# PET ADOPTION ASSISTANT BOT

## A PROJECT REPORT

*Submitted by*

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*in partial fulfillment for the course*

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# BONAFIDE CERTIFICATE

Certified that this project report **"Pet Adoption Assistant Bot"** is the Bonafide work of **"AGISHRAJ R (220701016)"** who carried out the project work for the subject OAI1903 - Introduction to Robotic Process Automation under my supervision.


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# ABSTRACT

**PetQuest** is an innovative Robotic Process Automation (RPA) project designed to streamline the process of finding pets for adoption. Developed using UiPath, this bot enhances the adoption experience by automating the search for pets based on user preferences, such as pet type (dog, cat, or small pet), state, and city. The bot retrieves data from a pet adoption website, processes it, and delivers personalized results directly to the user's email.

The workflow begins with the user providing input through a dialog box. PetQuest navigates to the pet adoption website https://www.mrnmrspet.com/dogs-for-adoption and uses data scraping techniques to extract key details, including pet names, breeds, descriptions, and gender. This information is stored in an Excel file and sent to the user via email using SMTP Mail Activity. A message box confirms the successful completion of the process.

Pet Quest reduces the manual effort involved in searching for pets, making it easier for users to find their perfect companion. The project leverages the power of RPA to save time, improve accuracy, and deliver a seamless user experience. With potential enhancements such as multi-platform support and integration with additional pet adoption databases, Pet Quest can evolve into a comprehensive solution for pet adoption needs.

# 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 **Mr. S. Meganathan, B.E, F.L.E.,** our Vice Chairman **Mr. Abhay Shankar Meganathan, B.E., M.S.,** and our respected Chairperson **Dr. (Mrs.) Thangam Meganathan, Ph.D.,** for providing us with the requisite infrastructure and sincere endeavoring in educating us in their premier institution

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**Agishraj R (220701016)**

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# LIST OF ABBREVIATIONS

| ABBREVIATION | ACCRONYM |
|---|---|
| RPA | Robotic Process Automation |
| SMTP | Simple Mail Transfer Protocol |
| UI | User Interface |
| CSV | Comma Separated Values |

# CHAPTER 1

# INTRODUCTION

## 1.1 .INTRODUCTION

PetQuest is a Robotic Process Automation (RPA) project developed using UiPath, aimed at revolutionizing the way people search for pets to adopt. The project is designed to provide a seamless and efficient solution for prospective pet owners by automating the process of browsing through pet adoption platforms, filtering results based on user preferences, and delivering personalized details directly to their email inbox.

In today's fast-paced world, searching for the perfect pet can be a time-consuming task, often requiring users to navigate multiple websites, manually filter through options, and collect relevant information. PetQuest eliminates these challenges by leveraging the power of automation. With just a few inputs from the user—such as the type of pet (dog, cat, or small pet), preferred state, city, and email ID—the bot performs an intelligent search, extracts the necessary data, and organizes it into an easy-to-read format.

By integrating advanced features like data scraping and automated email notifications, PetQuest not only enhances the user experience but also ensures that users receive accurate and timely information about pets available for adoption. The bot's ability to deliver this information efficiently demonstrates the practical application of RPA in solving everyday problems, making it a valuable tool for both pet enthusiasts and adoption platforms.

In essence, PetQuest is more than just a bot—it's a bridge connecting people with their future furry companions, ensuring that every pet finds a loving home with minimal effort from their prospective owners.

## 1.2 .OBJECTIVE

The primary objective of PetQuest is to simplify and streamline the pet adoption process by leveraging automation. The bot is designed to minimize the effort required to search for adoptable pets by automating tasks such as browsing websites, filtering results, and collecting data.

By enabling users to input specific preferences like pet type, location, and email ID, PetQuest ensures highly personalized and relevant search results. It employs advanced data scraping techniques to accurately extract details such as the pet's name, breed, gender, and description from the adoption platform, eliminating the possibility of human error and ensuring that the information provided is up-to-date.

Additionally, the project integrates an automated email notification system, which sends users a detailed summary of the available pets that match their preferences. By providing a user-friendly interface and clear confirmation messages, PetQuest enhances the overall user experience, making it accessible and efficient for anyone. Ultimately, the project aims to increase the adoption rate of pets by reducing the time and effort required to find them, connecting potential pet owners with their future companions more effectively.

## 1.3.EXISTING SYSTEM

In the current system, the process of searching for pets available for adoption is predominantly manual and time-consuming. Users are required to visit multiple pet adoption websites, browse through extensive lists of pet profiles, and manually filter the results based on their preferences, such as pet type, breed, location, and other criteria. This process often involves significant effort, as users need to compile and compare information to make informed decisions.

Additionally, there is no automated way to consolidate or organize the data for future reference. Users typically need to take notes or save links manually, which can be tedious and prone to errors. Communication with adoption agencies or platforms is also handled manually, requiring additional effort to track inquiries or responses.

Another challenge in the existing system is the lack of personalized notifications. Users must frequently revisit websites to check for updates, as there is no mechanism to automatically notify them about new or matching pets based on their preferences. This often results in missed opportunities to find a suitable pet.

Overall, the current system lacks efficiency, accuracy, and automation, making the adoption process less convenient and more effort-intensive for prospective pet owners

## 1.4.PROPOSED SYSTEM

The proposed system, PetQuest, addresses the inefficiencies of the existing system by introducing an automated solution powered by UiPath. This system streamlines the pet adoption process by automating key tasks such as searching, filtering, and notifying users about available pets that match their preferences. Users can provide inputs such as the type of pet (dog, cat, or small pet), preferred location (state and city), and their email address. Based on these inputs, the bot performs a targeted search on the adoption platform and extracts detailed information about matching pets using data scraping techniques.

The extracted data, including details such as the pet's name, breed, description, and gender, is stored in an Excel file for record-keeping. To further enhance the user experience, the system integrates an automated email notification feature that uses the SMTP mail activity to send personalized search

results directly to the user's email. This eliminates the need for users to revisit the platform or manually compile information, saving time and effort.

Additionally, the bot includes a confirmation message box to notify the user that the results have been successfully sent. By automating these tasks, the proposed system ensures accuracy, reduces manual effort, and provides a user-friendly experience. PetQuest not only simplifies the process for prospective pet owners but also increases the likelihood of successful adoptions by connecting users with their ideal pets more efficiently.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1.Survey on Robotic Process Automation (RPA) in Education:

Robotic Process Automation (RPA) is increasingly recognized as a valuable resource in education, streamlining teaching processes. For instance, RPA has been successfully implemented in grading assignments and managing student records, significantly reducing the workload of educators. However, challenges remain, particularly in automating tasks that require social interaction and adaptation to individual learning needs. The literature review of research papers related to RPA in Education is listed below:

[1] The research discusses the rise of Artificial Intelligence (AI), robotics, and other digital technologies are creating a demand for new professions with evolved digital skills. Educational institutions must adopt these technologies to promote digital skills development and empower students to lead active and creative digital lives. The education sector is ready to witness a revolution with robotics process automation (RPA) technology. RPA focuses on the elimination of inefficiencies and the effort of human resources that is wasted while executing mundane tasks. RPA helps teachers, educators, students as well as parents directly or indirectly.

[2] A research paper from IJITEE proposes a Robotic Process Automation (RPA) solution for the education domain. It shows the automation process for result analysis of student's examination results. The automation process takes input as the university result in pdf form. The research concludes that RPA can help out here by saving time and under a budget which is a limited & crucial resource for educational institutes.

## 2.2.Survey on Pet Adoption Process Automation:

Automation in the pet adoption process has been explored in various studies and projects to address the inefficiencies of manual browsing and data collection. Existing solutions leverage Robotic Process Automation (RPA) and AI technologies to enhance the search and communication processes. However, challenges such as dynamic website structures and handling user-specific criteria still persist. Below is a literature review of related works in the field of pet adoption process automation:

[3] A study explored the use of RPA tools to automate the process of browsing and collecting data from multiple pet adoption platforms. The researchers developed a bot that could extract pet details, including name, breed, and location, and store them in a structured database. However, the study highlighted difficulties in handling inconsistent website formats and frequent structural changes, which impacted the bot's efficiency.

[4] Researchers from a European institution implemented an AI-powered chatbot for pet adoption inquiries. The chatbot collected user preferences, such as pet type and location, and used these inputs to search adoption websites in real time. The study found that integrating AI with RPA improved user satisfaction by providing faster and more accurate search results. However, the system faced challenges in managing real-time website updates and ensuring data accuracy.

[5] A project at a U.S. university focused on using data scraping techniques in RPA for pet adoption searches. The study collected data on pets from a national adoption platform and used it to build a recommendation system for users. While the project successfully automated data extraction, it noted that handling large-scale websites with high traffic often led to slower performance and occasional failures in scraping data.

[6] Another study evaluated the integration of email automation with RPA for communication in pet adoption processes. The bot collected user inputs, performed the search, and sent detailed reports to the user's email. While the system improved efficiency, the researchers observed that maintaining email security protocols and avoiding spam filters were critical challenges for reliable implementation.

These studies underline the potential of automation in transforming the pet adoption process while also highlighting areas for further improvement, such as handling dynamic website structures and ensuring the robustness of RPA, data communication protocols. PetQuest builds upon these findings by combining scraping, and email automation into a single solution to offer users a seamless and efficient adoption experience.

### 2.3.Summary of the Intersection of RPA, Pet Adoption, and Automation

"PetQuest: Automated Pet Adoption Assistant" combines Robotic Process Automation (RPA), pet adoption processes, and automated communication to simplify the pet adoption journey. The project uses RPA to automate the search for adoptable pets based on user preferences, employing data scraping techniques to extract relevant pet details such as breed, gender, and description. It then delivers the results via automated email notifications, enhancing user experience.

By streamlining the search and communication processes, PetQuest reduces the time and effort needed for potential pet owners to find suitable pets. The project's integration of RPA and automation addresses inefficiencies in the adoption process and offers a user-friendly, efficient solution, contributing to the growing demand for automation in everyday tasks.

# 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. The system flow diagram for this project is in Fig. 3.1.

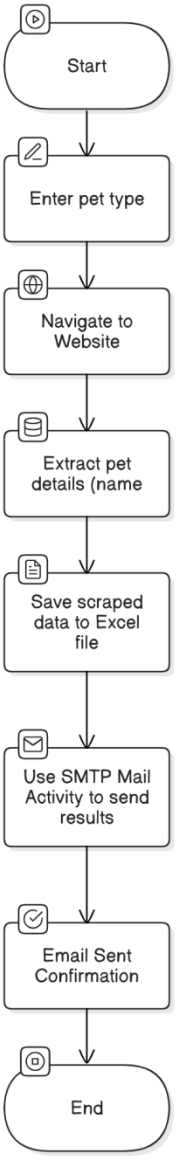



Fig 3.1 System Flow Diagram

## 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. The architecture diagram for this project is in Fig. 3.2.

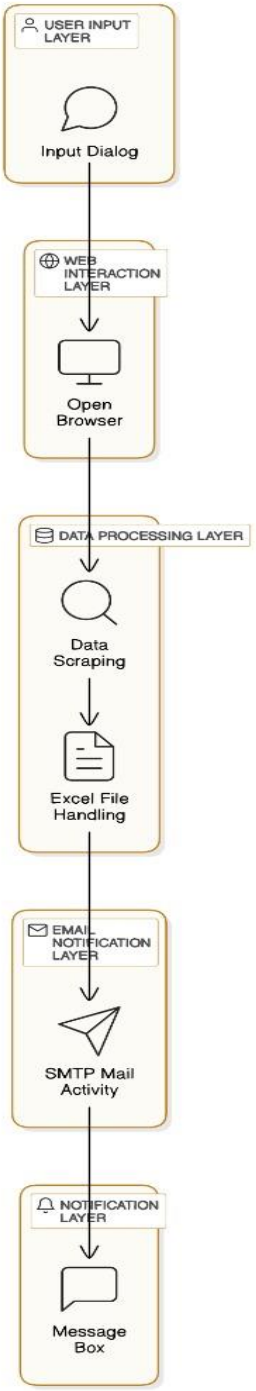



Fig 3.2 Architecture Diagram

## 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.

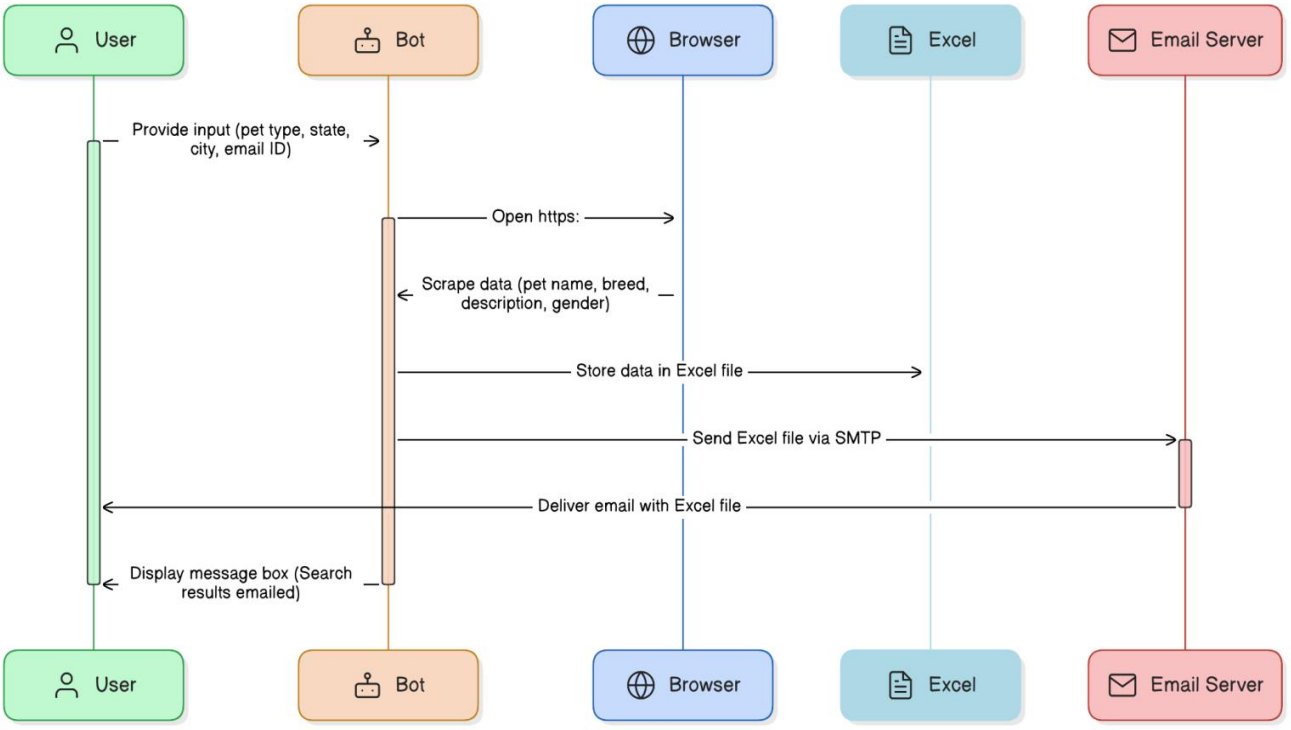



Fig 3.3 Sequence Diagram

# CHAPTER 4

# PROJECT DESCRIPTION

PetQuest is an innovative Robotic Process Automation (RPA) project designed to streamline the pet adoption process. Developed using UiPath, this intelligent bot automates the task of searching for adoptable pets, filtering the results based on user preferences, and notifying the user via email. By utilizing advanced data scraping and email automation techniques, PetQuest provides a more efficient and user-friendly solution for prospective pet owners.

## 4.1. MODULES:

### 4.1.1. INPUT HANDLING AND INITIALIZATION:

#### 4.1.1.1. User Input Collection:

Collect user inputs such as pet type (dog, cat, small pet), preferred state, city, and email address.

Allow users to specify the type of pet and the location for a customized search.

#### 4.1.1.2. Website Navigation:

Open the pet adoption website (e.g., Mr n Mrs Pet) based on the user's input.

Automatically navigate to the appropriate section of the website for the specified pet type and location.

#### 4.1.1.3. Excel Report Generation:

Create an Excel file to store the details of pets found in the search.

Include columns for pet name, breed, gender, description, and other relevant information.

### 4.1.2. CONTENT ANALYSIS:

#### 4.1.2.1. Data Scraping:

Scrape the website for pet details such as name, breed, gender, and description.
Employ advanced data scraping techniques to ensure accurate extraction of structured data from the web page

.

#### 4.1.2.2. Filtered Results:

Filter pets based on user criteria (e.g., breed, location, gender) to provide personalized search results.
Collect the filtered data for inclusion in the Excel report.

### 4.1.3. RESULT MANAGEMENT:

#### 4.1.3.1. Result Storage:

Store the scraped pet details in the generated Excel report, including all relevant information from the search.
Update the Excel sheet dynamically as more pets are found.

#### 4.1.3.2. Email Notification:

Send an email to the user with the pet adoption results attached or included in the body of the email.
Include a summary of the pets that match the user's preferences.

### 4.1.4. COMPLETION AND REPORTING:

#### 4.1.4.1. Completion Message:

Display a message box at the end of the process to notify the user that the search results have been successfully emailed.
Include option for user to open the generated Excel file for further review.

#### 4.1.4.2. Final Report:

Send the final report as an email attachment for user reference, containing all relevant pet adoption information.

This project effectively combines RPA and email automation to provide a seamless, efficient, and personalized pet adoption experience, ensuring users can find their perfect pet with minimal effort.

# CHAPTER 5

# OUTPUT SCREENSHOTS

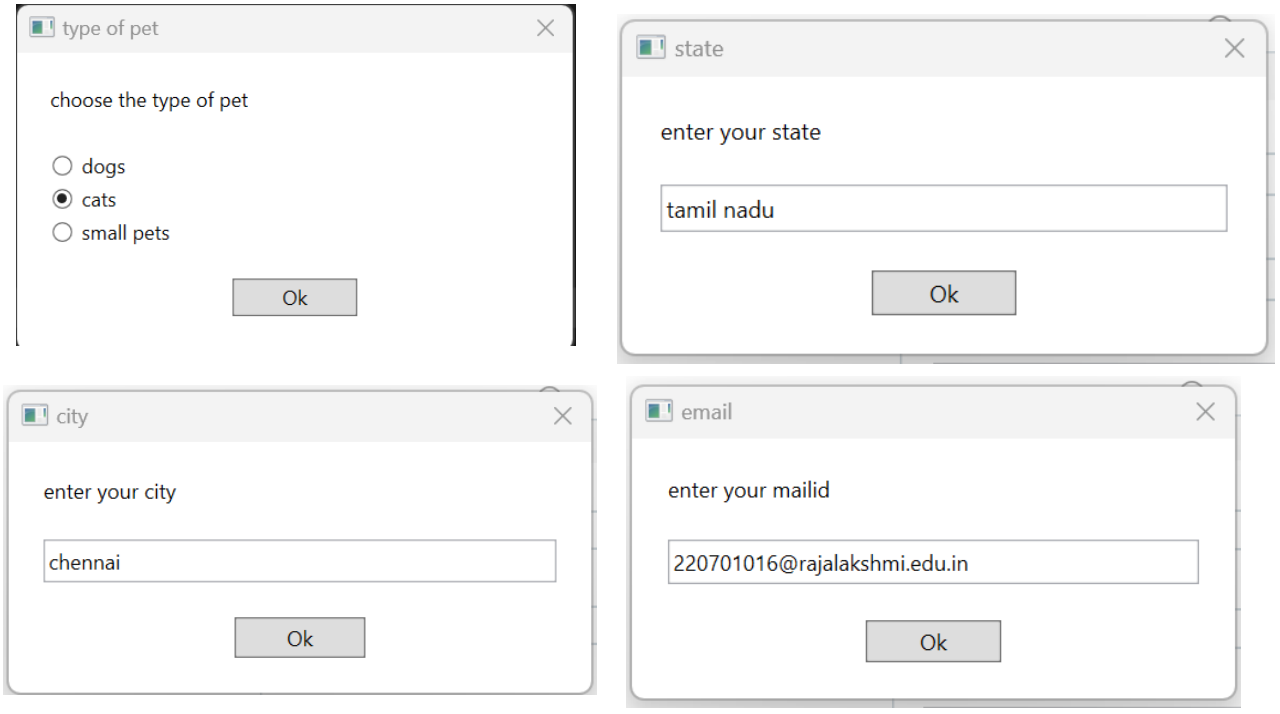



Fig 5.1 – Input Dialog

Collects user inputs for type of pet, city, state, month and email ID as shown in Fig 5.1.

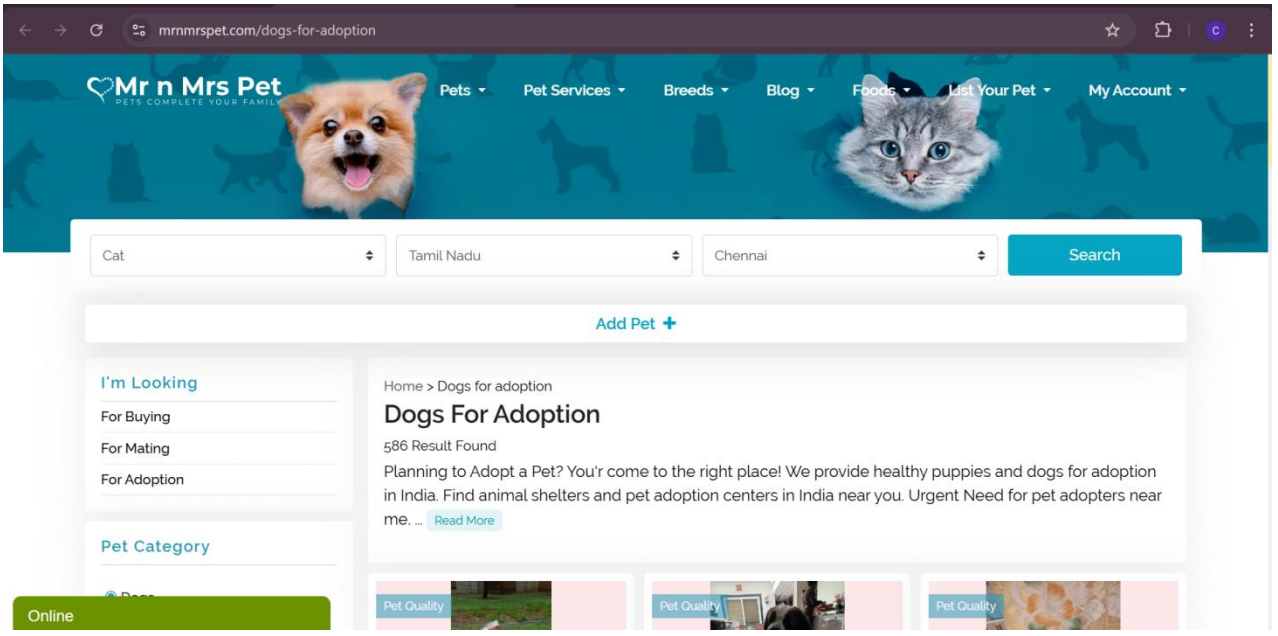



Fig 5.2 – Using Application/Browser

Navigates to the pet adoption website to perform the search and Enters pet details into website fields and initiates the search as shown in Fig 5.2

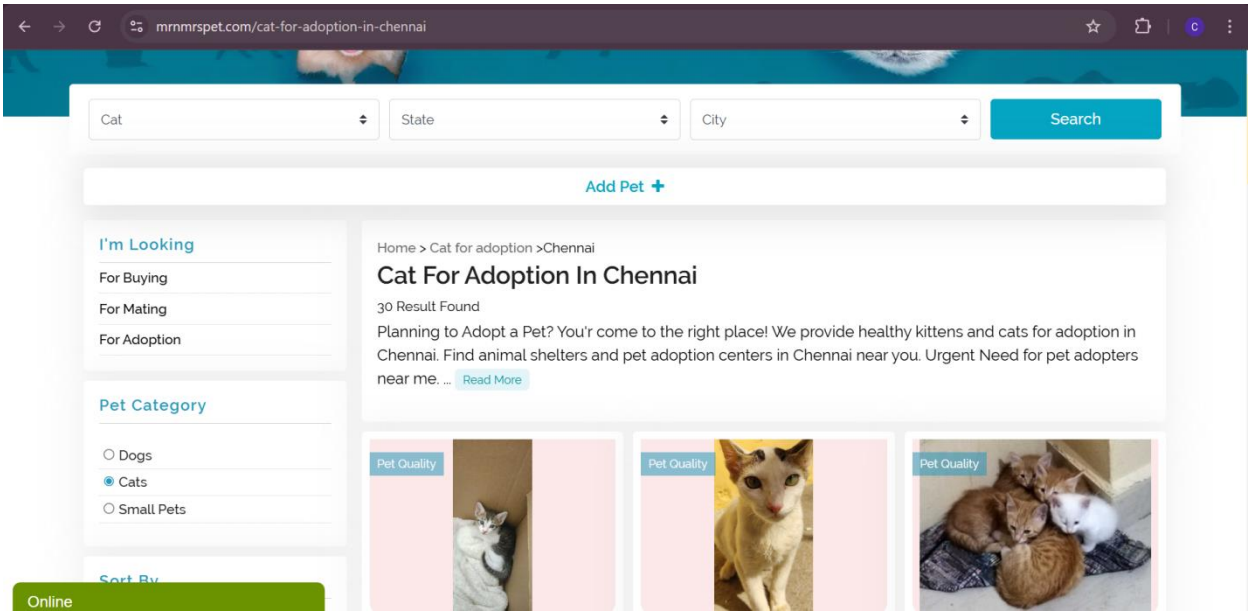
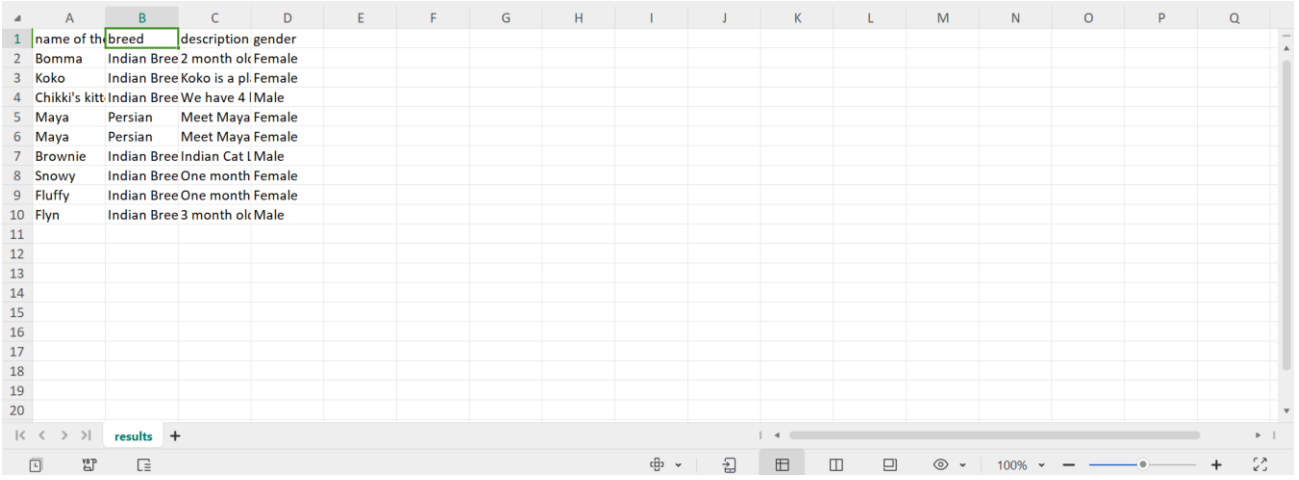



Fig 5.3 – Data Scraping

Extracts pet details such as pet's name,breed,description and gender from the search results as it is shown in Fig 5.3.



| | A | B | C | D |
|---|---|---|---|---|
| 1 | name of th | breed | description | gender |
| 2 | Bomma | Indian Bree | 2 month ol | Female |
| 3 | Koko | Indian Bree | Koko is a pl | Female |
| 4 | Chikki's kitt | Indian Bree | We have 4 l | Male |
| 5 | Maya | Persian | Meet Maya | Female |
| 6 | Maya | Persian | Meet Maya | Female |
| 7 | Brownie | Indian Bree | Indian Cat l | Male |
| 8 | Snowy | Indian Bree | One month | Female |
| 9 | Fluffy | Indian Bree | One month | Female |
| 10 | Flyn | Indian Bree | 3 month ol | Male |

Fig 5.4 – Excel Report

Stores the scraped data in an Excel file for easy reference as shown in Fig 5.4.

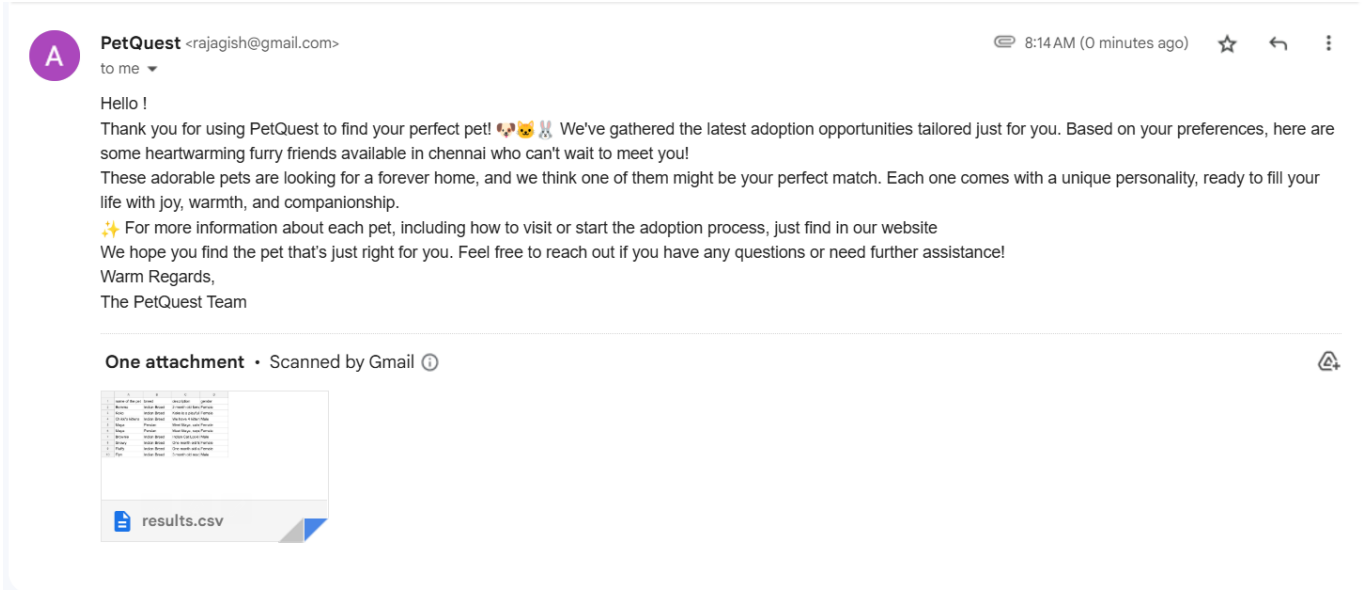



Fig 5.5 – Email automation

Sends an email with the Excel file attached to the user's specified email address as it is shown in Fig 5.5.

# CHAPTER 6

# CONCLUSION

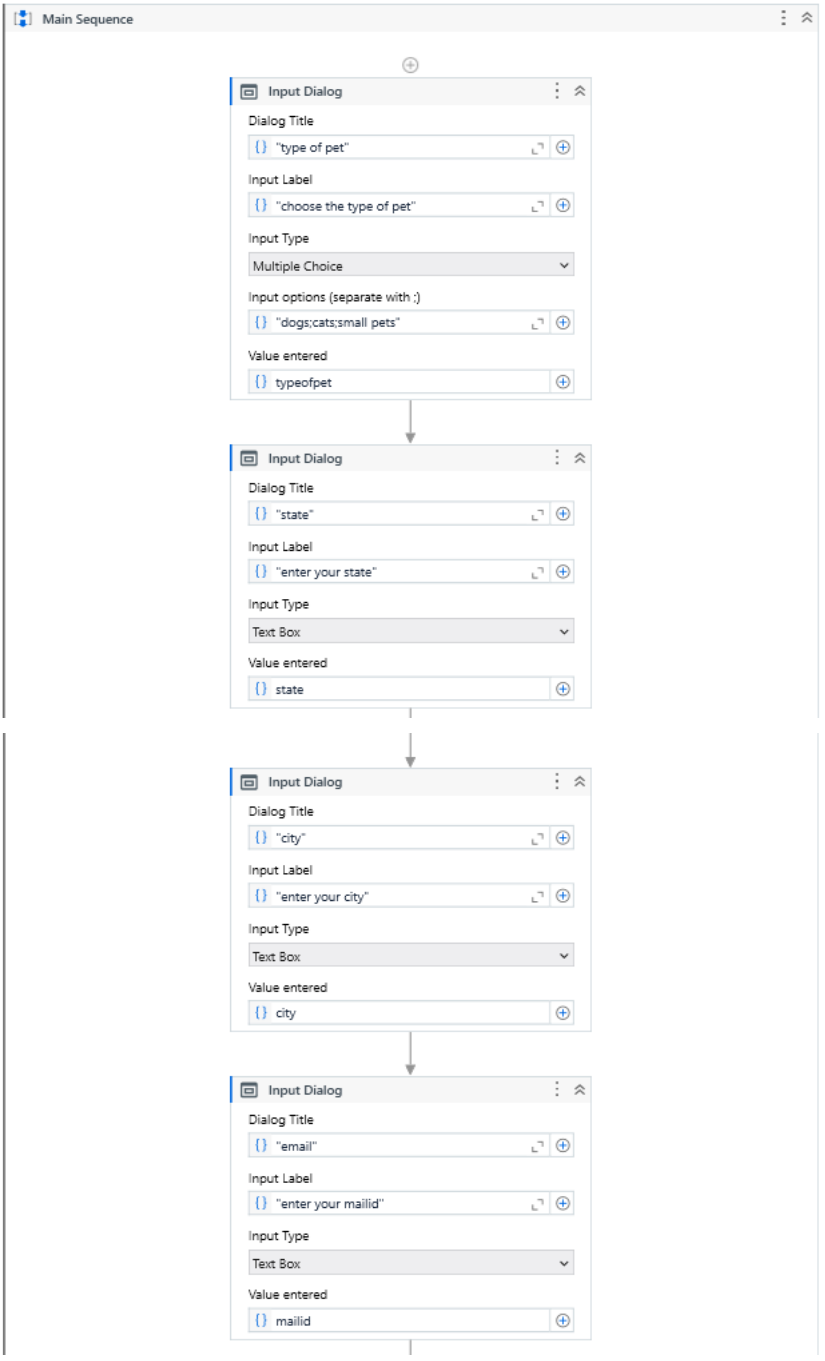
PetQuest: Automated Pet Adoption Assistant revolutionizes the pet adoption process by leveraging UiPath's Robotic Process Automation (RPA) to automate the search, filtering, and communication aspects. This innovative solution enhances the adoption experience, ensuring efficiency, accuracy, and user satisfaction.

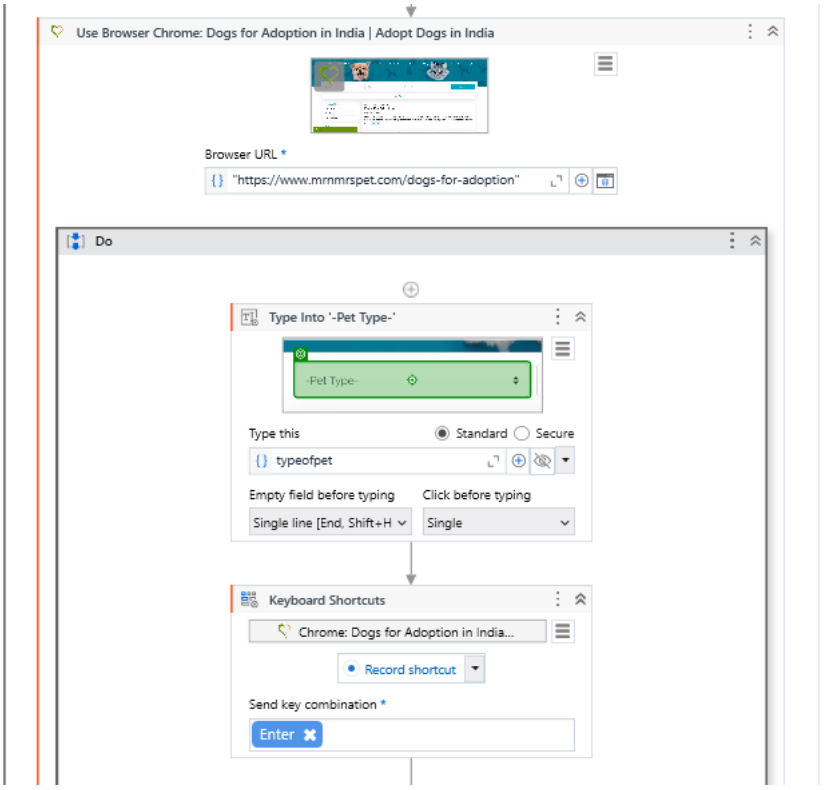
The project's ability to provide real-time search results and personalized email notifications streamlines the process for prospective pet owners, making it more convenient and effective. By automating repetitive tasks, PetQuest saves time, improves accuracy, and offers a user-friendly interface for searching adoptable pets across various platforms.

While the system excels in automating the search and notification process, challenges may arise in handling dynamic website structures or changes in adoption platform formats. Ongoing improvements and adjustments are essential to maintain performance and adapt to evolving websites. However, PetQuest sets a strong foundation for future advancements in pet adoption automation, contributing to the efficiency and accessibility of pet adoption services in the digital age. The successful implementation of this project highlights its potential to significantly enhance the pet adoption process for both users and adoption platforms.

# APPENDIX

# PROCESS WORK FLOW




Use Browser Chrome: Dogs for Adoption in India | Adopt Dogs in India
Browser URL *
"https://www.mrnmrspet.com/dogs-for-adoption"
Do
Type Into '-Pet Type-'
-Pet Type-
Type this
Standard
Secure
typeofpet
Empty field before typing
Click before typing
Single line [End, Shift+H
Single
Keyboard Shortcuts
Chrome: Dogs for Adoption in India...
Record shortcut
Send key combination *
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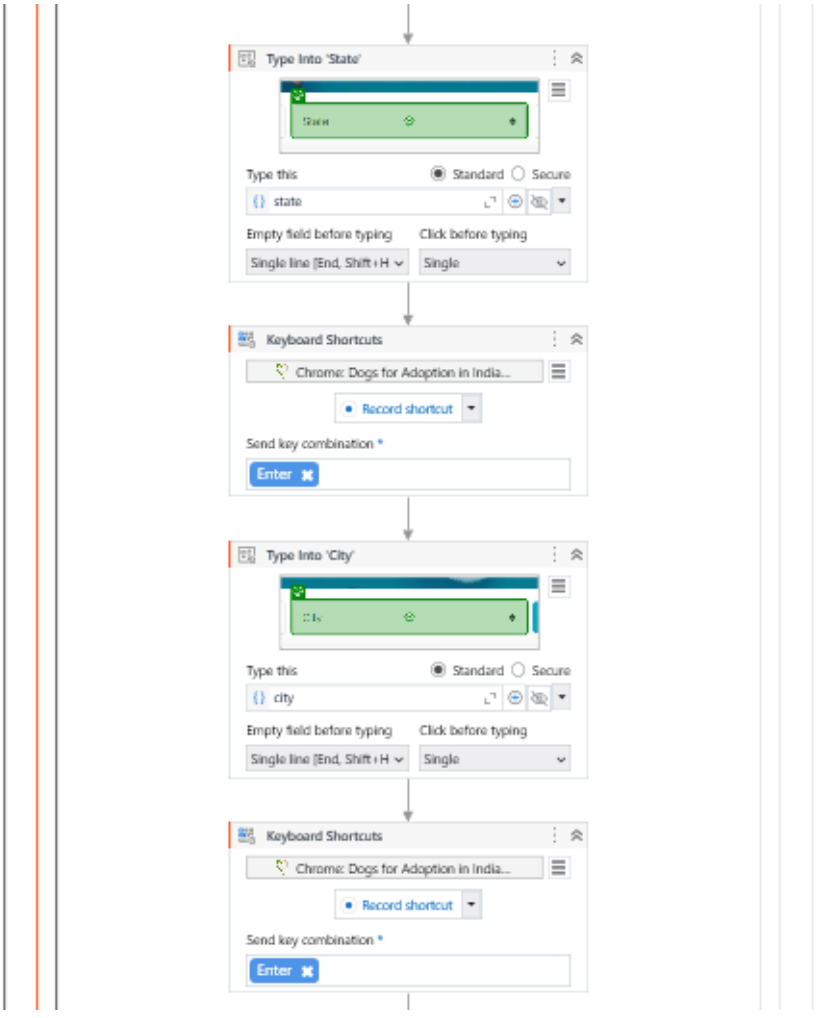
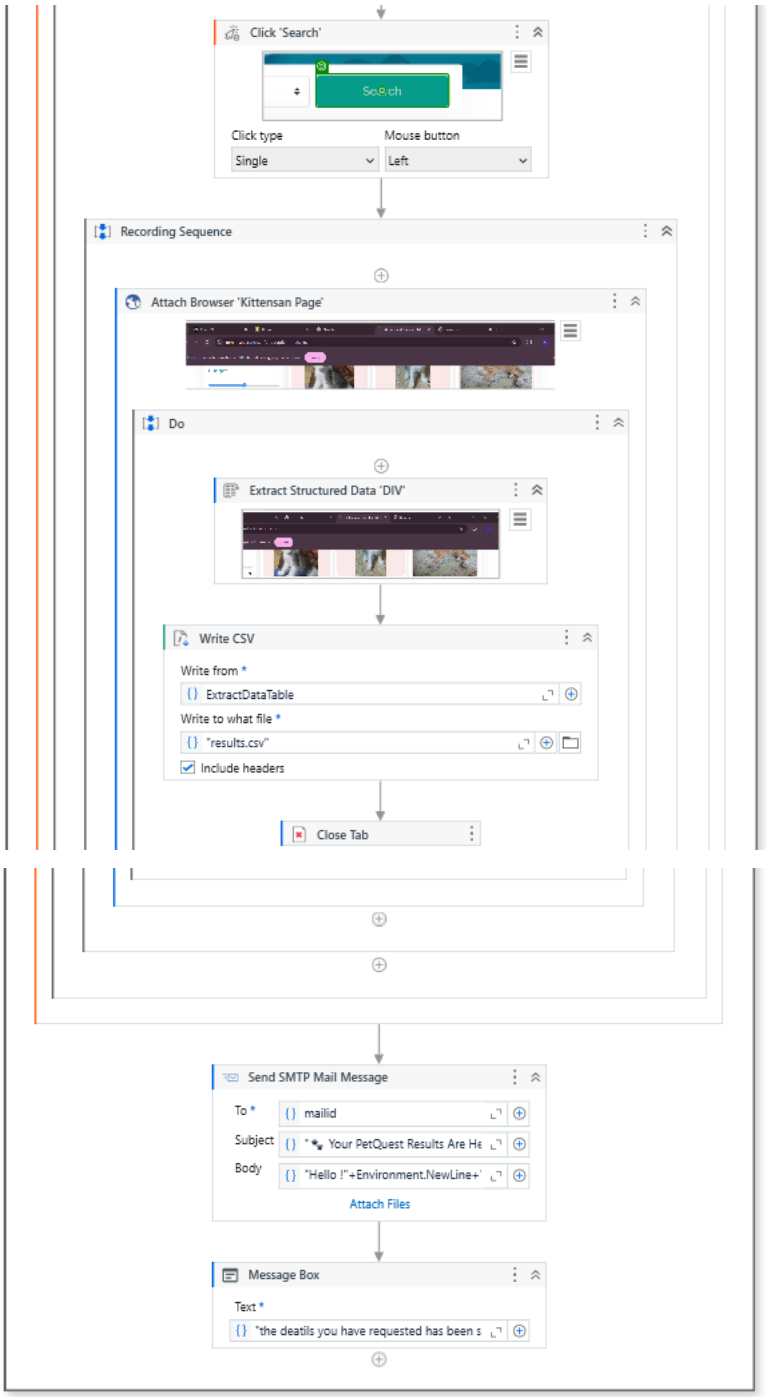

Type Into 'State'
Type this
Standard
Secure
state
Empty field before typing
Click before typing
Single line [End, Shift+H
Single
Keyboard Shortcuts
Chrome: Dogs for Adoption in India...
Record shortcut
Send key combination *
Enter
Type Into 'City'
Type this
Standard
Secure
city
Empty field before typing
Click before typing
Single line [End, Shift+H
Single
Keyboard Shortcuts
Chrome: Dogs for Adoption in India...
Record shortcut
Send key combination *
Enter


Click 'Search'
Click type
Single
Mouse button
Left
Recording Sequence
Attach Browser 'Kittensan Page'
Do
Extract Structured Data 'DIV'
Write CSV
Write from *
ExtractDataTable
Write to what file *
"results.csv"
Include headers
Close Tab
Send SMTP Mail Message
To *
mailid
Subject
Body
"Hello !"+Environment.NewLine+
Attach Files
Message Box
Text *
"the deatils you have requested has been s

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