AUTOMATED RESUME GENERATOR BOT

A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

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ABSTRACT

In the modern recruitment process, a professional and well-structured resume is a key to creating a positive impression. However, crafting a resume that adheres to specific formats and professional standards can be time-consuming and challenging. This project introduces an Automated Resume Generator Bot, developed using UiPath Robotic Process Automation (RPA), which simplifies the process of resume creation. The bot leverages UiPath's Excel Application and Write to Document activities to automate the generation of resumes. Users provide their information in a preformatted Excel sheet and select their desired template from available options. The bot processes this data, maps it to placeholders in the selected template, and generates a professional resume. This solution is user-friendly and reduces manual effort while ensuring accuracy and consistency in resume formatting. Its scalable architecture supports additional templates and data fields, making it versatile for a wide range of users. This project demonstrates the potential of RPA in automating repetitive tasks, saving time, and enhancing productivity.

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.I.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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LIST OF ABBREVIATIONS

ABBREVIATION	ACCRONYM
RPA	Robotic Process Automation
UI	User Interface
MS	Milliseconds
HTML	Hypertext Markup Language
URL	Uniform Resource Locator

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The resume plays a pivotal role in the job application process, serving as a candidate's first impression on potential employers. Crafting a professional, well-structured resume is often a tedious and time-intensive task, particularly when tailoring it to specific job requirements or templates. To address this challenge, the Automated Resume Generator Bot has been developed using UiPath Robotic Process Automation (RPA). This project focuses on streamlining the process of resume creation by automating repetitive tasks and enhancing the efficiency of generating professional resumes. The bot ensures accuracy, consistency, and adherence to the selected template format, addressing the need for customization and professionalism in modern resumes. This automated solution is not only user-friendly but also scalable, enabling the integration of additional templates or fields based on user requirements. By eliminating the manual effort involved in resume preparation, this project demonstrates the potential of RPA to simplify routine tasks while maintaining high-quality output. This project highlights the transformative potential of RPA in automating routine yet essential tasks, ultimately enabling users to focus on other critical aspects of their professional journey.

1.2 OBJECTIVE

The primary objective of this project is to develop an Automated Resume Generator Bot using UiPath Robotic Process Automation (RPA) to transform the resume creation process into a seamless and efficient experience. Traditional methods of resume preparation require significant manual effort, including data entry, formatting, and template adjustments. This bot aims to eliminate these challenges by providing an automated solution that simplifies the process while maintaining high standards of professionalism. The bot focuses on automating data handling by retrieving user-provided information from a structured Excel sheet. This ensures that all input data is accurately processed and seamlessly mapped to predefined placeholders in the selected resume template. By offering users a choice of customizable templates, the bot allows for personalization while maintaining a consistent and professional appearance.

1.3 EXISTING SYSTEM:

In the traditional process of creating a resume, individuals manually compile and organize their personal, academic, and professional information into a document. They then format this information to match a specific template, often using tools like Microsoft Word or Google Docs. While these tools provide flexibility, the manual effort involved in customizing resumes for multiple job applications can be overwhelming, particularly for users who lack technical proficiency or design skills. Existing online resume builders attempt to simplify this process by providing predefined templates. However, these solutions often require users to manually input data through a series of forms, which can be repetitive and time-consuming. Additionally, some platforms limit functionality behind paywalls, restricting access to advanced templates or features. Another challenge is maintaining consistency in formatting and accuracy in data entry, which becomes difficult when managing resumes for various job roles. These inefficiencies highlight the need for an automated solution that can handle both data input and

template customization seamlessly. This project addresses these limitations by leveraging Robotic Process Automation (RPA) to automate the resume creation process. By using structured input data from Excel and dynamically mapping it to placeholders in predefined templates, the Automated Resume Generator Bot eliminates manual formatting and significantly enhances efficiency and user convenience.

1.4 PROPOSED SYSTEM

The proposed system is an Automated Resume Generator Bot built using UiPath Robotic Process Automation (RPA) to streamline and enhance the process of resume creation. This system automates the traditionally manual tasks of collecting, organizing, and formatting user data into a professional resume. At the core of the system is a structured workflow designed to ensure accuracy, consistency, and flexibility while significantly reducing the time and effort involved. The process begins with the user entering their details, such as personal information, academic qualifications, professional experience, skills, and achievements, into a preformatted Excel sheet. This sheet is designed with predefined headers corresponding to various sections of a resume, ensuring that the input data is structured and easy for the bot to process. Users then select a preferred resume template from a range of professionally designed options, allowing for customization based on their specific requirements. Once the data and template are provided, the bot retrieves the information from the Excel sheet using UiPath's Excel Application activity. It then dynamically maps the data to placeholders within the selected resume template, ensuring accurate population of the document. The bot uses the Write to Document activity to format and structure the content in alignment with the template's design, ensuring a polished and professional appearance. Additionally, the bot incorporates validation mechanisms to ensure completeness and correctness of the input data. If any mandatory fields are missing or contain errors, the bot can notify the user to

make corrections before proceeding. This reduces the likelihood of generating incomplete or erroneous resumes. The system also supports scalability, allowing for the addition of new templates and data fields to cater to diverse user needs. The proposed system addresses key challenges faced in traditional resume preparation, including manual errors, inconsistencies in formatting, and the time-consuming nature of customization. By automating these processes, the bot ensures that users can create high-quality resumes quickly and efficiently. Moreover, its user-friendly design makes it accessible even to individuals with minimal technical skills. This project highlights the potential of RPA in simplifying complex, repetitive tasks and provides a practical solution for enhancing productivity and user experience in resume preparation.

CHAPTER 2

LITERATURE REVIEW

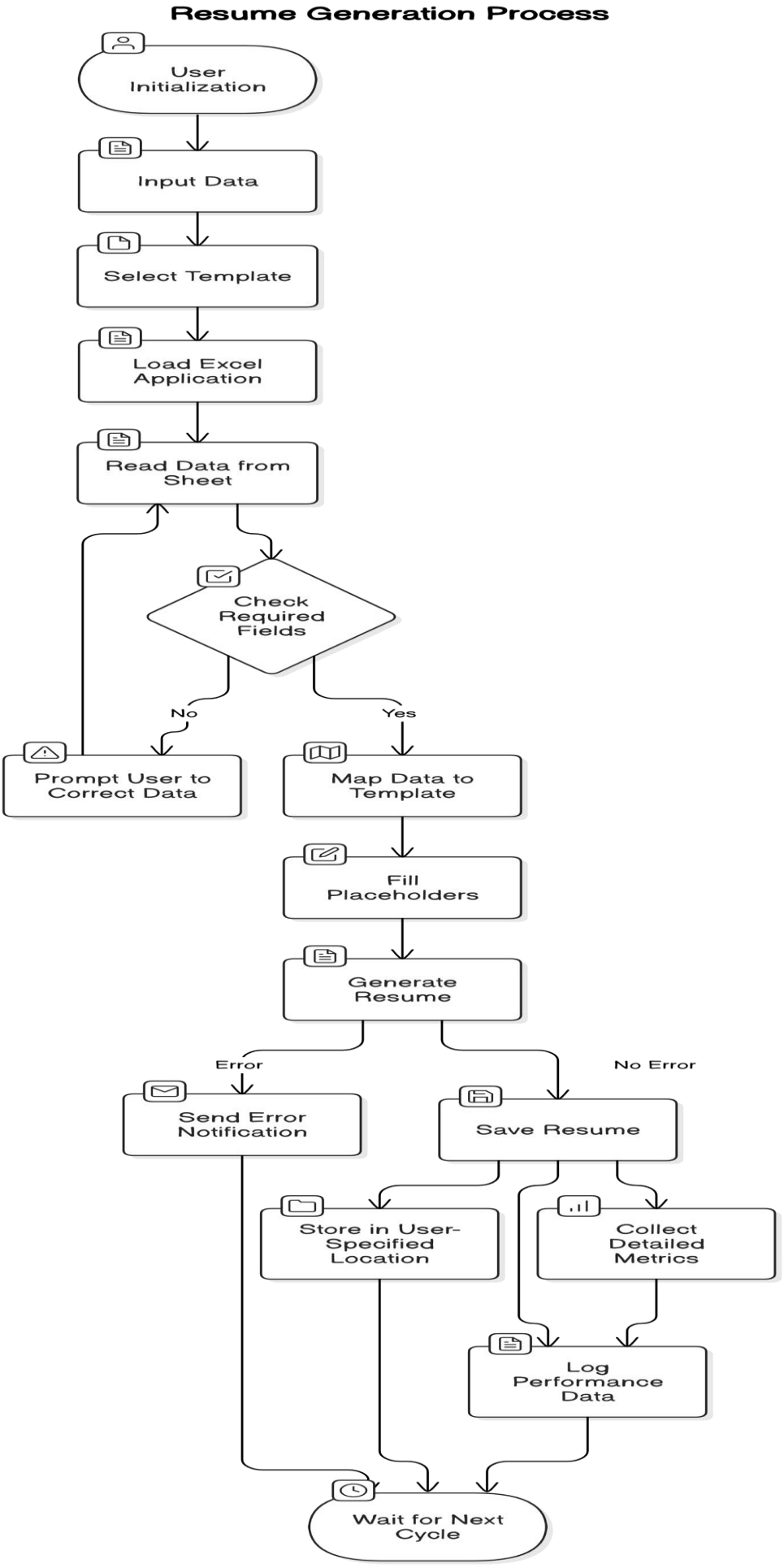
The development of the Automated Resume Generator Bot builds upon extensive research and established practices in various technical domains. In the field of automated document generation, numerous studies have emphasized the importance of reducing manual effort while maintaining accuracy and consistency, particularly in professional documents like resumes. Research indicates that automation in such tasks significantly improves efficiency and reduces errors, enhancing the overall user experience. The implementation of UiPath Robotic Process Automation (RPA) in this project has been guided by best practices in automation design, especially in data handling and document generation workflows. Studies in data structuring and validation have influenced the choice of using a preformatted Excel sheet as the input source, ensuring that user information is captured in a structured and error-free manner. Research on dynamic template generation has informed the system's approach to mapping input data to predefined placeholders within resume templates, ensuring seamless population and professional formatting. Technical literature on document automation has guided the implementation of activities such as UiPath's Excel Application and Write to Document, ensuring reliable data extraction and template customization. Studies in error handling and user feedback mechanisms have contributed to the development of validation checks that notify users of incomplete or erroneous input, enhancing system reliability. The system's scalability and adaptability to support additional templates and data fields draw upon established patterns in software design and automation architecture. Research in user interface design and customization has influenced the template selection process, ensuring flexibility to meet diverse user needs. Additionally, studies on output quality in automated systems have informed the standards for resume formatting and structure. The literature review also incorporates best practices in workflow optimization and RPA deployment, demonstrating the transformative potential of automation in simplifying complex, repetitive tasks like resume creation.

CHAPTER 3

SYSTEM DESIGN

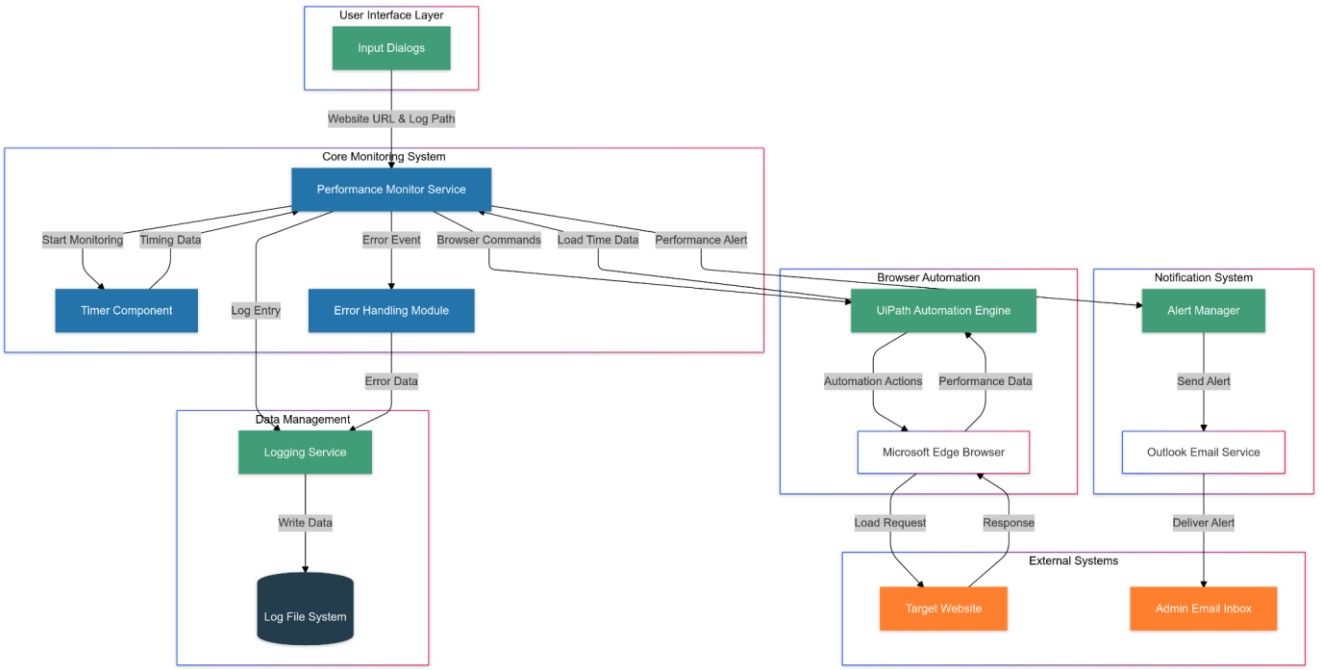
3.1 SYSTEM FLOW DIAGRAM

The system flow for the Automated Resume Generator Bot represents a comprehensive cycle of data processing and resume generation activities. The process begins with user initialization, where administrators or users input their personal and professional information into a preformatted Excel sheet and select the desired resume template. The system then enters its main generation loop, which consists of several key stages. Initially, the bot prepares for the resume generation by initializing the Excel application and loading the selected resume template. The system then reads the data from the Excel sheet, mapping the user-provided information to the corresponding placeholders within the resume template. During this process, the bot ensures that all required fields are populated, and it checks for missing or erroneous data. If any required information is missing, the system prompts the user for correction, ensuring that the data is accurate and complete before proceeding. The bot then generates the resume by filling in the placeholders with the data and formatting it according to the selected template. The completed resume is saved in the desired format (such as PDF or DOCX) and stored in a user-specified location. Simultaneously, the system logs key performance data, such as the time taken for the resume generation process, to a CSV file for historical reference. If any errors or issues are detected during the generation process, such as missing data or issues with formatting, the bot triggers an alert mechanism..


Resume Generation Process
User Initialization
Input Data
Select Template
Load Excel Application
Read Data from Sheet
Check Required Fields
No
Yes
Prompt User to Correct Data
Map Data to Template
Fill Placeholders
Generate Resume
Error
No Error
Send Error Notification
Save Resume
Store in User-Specified Location
Collect Detailed Metrics
Log Performance Data
Wait for Next Cycle

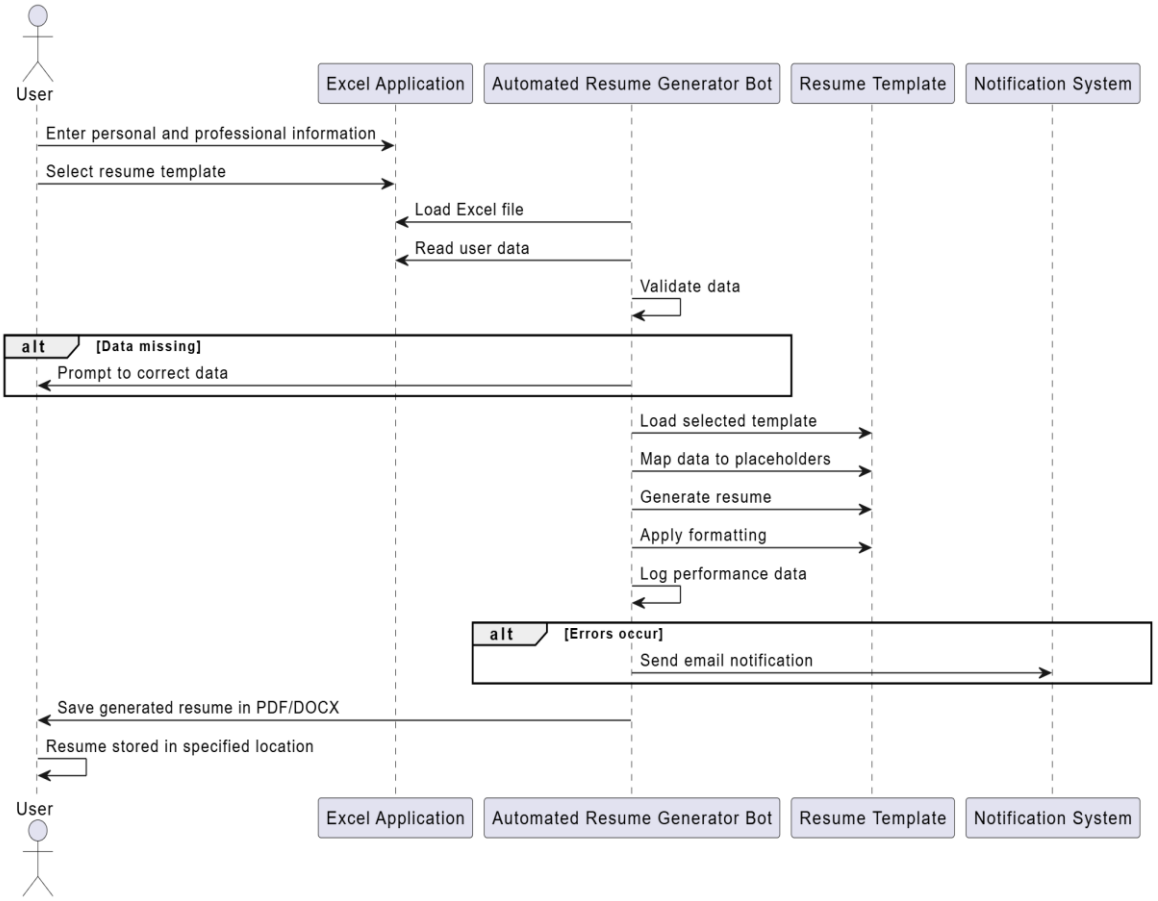
3.2 ARCHITECTURE DIAGRAM

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.



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.



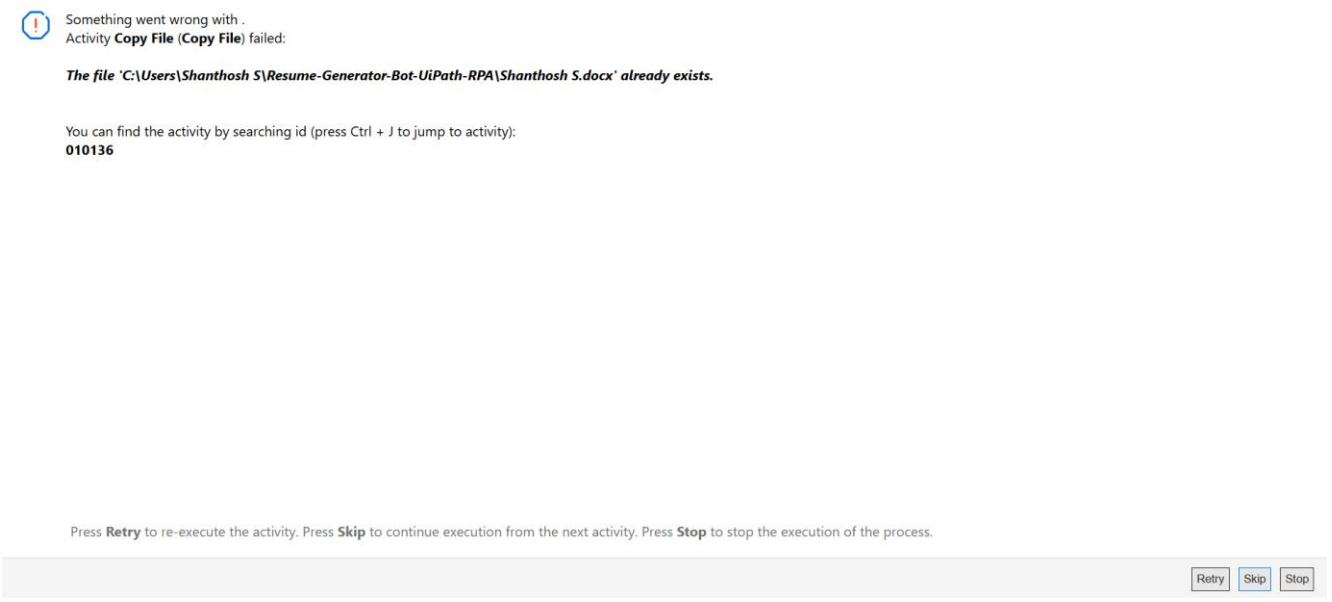
CHAPTER 4

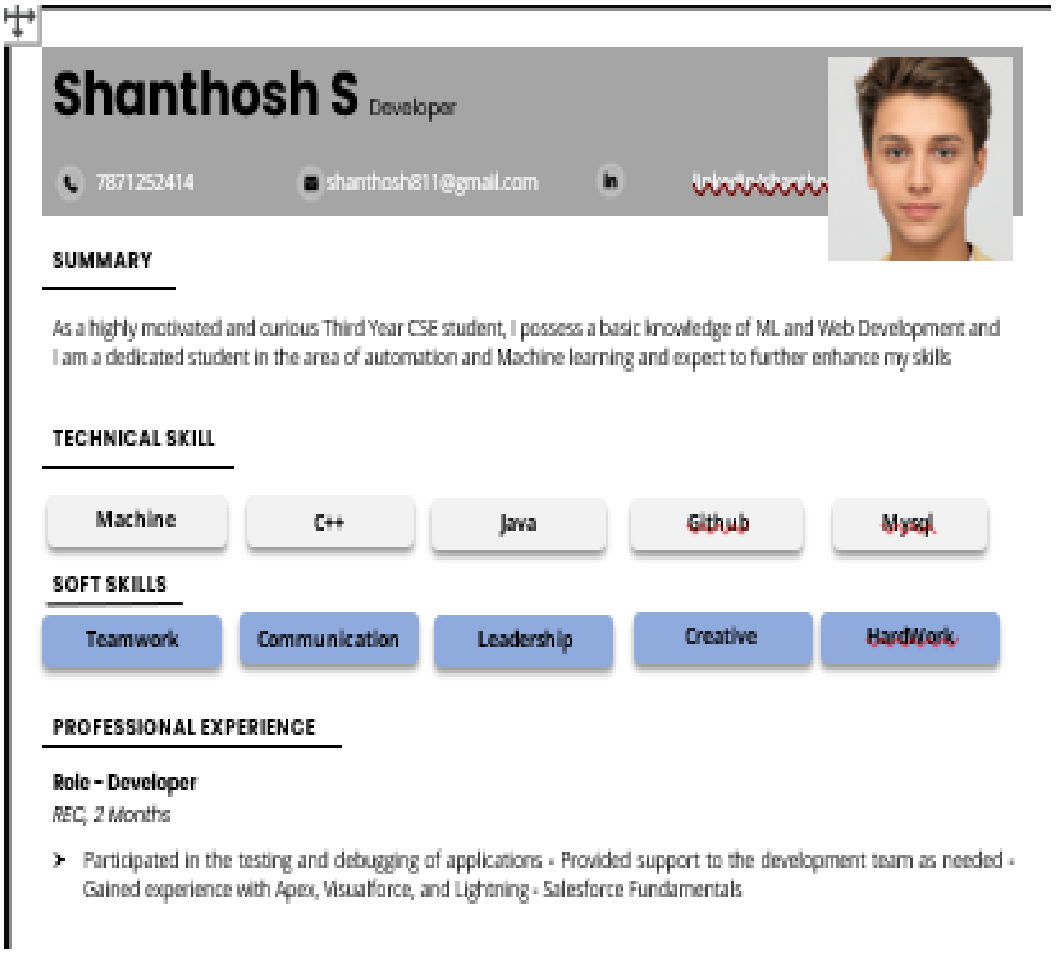
PROJECT DESCRIPTION

The Automated Resume Generator Bot represents a sophisticated automation solution that combines various technologies and components to simplify the resume creation process. The project utilizes UiPath Robotic Process Automation (RPA) to automate data handling, template selection, and resume generation, ensuring an efficient and error-free user experience. The system's core functionality includes reading user input from a structured Excel sheet, validating the data, and mapping it to predefined placeholders in the selected resume template. The bot ensures precise data entry, formatting, and customization by applying the appropriate template design to the user's information. Data logging capabilities are implemented through a CSV-based storage system that maintains detailed records of the resume generation activities, including the time taken for each task. The system also features an alert mechanism that notifies users in case of any missing or incorrect data, ensuring timely correction before resume generation. Various configuration options are provided to users, allowing them to choose from different templates and specify where the generated resume should be saved. Error handling mechanisms are embedded throughout the system to ensure smooth operation, even in the case of incomplete data or template issues. Additionally, data validation and sanitization features guarantee that the collected information is accurate and consistent. The implementation follows best practices in RPA development, ensuring that the bot is maintainable, scalable, and capable of handling diverse resume generation tasks efficiently.

CHAPTER 5

OUTPUT SCREENSHOTS





Shanthosh S Developer

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SUMMARY

As a highly motivated and curious Third Year CSE student, I possess a basic knowledge of ML and Web Development and I am a dedicated student in the area of automation and Machine learning and expect to further enhance my skills

TECHNICAL SKILL

Machine | C++ | Java | Github | Mysql

SOFT SKILLS

Teamwork | Communication | Leadership | Creative | HardWork

PROFESSIONAL EXPERIENCE

Role - Developer

REC, 2 Months

- Participated in the testing and debugging of applications - Provided support to the development team as needed - Gained experience with Apex, Visualforce, and Lightning - Salesforce Fundamentals

This section provides visual documentation of the Automated Resume Generator Bot's various components and outputs. The input dialog screenshots demonstrate the user interface for configuring the resume generation process, showing the Excel sheet upload interface and template selection options. Log file content screenshots illustrate the structure and format of data storage, displaying timestamps, user details, and template selection information in CSV format. Alert email screenshots show the format and content of notifications in case of missing or incorrect data, including relevant details about the fields needing correction. Resume output screenshots demonstrate the bot's data presentation capabilities, showing examples of generated resumes with accurate formatting and data placement according to the selected template. The screenshots also include examples of error messages and system status notifications, providing a complete picture of the user interaction experience. Each screenshot is accompanied by detailed annotations explaining the relevant features and functionality, such as data validation checks and the resume generation process. This visual documentation helps users understand the system's operation and outputs, facilitating effective use and troubleshooting of the automation solution. The section includes examples of both normal operation and error conditions, ensuring comprehensive coverage of possible system states and outputs throughout the resume generation process.

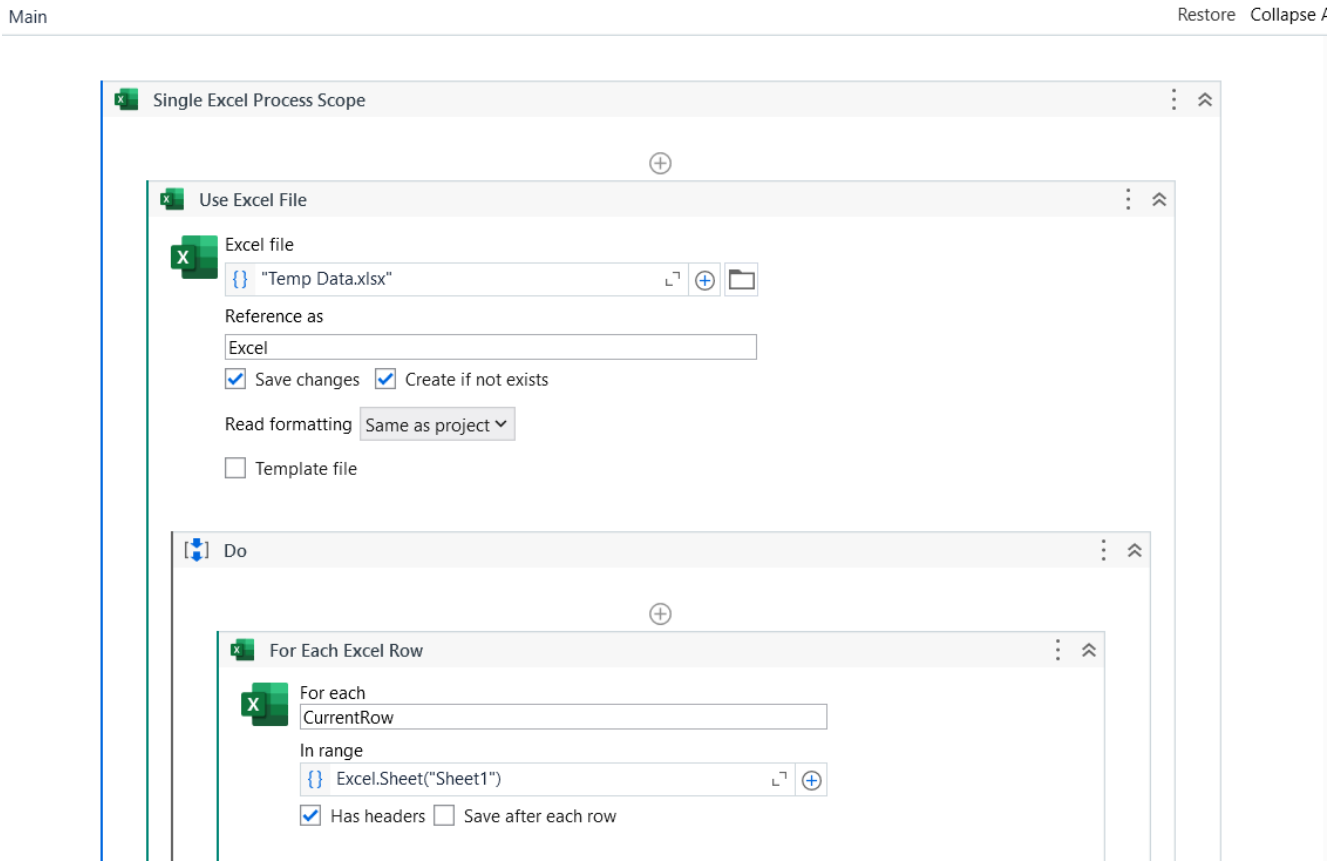
CHAPTER 6

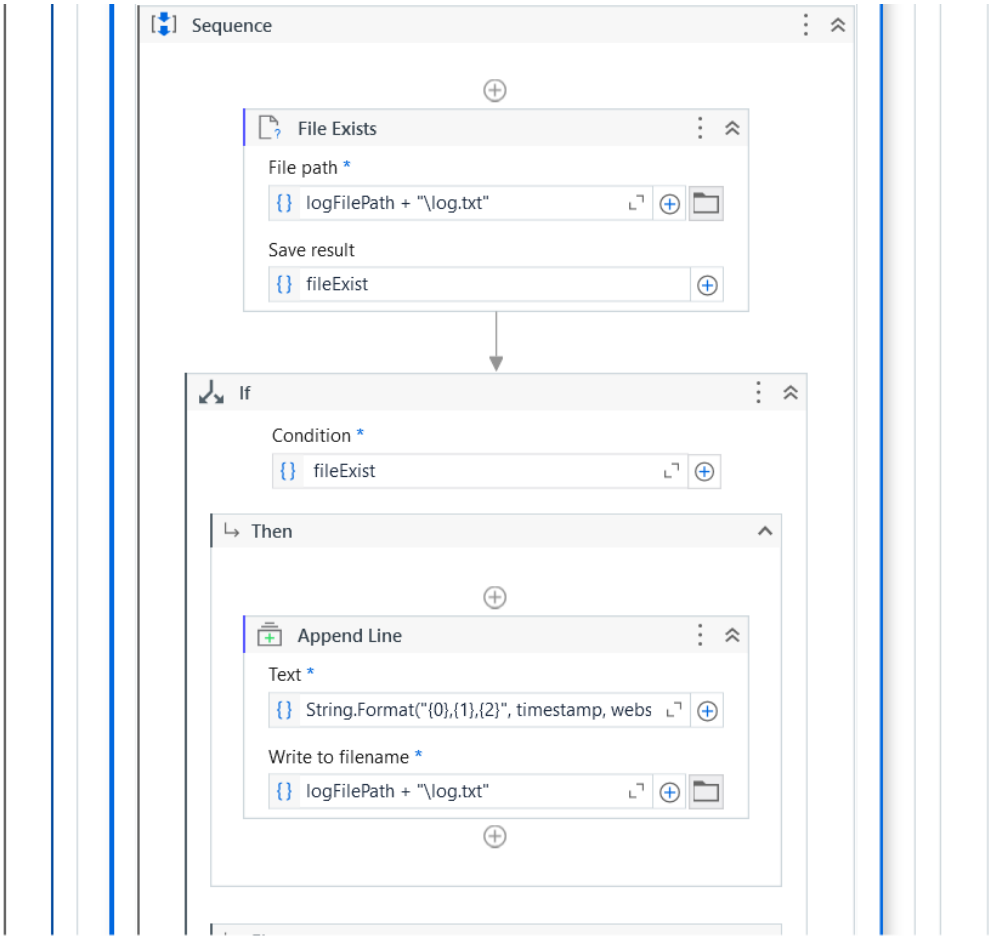
CONCLUSION

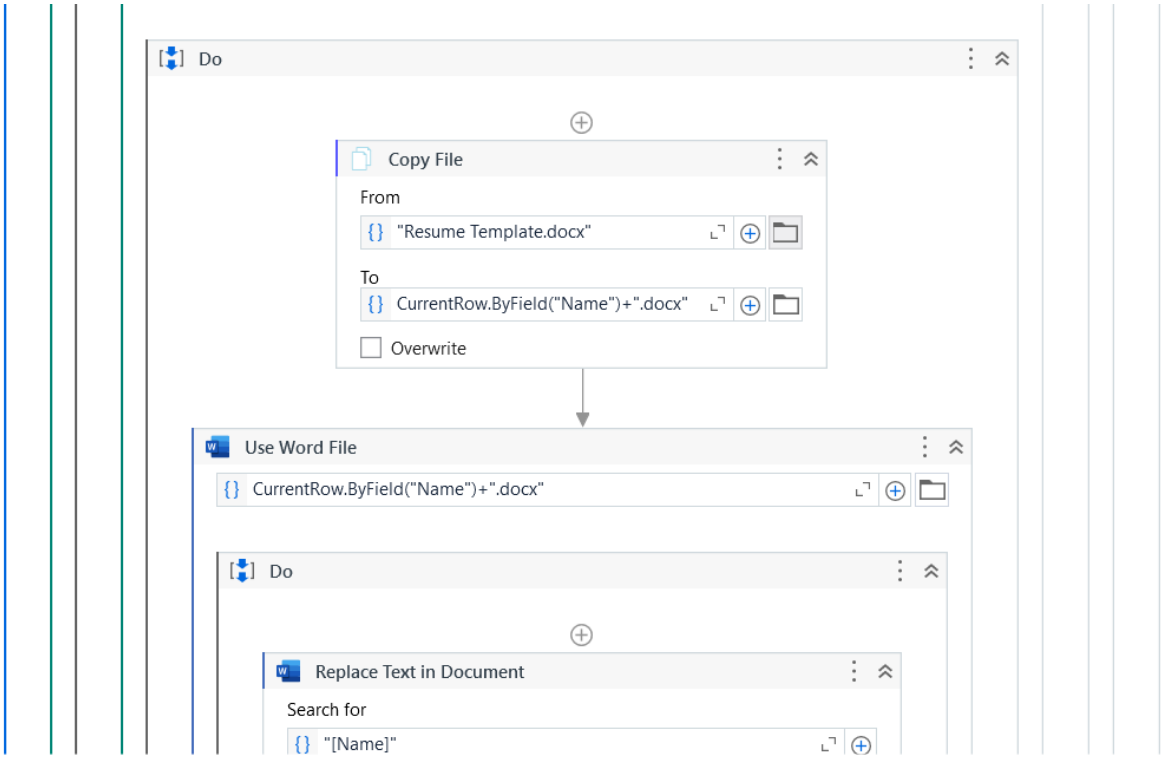
The Automated Resume Generator Bot successfully implements a comprehensive automated solution for streamlining the resume creation process. Through its implementation, users can generate accurate, well-formatted resumes with minimal effort, eliminating the need for manual data entry and formatting. The system's ability to validate and map user-provided data to predefined templates ensures that the generated resumes meet professional standards. The bot's efficiency in automating these tasks enhances productivity and reduces the potential for human error, making it a valuable tool for individuals and organizations alike. The comprehensive logging system provides valuable insights into the resume generation process, tracking performance metrics such as time taken for resume creation. This data can help in understanding the system's efficiency and identifying any potential issues. The project demonstrates the effective use of RPA technology to automate repetitive tasks, providing a scalable and maintainable solution for resume generation. Future enhancements could include expanding the template library, incorporating additional customization options for users, and integrating with other platforms, such as LinkedIn or job portals, to automatically pull in data for resume creation. The success of this implementation provides a solid foundation for further automation in the recruitment and HR domain, showcasing the potential of RPA to simplify administrative tasks and improve workflow efficiency.

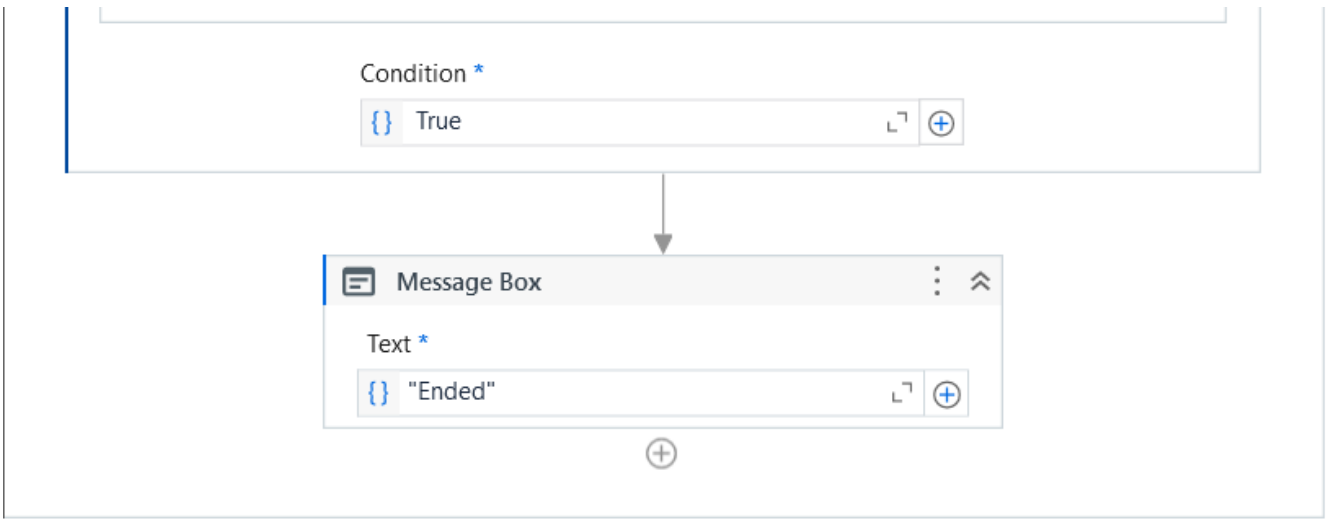
APPENDIX

PROCESS WORKFLOW




Sequence
File Exists
File path *
logFilePath + "\log.txt"
Save result
fileExist
If
Condition *
fileExist
Then
Append Line
Text *
String.Format("{0},{1},{2}", timestamp, webs
Write to filename *
logFilePath + "\log.txt"


Do
Copy File
From
"Resume Template.docx"
To
CurrentRow.ByField("Name")+".docx"
Overwrite
Use Word File
CurrentRow.ByField("Name")+".docx"
Do
Replace Text in Document
Search for
"[Name]"


Condition *
{} True
Message Box
Text *
{} "Ended"

REFERENCES

1. **UiPath Documentation (2024)** - Official documentation for UiPath Studio and related components used in automation solutions.
2. **"Resume Generation Best Practices"** - Industry guidelines for automating the resume creation process, including template design and data mapping.
3. **"RPA Implementation Guidelines"** - Best practices for developing robotic process automation solutions, ensuring scalability and maintainability.
4. **"Automation Design Patterns"** - Standard patterns and practices for developing efficient and reusable automation workflows.
5. **"Resume Formatting Standards"** - Guidelines for ensuring consistent and professional resume formatting across multiple templates.
6. **"Excel Automation Techniques"** - Technical guide for automating data extraction and handling from Excel sheets in RPA workflows.
7. **"Data Logging Best Practices"** - Guidelines for implementing effective data logging systems to track resume generation activities.
8. **"Alert System Design Patterns"** - Standard approaches for implementing notification systems to inform users about data validation or generation issues.
9. **"Resume Data Validation Standards"** - Comprehensive guide to validating user data and ensuring accuracy and completeness in resume creation.
10. **"Error Handling in RPA"** - Best practices for error management and exception handling in automation workflows, ensuring smooth user experience.