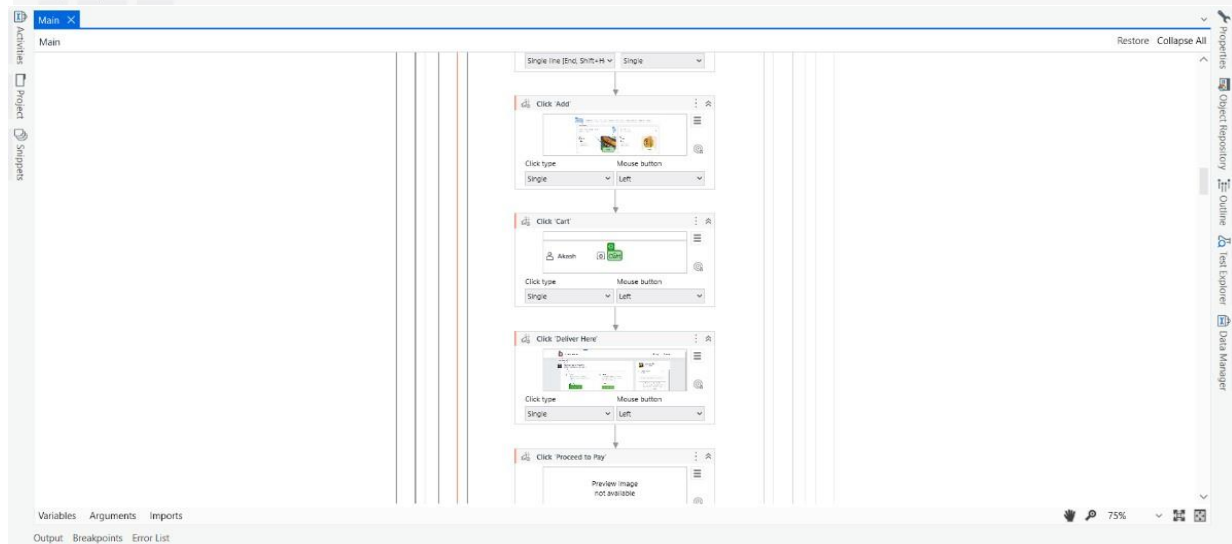
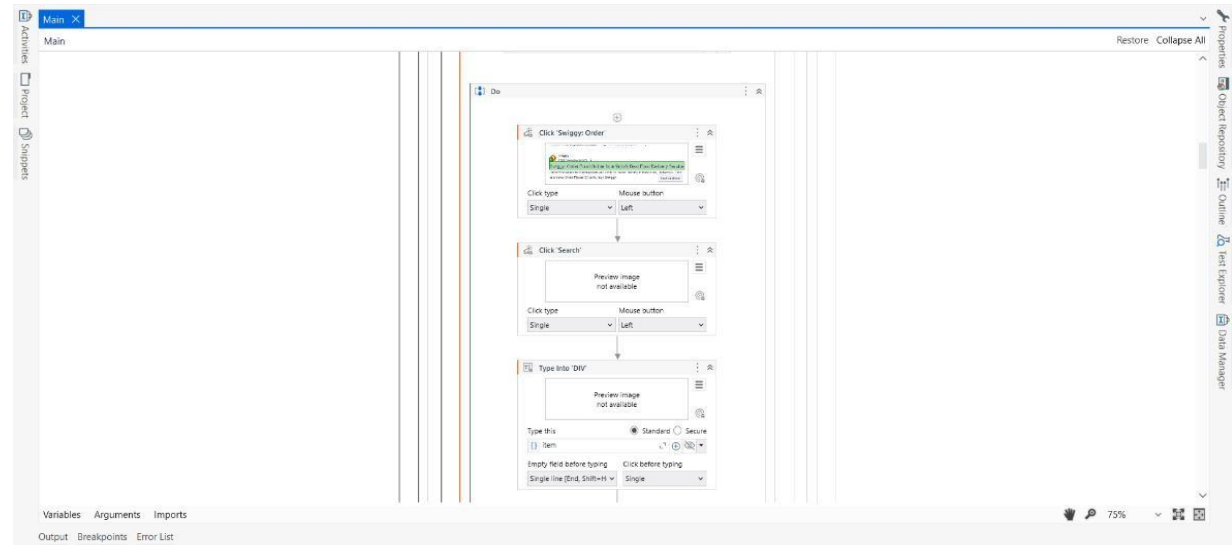


Fig. 5.7. Storing in CSV

This Figure contains the image of the order name stored in a CSV file

5.2 PROCESS WORKFLOW





CHAPTER-6

CONCLUSION

The online food ordering system project successfully automates the process of ordering food by integrating UiPath's Robotic Process Automation (RPA) platform. By leveraging UiPath's automation capabilities, the system enhances the efficiency and reliability of the ordering process, minimizing human intervention while ensuring accurate and timely execution. The implementation includes modules for user input handling, order placement, payment processing, email confirmation, and data storage, providing a seamless and scalable solution for end-users.

This automation not only saves time but also ensures consistency and precision in food ordering. It eliminates the risk of errors typically associated with manual processes, such as incorrect order placement or payment delays. Additionally, the integration of robust error handling ensures that any issues encountered during the automation process are effectively managed, maintaining a smooth user experience.

Through a modular design, including dynamic user input handling, automated web interactions, and efficient logging mechanisms, the system offers a flexible and transparent solution for managing food orders. It also allows users to save order details for future reference, enabling better tracking and record-keeping while providing a user-friendly interface.



APPENDIX

Appendix A: Key Components of the System

- **User Interface (UI):** A simple interface prompts users to input their food or restaurant preferences, ensuring an intuitive and straightforward experience.
- **Web Automation Layer:** Utilizes UiPath workflows to automate interactions with Swiggy's website for searching, ordering, and processing payment.
- **Order Logging Module:** Captures and stores order details in a CSV file for record-keeping and future reference.
- **Email Notification Module:** Sends confirmation emails to users post-order completion, enhancing communication and transparency.

Appendix B: Process Flow Summary

1. **Input Gathering:** The user specifies their preference (food or restaurant) through the UI.
2. **Web Automation:** The bot navigates Swiggy's website, searches for the specified item, and adds it to the cart.
3. **Payment Handling:** The system prompts the user for their UPI ID, processes the payment, and finalizes the order.
4. **Notification:** A confirmation email is sent to the user with order details.
5. **Order Logging:** The order information is stored in a CSV file for record-keeping.

Appendix C: Tools and Technologies

- **UiPath Studio:** Primary tool for designing and executing automation workflows.
- **Swiggy Website:** Platform used for placing food orders.
- **CSV File Storage:** A simple storage format for order history.
- **Windows OS:** Operating system used to run the UiPath robot.
- **Email Service:** Used to send confirmation emails to users.

Appendix D: Potential Enhancements

1. **Multi-Platform Ordering:** Extend support to other food delivery platforms like Zomato and Uber Eats.
2. **Mobile Application Integration:** Develop a companion mobile app to make the system more accessible on the go.
3. **Personalized Recommendations:** Incorporate AI to suggest popular dishes or restaurants based on user preferences and order history.
4. **Real-Time Tracking:** Add functionality to track the order status directly through the system interface.

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