Tour Planner

A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report **"Tour Planner"** is the Bonafide work of **"B.Amallesh(220701024)"** who carried out the project work for the subject OAI1903-Introduction to Robotic Process Automation under my supervision.

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INTERNAL EXAMINER EXTERNAL EXAMINER

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ABSTRACT :

The "Tour Planner" project is an innovative Robotic Process Automation (RPA) solution designed to simplify travel planning. This project leverages UiPath to gather and process key travel information efficiently. Users input their current location and desired tour destination through a dialog box. The system then automates the extraction of relevant information from a static website, including a description of the tour location, details of the top 10 attractions, notable aspects of the destination, and the distance between the current and tour locations. These data extraction processes run concurrently using the Parallel activity, ensuring efficiency and speed. The extracted information is compiled into a text or Word file, converted to PDF format, and sent to the user's email via the SMTP Mail Message activity. This end-to-end automation significantly reduces manual effort, providing users with a comprehensive travel report in minimal time. The project exemplifies the potential of RPA in enhancing user experience and streamlining routine tasks..

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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

The "Tour Planner" project is a Robotic Process Automation (RPA) solution aimed at simplifying travel planning through automation. Using UiPath, the system collects user inputs for the current location and desired tour destination. It then retrieves detailed information, including destination descriptions, top attractions, and travel distances, from a static website. This data is processed in parallel for efficiency, compiled into a comprehensive report, converted to PDF, and sent to the user via email. The project demonstrates how RPA can enhance productivity by automating time-consuming tasks in the travel planning process.

1. 1 GENERAL

The purpose of the "Tour Planner" project is to streamline the travel planning process by automating the retrieval and presentation of key destination information. It aims to save time and effort for users by providing a detailed travel report, including attractions and distances, in a structured format. This solution enhances convenience and efficiency, making travel planning hassle-free.

1.2 OBJECTIVE

The objective of the "Tour Planner" project is to develop an automated system that collects and processes travel-related information efficiently. It aims to provide users with comprehensive details about their desired tour destination, including descriptions, top

attractions, notable features, and travel distances. The project ensures that this information is compiled into a user-friendly report, delivered in PDF format via email, thereby simplifying and enhancing the travel planning experience.

1.3 EXISTING SYSTEM

In the current scenario, travel planning often involves manually gathering information from multiple online sources. Users need to search for destination descriptions, attractions, distances, and other details individually, which is time-consuming and prone to inconsistencies. Additionally, compiling this data into a structured format, such as a report or itinerary, requires additional effort. Most existing systems lack automation and integration, making the process inefficient and less user-friendly. The absence of a centralized tool to collect, process, and deliver this information seamlessly highlights the need for an automated solution like the "Tour Planner."

1.4 PROPOSED SYSTEM

The "Tour Planner" project introduces an automated solution to streamline travel planning using Robotic Process Automation (RPA) with UiPath. The system allows users to input their current location and tour destination, then automates the extraction of destination details such as descriptions, top attractions, notable features, and travel distances from a static website. These data retrieval tasks run concurrently, ensuring efficiency and speed. The information is compiled into a text or Word file, converted to a PDF, and sent to the user via email. This centralized, automated approach eliminates the need for manual effort, providing a fast, accurate, and user-friendly travel planning experience.

CHAPTER-2

LITERATURE_REVIEW

Travel planning traditionally involves manual data collection, which is time-consuming and inefficient. Research shows that Robotic Process Automation (RPA) tools, such as UiPath, can automate repetitive tasks like data extraction and reporting, improving efficiency. This project leverages RPA advancements to provide a streamlined, automated solution for gathering and delivering comprehensive travel information.

2.1 GENERAL

The evolution of automation technologies, particularly Robotic Process Automation (RPA), has led to significant advancements in streamlining repetitive and time-consuming tasks across various domains. In the context of travel planning, the manual gathering of destination details, such as descriptions, attractions, and travel distances, remains a cumbersome process for users. This challenge has driven the development of automated systems capable of simplifying and accelerating the travel planning journey.

RPA, particularly tools like UiPath, has gained widespread adoption due to its ability to automate tasks like data extraction, document generation, and email communication. Previous studies and applications have focused on RPA's use in industries like finance and customer service, where repetitive tasks can be efficiently automated. The integration of RPA into tourism and travel planning systems, however, is relatively new but offers significant potential for improving the user experience.

Web scraping techniques have also evolved to enable the automated extraction of relevant data from websites. By using activities such as "Anchor," "Find Element," and "Get Text" in RPA platforms, data related to tourist destinations can be extracted efficiently. Moreover, the use of parallel processing ensures that multiple tasks—like extracting destination information and calculating distances—can run concurrently, thus reducing the overall processing time.

Additionally, automation in document creation and delivery, such as converting reports to PDFs and emailing them via SMTP protocols, has become an essential feature in creating user-friendly systems. The integration of these functionalities into the "Tour Planner" project demonstrates the practical application of RPA in the travel industry, combining data extraction, real-time processing, and communication into a seamless experience.

In conclusion, the literature suggests that RPA technologies, web scraping methods, and email automation are powerful tools in the travel domain. The "Tour Planner" project capitalizes on these advancements to create a more efficient, user-friendly, and automated travel planning solution.

CHAPTER-3

SYSTEM DESIGN

3.1.1 SYSTEM FLOW DIAGRAM

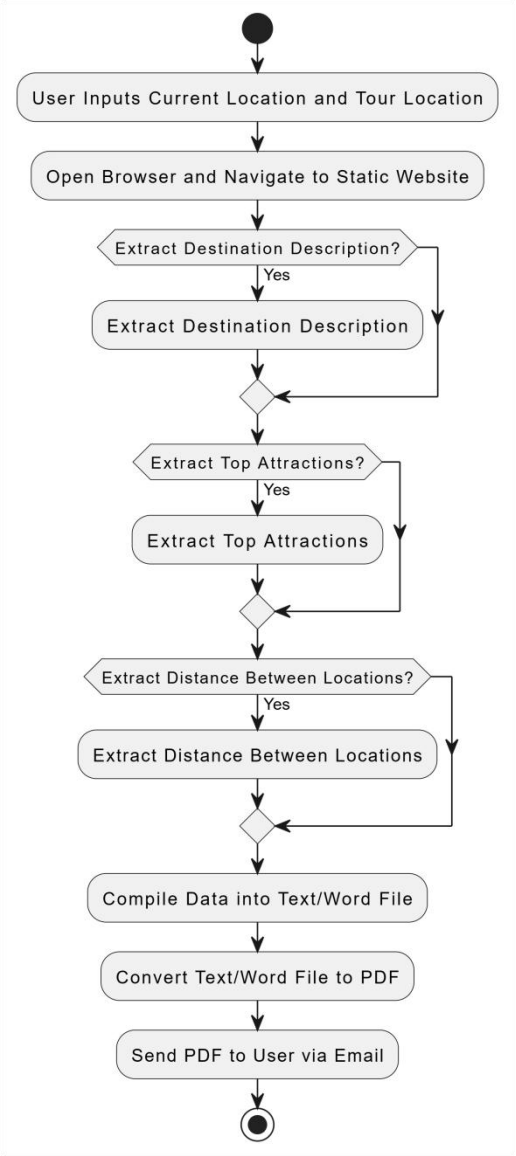
The **System Flow Diagram** outlines the overall flow of data and processes in the system. It demonstrates how user inputs, system processing, and outputs interact.

Description

1.Input: Tour location and the current locaton

2.Process:Extract the spcified set of details about that location

3.Output convert the extracted details into PDF and send it through mail.

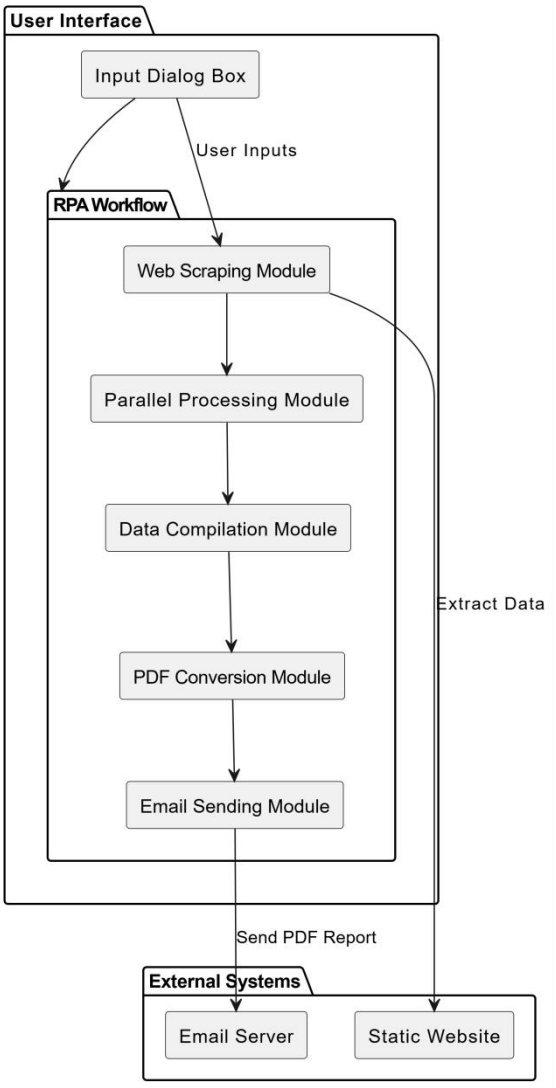


3.1.2 ARCHITECTURE DIAGRAM

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

Components:

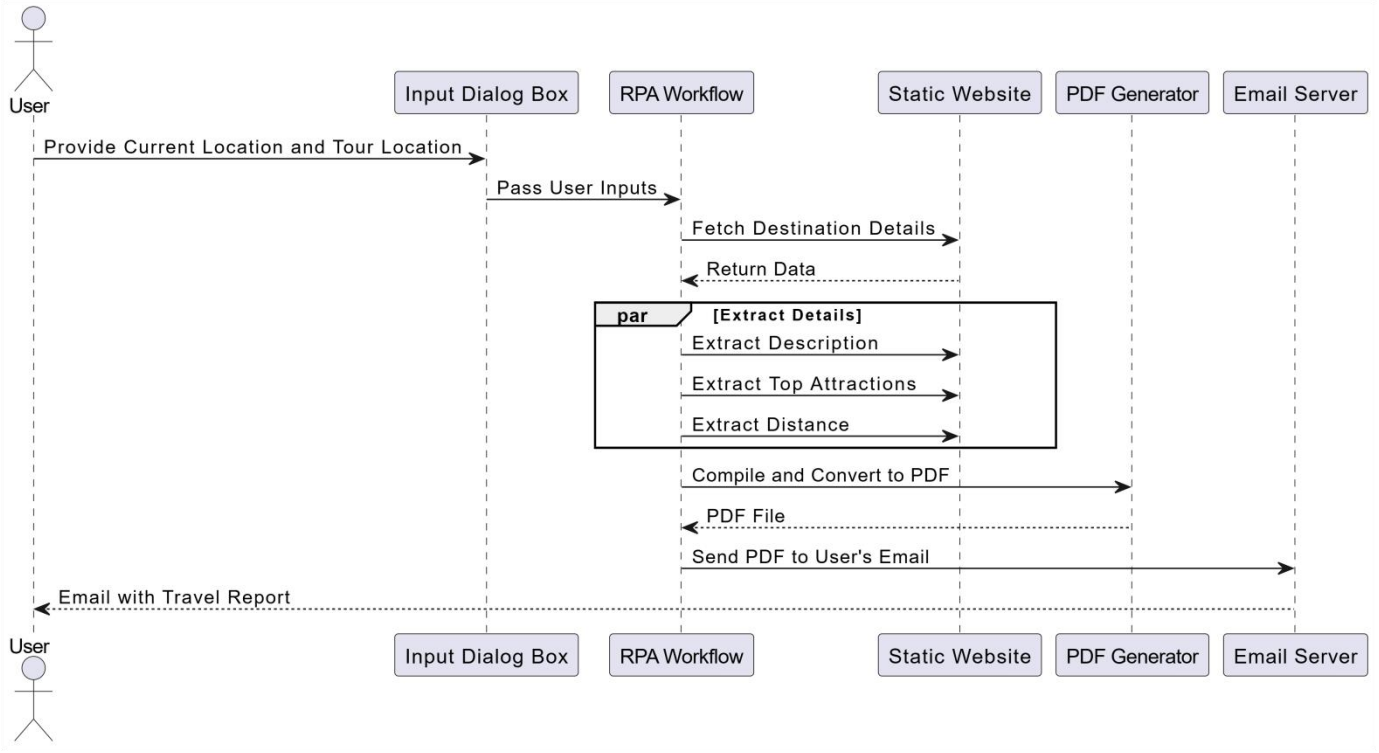
- **Input Dialog Box**: Captures user inputs (current and tour location).
- **Web Scraping Module**: Extracts data like descriptions, attractions, and distances)
- **Parallel Processing Module**: Runs data extraction tasks concurrently for efficiency.
- **PDF Conversion & Email Module**: Converts the compiled data to PDF and send Mail



3.1.3 SEQUENCE DIAGRAM

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

The sequence diagram for the "Tour Planner" project illustrates the flow of interactions between the user, system components, and external systems. The process begins with the user providing input (current and tour location) via a dialog box. The RPA workflow retrieves data from the static website, including descriptions, attractions, and distances, through parallel data extraction tasks. The extracted data is compiled into a structured format, converted into a PDF, and sent to the user via email using an SMTP server. This diagram highlights the sequential steps and inter-component communication within the system.



CHAPTER-4

PROJECT DESCRIPTION

The "Tour Planner" project automates the process of travel planning by extracting detailed information about a chosen tour destination, including descriptions, top attractions, and travel distances. Using UiPath, the system retrieves data concurrently, compiles it into a report, and sends the finalized PDF via email to the user. This RPA solution streamlines travel planning, saving time and effort while ensuring accuracy..

4.1 METHODOLOGY

This project utilizes UiPath RPA to automate travel planning tasks. It begins by gathering user input for the current and tour location via a dialog box. The system then extracts destination details and top attractions concurrently using parallel activities and stores the information in a text or Word file. Finally, the data is converted to a PDF and sent to the user via email using SMTP, ensuring an efficient and streamlined process.

1. Requirements Gathering:

The first phase involves understanding the user's needs by gathering requirements related to travel planning, such as input format for the current and tour location, required destination details (e.g., description, top attractions, distances), and the desired output format (PDF). Interaction with the user is primarily through input dialog boxes, and the output is delivered via email. Additionally, key technical requirements like web scraping, parallel processing, document generation, and email automation are outlined.

2. System Design:

The system design focuses on creating a workflow that automates the entire travel planning process. The design includes the automation of data extraction from a static website using UiPath activities like "Anchor," "Find Element," and "Get Text" for collecting destination information. The system utilizes parallel activities to run multiple data extraction processes simultaneously, increasing efficiency. A reporting mechanism is designed to append extracted data into a text or Word file, which is later converted into a PDF for easy distribution.

3. Implementation:

In the implementation phase, UiPath is used to develop the RPA workflow. The user provides the current and tour location, after which the automation script opens a web browser, extracts the relevant details, and stores the data. Parallel processing is implemented for efficient concurrent data extraction. The system then generates a report and converts it to PDF format. Finally, the automated email functionality is implemented using the SMTP mail message activity to send the report to the user.

4. Testing:

Testing involves verifying the correctness and efficiency of the workflow. Unit testing is performed for each individual activity (data extraction, report generation, PDF conversion, and email sending). Integration testing ensures that all components work together seamlessly. Additionally, the system is tested for edge cases such as incorrect or incomplete input, internet connectivity issues, and the format of the output PDF. User

acceptance testing is also conducted to ensure the system meets the user's requirements and expectations.

5. Deployment:

Once testing is complete, the project is deployed on the intended environment. The system is deployed in a live scenario where users can interact with the tool to generate travel plans. Documentation is provided for system maintenance and troubleshooting. The system is monitored post-deployment to ensure it operates as expected, and any bugs or issues encountered are addressed in subsequent updates**.**

4.1.1 MODULES:

1. User Input Module:

This module handles the user interaction, prompting the user for input via a dialog box. The user provides their current location and desired tour destination.

Requirements: Input validation to ensure correct format of locations.

2. Web Data Extraction Module:

This module automates the process of opening a static website and extracting relevant data. It uses UiPath activities such as "Anchor," "Find Element," and "Get Text" to gather descriptions, top attractions, and other travel details about the destination.

Requirements: Integration with web scraping tools, handling different page structures, and extracting accurate data.

3. Parallel Data Extraction Module:

This module manages concurrent data retrieval using UiPath's "Parallel" activity, ensuring that different data points (description, top attractions, and travel distances) are extracted simultaneously for efficiency.

Requirements: Proper synchronization and management of parallel tasks to avoid conflicts and ensure smooth execution.

4. Report Generation and Storage Module:

Once the data is extracted, this module compiles the information into a text or Word document. It uses UiPath's "Append Text" activity to store the data and creates a structured report.

Requirements: Document formatting and ensuring that data is organized correctly in the report.

5. PDF Conversion Module:

This module converts the generated text or Word document into a PDF file. It ensures that the report is ready for distribution.

Requirements: Integration with tools for file conversion, ensuring the layout and formatting are preserved in the PDF.

6. Email Notification Module:

This module automates the process of sending the generated PDF report to the user via email using the "SMTP Mail Message" activity in UiPath.

Requirements: SMTP configuration, email content customization, and error handling for failed email sending.

7. Error Handling and Logging Module:

This module tracks any errors or exceptions during the process, logs them for troubleshooting, and ensures that the user is notified in case of issues.

Requirements: Comprehensive error handling, logging mechanisms, and user-friendly notifications.

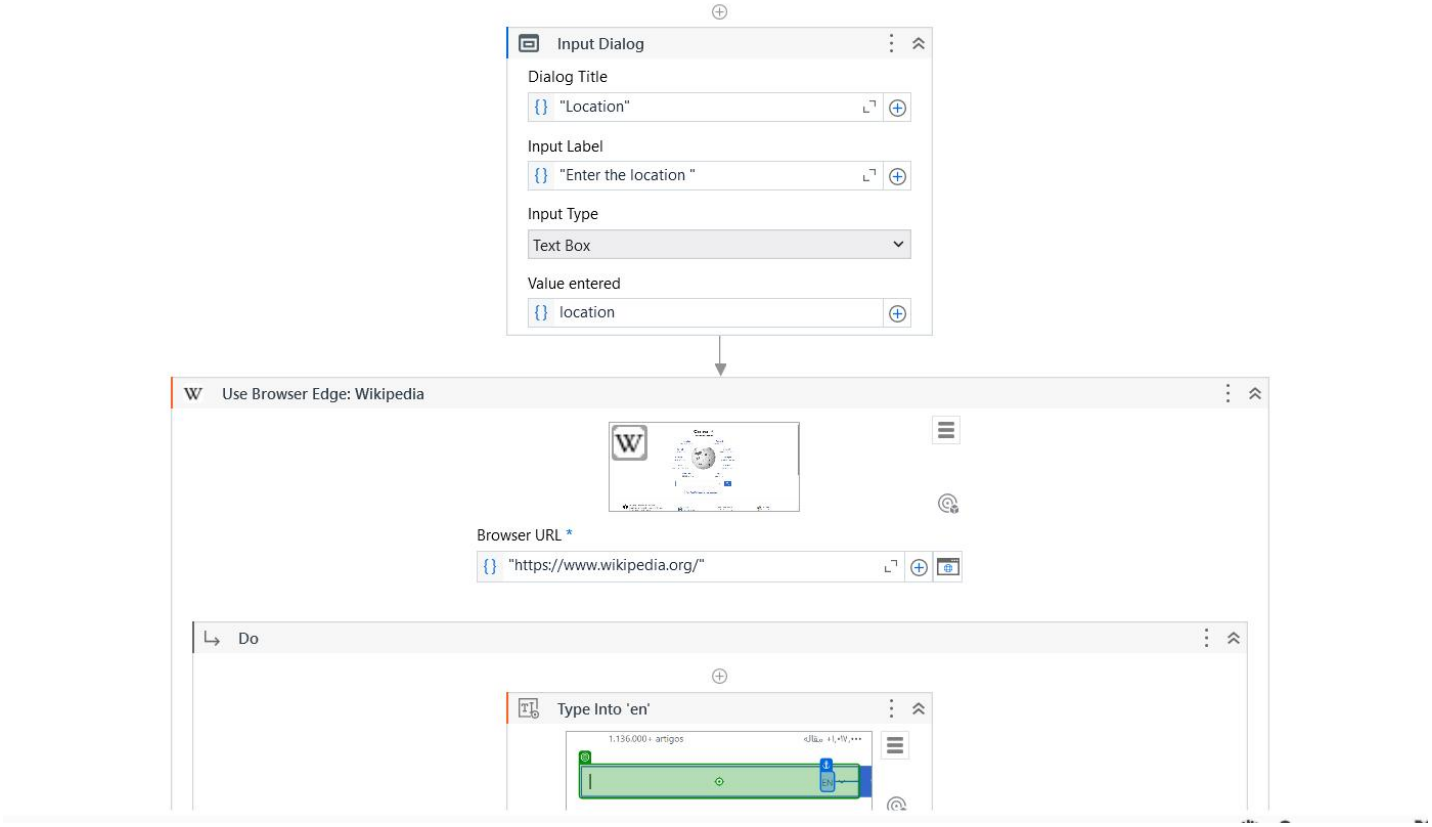
8. System Monitoring and Maintenance Module:

This module ensures that the system is running smoothly after deployment. It includes monitoring the execution of the RPA process, checking for issues, and performing regular updates or bug fixes.

Requirements: Tools for monitoring the RPA workflow, system health checks, and maintenance scripts.

CHAPTER-5

OUTPUT SCREENSHOT



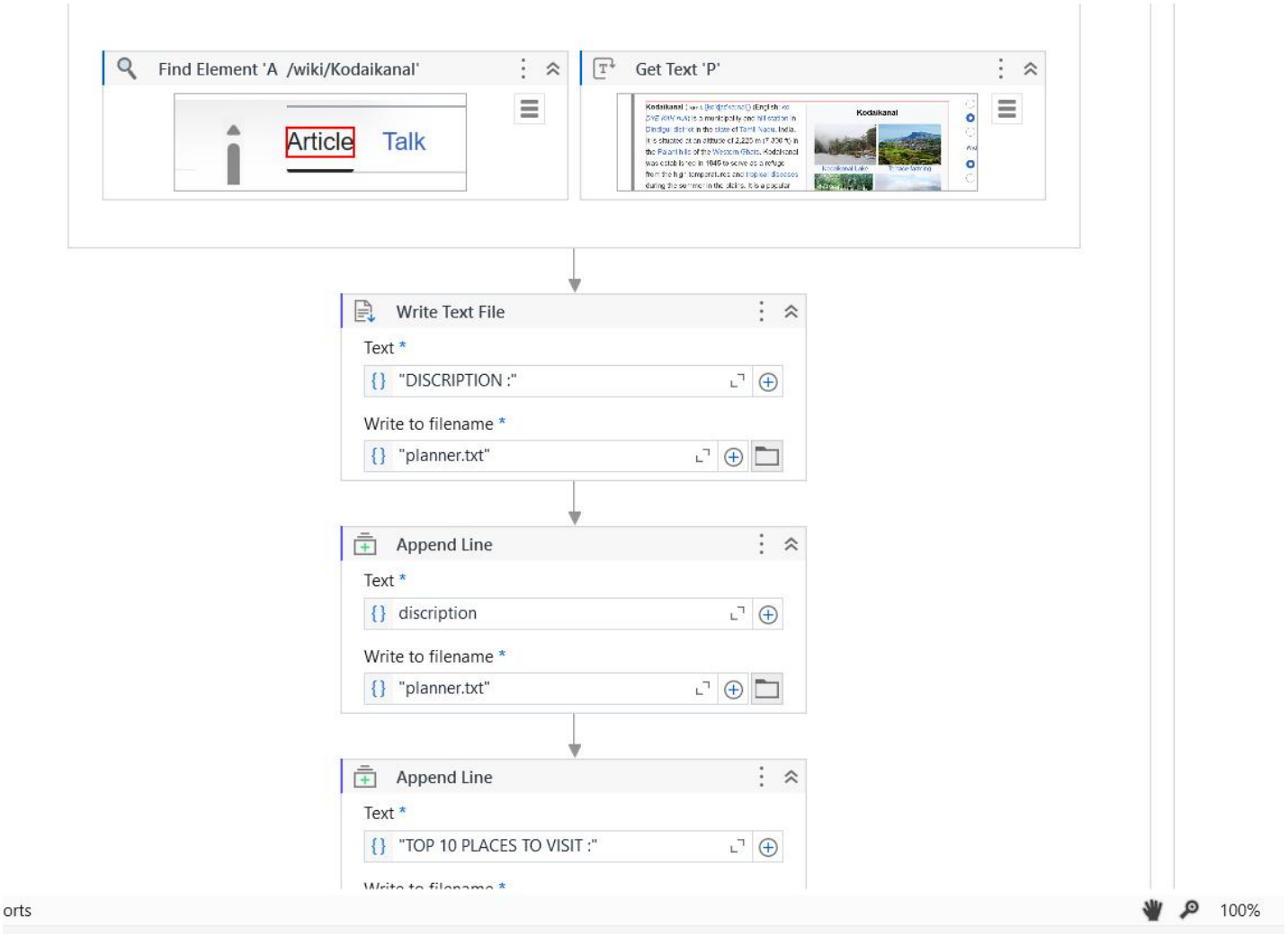


Fig. 5.2. Overview Of Workflow

DISCRIPTION :
Kodaikanal (.mw-parser-output .IPA-label-small{font-size:85%}.mw-parser-output .references .IPA-label-small,.mw-parser-output .infobox .IPA-label-small,.mw-parser-output .navbox .IPA-label-small{font-size:100%}Tamil: [ko'ɖar'ka:nəl]) (English: ko-DYE-KAH-null) is a municipality and hill station in Dindigul district in the state of Tamil Nadu, India. It is situated at an altitude of 2,225 m (7,300 ft) in the Palani hills of the Western Ghats. Kodaikanal was established in 1845 to serve as a refuge from the high temperatures and tropical diseases during the summer in the plains. It is a popular tourist destination and is referred to as the "Princess of Hill stations" with much of the local economy is based on the hospitality industry serving tourism. As per the 2011 census, the city had a population of 36,501.

TOP 10 PLACES TO VISIT :
Some of the best places to visit near Kodaikanal include12345:Kodaikanal LakeBerijam LakePillar RocksBryant ParkSilver Cascade WaterfallCoaker's WalkDolphins NoseGreen Valley ViewKodaikanal Solar ObservatoryThalaiyar FallsCanopy HillPambar FallsPine Tree ForestLearn more:×This summary was generated using AI based on multiple online sources. To view the original source information, use the "Learn more" links.1Top 15 Places to Visit in Kodaikanalkodaikanaltravelogu…2Places to Visit in Kodaikanal - Thrillophiliathrillophilia.com315 Best Places to Visit in Kodaikanal in 2 Days - 2…thrillophilia.com419 Places Near Kodaikanal In 202…traveltriangle.c…5Exploring The Best Places Near Kodaikana…captureatrip.comSee moreNew content will be added above the current area of focus upon selectionSee less

Fig. 5.3.Framework Of text file

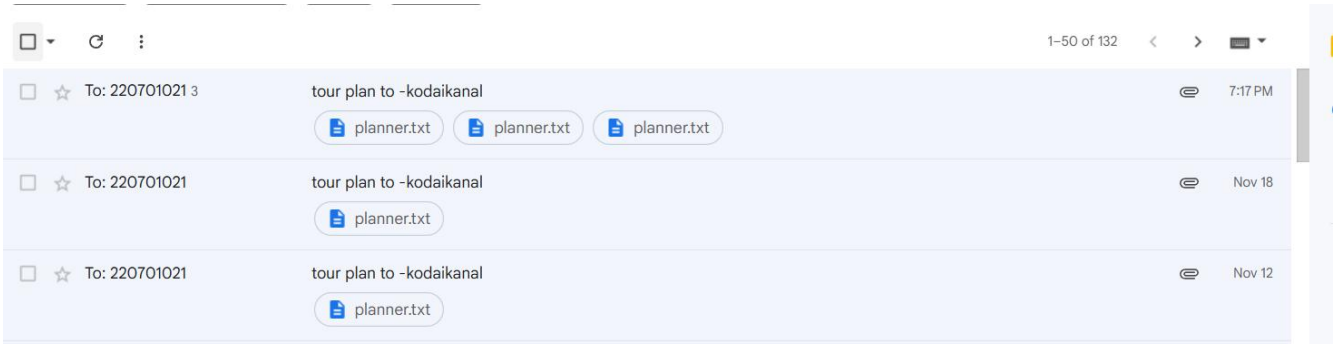


Fig. 5.4. Sample Mail

CHAPTER-6

CONCLUSIONS

The "Tour Planner" project successfully automates the travel planning process, streamlining the retrieval of crucial destination information and providing users with a detailed, structured travel report. By leveraging UiPath's RPA capabilities, the system efficiently extracts data, runs tasks in parallel, and generates a personalized travel plan in PDF format. This project demonstrates the potential of RPA to improve efficiency and enhance user experience in the tourism domain, eliminating the need for manual data gathering and report creation. With automated email delivery, the solution ensures a seamless, user-friendly process, making travel planning faster and more convenient for users. The "Tour Planner" sets a foundation for further enhancements in automation within the travel and tourism industry, promising greater scalability and ease of use in future iterations.

6.1 GENERAL:

The "Tour Planner" project automates the travel planning process, making it more efficient and user-friendly. It allows users to input their current location and desired tour destination through a dialog box. The system extracts detailed information about the destination, including descriptions, top attractions, and travel distances, using UiPath’s web scraping capabilities. These tasks run in

parallel to optimize processing time. The collected data is compiled into a text or Word file, which is then converted into a PDF. The system automatically sends the generated PDF report to the user's email via SMTP. This eliminates the need for manual research and report creation, saving time and effort. The project demonstrates how RPA can enhance user experience in the travel industry. It offers an integrated, end-to-end solution for travel planning. The "Tour Planner" project not only simplifies travel planning but also showcases the practical application of automation in everyday tasks.

APPENDICES

Appendix 1: Key Code Snippets

This appendix provides **code snippets** for essential functionalities such as:

1. Extracting the required data
2. Add the details in a text file
3. Sending emails via SMTP.

Appendix 2: Process Overview

This appendix includes a **Process Overview** generated by the UIPath, illustrating the dynamic data insertion and format customization.

Appendix 3: 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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