

Stock market report generation in Excel



A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report titled "Stock market report generation in Excel" is the bonafide work of GOWTHAM S (73772218117) who carried out the project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or anyother candidate.

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DECLARATION

I declare that the project report on "Stock market report generation in Excel" is the result of original work done by me and best of my knowledge. This project report is submitted on the partial fulfilment of the requirement of the award of Degree of Computer Science and Engineering.

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ABSTRACT

The "Stock market report generation in Excel using UiPath" project represents a paradigm shift in how individuals approach and create their stock market reports. By harnessing the automation capabilities of UiPath, the project aims to transcend the limitations of traditional methods, offering a dynamic and efficient solution for users across diverse skill sets. At the heart of this initiative is a thoughtfully designed user interface that caters to both tech-savvy users and those less familiar with complex technologies. This interface serves as the gateway to a seamless and automated stock market report creation process, guiding users through the input of stock symbols and relevant details.

UiPath's automation prowess takes center stage in the generation of dynamic content. The system intelligently interprets user input, fetching real-time stock data, and crafting a detailed and professionally formatted report in real-time. This not only expedites the report creation process but also ensures that the content remains relevant and impactful. The availability of a range of professionally designed templates adds a layer of customization, allowing users to choose layouts that align with industry standards or suit their personal preferences. The integration of industry-specific data, facilitated by UiPath, optimizes reports for enhanced analysis and decision-making.

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INTRODUCTION

The Stock market report generation in Excel using UiPath project represents a transformative leap in the realm of financial analysis, leveraging the capabilities of UiPath, a leading robotic process automation (RPA) platform. Creating detailed and accurate stock market reports is a pivotal aspect of financial analysis, yet the traditional approach often demands significant time and effort. This project seeks to revolutionize the report generation process by introducing an automated solution that streamlines and enhances the experience for users across diverse skill sets.

In a landscape where the demand for efficiency and personalization intersects with the rise of automation technologies, the Stock market report generation in Excel using UiPath emerges as a timely and innovative solution. By integrating UiPath, renowned for its automation prowess, the project aims to empower users to effortlessly create comprehensive stock market reports, catering to both seasoned analysts and individuals navigating the complexities of financial reporting.

This introduction sets the stage for exploring the key features and benefits of the Stock market report generation in Excel using UiPath, emphasizing the fusion of UiPath's automation capabilities with user-centric design principles. The project not only addresses the need for efficiency in report creation but also underscores the importance of personalization, accessibility, and data security. As financial analysts navigate increasingly competitive markets, this project stands as a beacon of innovation, offering a transformative tool that aligns with the evolving landscape of financial analysis.

As the curtain rises on this project, the fusion of technology and financial analysis takes center stage. The Stock market report generation in Excel using UiPath embodies a transformative vision—a vision where reports cease to be mundane documents and become dynamic reflections of comprehensive financial analysis. It marks a step towards a future where technology not only automates tasks but also enhances the very essence of financial reporting.

1.1 ABOUT THE PROJECT

The Stock market report generation in Excel using UiPath project represents a transformative approach to financial reporting, marrying cutting-edge technology with user-centric design. With an intuitive interface catering to users of varying technical proficiency, the project leverages UiPath's automation capabilities to dynamically generate and format stock market reports in real-time based on user input. Offering a diverse selection of professionally designed templates and incorporating intelligent data optimization, the system ensures relevance and visibility in competitive financial markets. Real-time editing and preview features empower users to iteratively refine their reports, making the process interactive and engaging. The project envisions a future where report creation is not just a task but a personalized and accessible journey, setting new standards in the realm of financial analysis.

1.2 PROJECT SCOPE

The project scope for the Stock market report generation in Excel using UiPath encompasses the development of an automated solution designed to streamline and enhance the financial report creation process. Leveraging UiPath's robotic process automation capabilities, the project will focus on creating an intuitive user interface for users to input their stock symbols and relevant financial details, while also dynamically generating and formatting report content in real-time. The scope extends to offering a variety of professionally designed templates, implementing industry-specific data optimization for enhanced visibility, and providing real-time editing and preview features to empower users in crafting tailored reports. Additionally, the project includes robust measures for data privacy and security, ensuring the protection of user information throughout the automation process. The ultimate goal is to deliver a comprehensive, efficient, and user-friendly Stock market report generator that aligns with the evolving needs of individuals navigating the competitive landscape of financial analysis.

1.3 Ui PATH OBJECTIVES

The objective of the Stock market report generation project using UiPath is to revolutionize the traditional process of financial report creation by leveraging UiPath's robotic process automation capabilities. The primary goal is to automate and streamline key aspects of the report-building workflow, including data extraction, validation, and content generation. This aims to enhance efficiency, reduce manual errors, and provide users with real-time and accurate results. The project also seeks to create an intuitive and user-friendly interface, ensuring accessibility for individuals with varying technical backgrounds. Furthermore, the objective includes the implementation of real-time editing and preview features, empowering users to iteratively refine their reports dynamically. Data privacy and security are paramount objectives, with stringent measures in place to protect user information throughout the report creation process, ensuring compliance with privacy standards and regulations. Ultimately, the overarching objective is to deliver a cutting-edge Stock market report generator that combines the power of UiPath automation with a user-centric design, providing individuals with an efficient, secure, and personalized tool for crafting impactful financial reports.

1.4 AIM AND SCOPE

The aim of the Stock market report generation project using UiPath is to revolutionize and simplify the financial report creation process, leveraging the advanced capabilities of UiPath's robotic process automation. The project seeks to empower users with an efficient, user-friendly, and dynamic tool that automates key aspects of financial report building, from data extraction to content generation, ultimately enhancing the overall user experience. The scope of the project encompasses the entire financial report creation workflow, with a focus on UiPath-driven automation. This includes designing and implementing an intuitive user interface to cater to users with varying technical proficiency. The project extends to the automation of data extraction, validation, and dynamic content generation, ensuring real-time and accurate results. Real-time editing and preview features are integrated to allow users to iteratively refine their reports, fostering a personalized and interactive experience.

LITERATURE REVIEW

1. Delineated Analysis of Robotic Process Automation Tools

In this age and time when celerity is normal out of the multitude of areas of the country, the speed of execution of different cycles and thus proficiency, turns into a noticeable factor. To work with the speeding requests of these different stages, Robotic Process Automation (RPA) is utilized. Robotic Process Automation can facilitate administrative centre errands in business ventures, distant administration undertakings in IT enterprises and protection of assets in numerous areas. To carry out RPA, numerous product stages are created and the goal of this paper will give an examination of three of the main RPA stages to be specific, UiPath Studio, Automation Anywhere and Blue Prism. Our examination will help the business enterprises the front-office as well as for administrative centre staff; to figure out which stage is the most qualified to utilize.

2. Robotic Process Automation: An Overview and Comparison to Other Technology in Industry 4.0

Conceptual—Robotic Process Automation (RPA) is an office mechanization arrangement that has filled quickly as of late. RPA is certifiably not an actual robot, it is a product that act like human in communicating with PC. The Activities like understanding messages, opening connections, entering information, making reports and others, is done quick, precise and dependable. RPA has three unique sorts; went to mode, unattended mode and half breed, which can be utilized for different cycles in numerous divisions, for example, buying, creation, HR, deals and showcasing. RPA brings benefits for organizations, clients and representatives. Notwithstanding, the impediments of RPA are as yet a test that should be overwhelmed by programming designers and other specialist co-op. Contrast with other innovation (PPS, Digital Twin, AR and VR), RPA gives most noteworthy effectiveness in work force cost and it requires least venture cost. RPA is generally simple to adjusted and incorporated into interaction and framework in the organization, so the advancement season of RPA is more limited than other innovation.

3. A Review on Web Scrapping and its Applications

Internet concedes a wide extent of realities and information source set up by people. However, it will comprise of a colossal combination of unique and debilitated coordinated information, testing in assortment in an actual methods and problematical for its utilization in mechanical cycles. Since the new past, systems alongside different outfits have been created to allow information gathering and change into coordinated data to be refined by B2C what's more, B2B frameworks. This paper will zero in on different parts of web scratching, starting with the essential presentation and a brief conversation on different programming's and instruments for web rejecting. We had likewise clarified the interaction of web scratching with an elaboration on the different kinds of web scratching procedures lastly closed with the advantages and disadvantages of web scratching and an in detail depiction on the different fields where it very well may be applied. The openings exploiting these information are various which will incorporate territories concerning Open Government Data, Enormous Data, Business Intelligence, aggregators and comparators, improvement of new applications and mashups among formers.

4. Temporal and Flexible Automation of Machine Tools

Today, stacking machine apparatuses in little and average estimated ventures is basically done physically by machine administrators. Low amount and high change in mechanical segments creation require a high adaptable robotization measure which is normally not feasible for contract makers. This paper portrays an idea of a versatile robot stage – comprising of a shared robot, grasping innovation and a natural errand based programming framework – which empowers little and medium measured ventures (SME) to transitory robotize the machine stacking measure.

5. Research on Software Testing Techniques and Software Automation Testing Tools

Software Testing is a cycle, which includes, executing of a software program/application and discovering all mistakes or bugs in that program/application so the outcome will be a deformity free software. Nature of any software must be known through methods for testing (software testing). Through the headway of innovation all throughout the planet, there expanded the quantity of check strategies and techniques to test the software before it goes to creation and off kilter to showcase. Mechanization Testing has had its effect in the testing interaction. Presently a-days, the greater part of the software testing is finished with the mechanization apparatuses which not just decreases the quantity of individuals working around that software yet additionally the blunders that can be gotten away through the eyes of the analyzer. Mechanization testing contains experiments which makes the work simple to catch various situations and store them. Along these lines, software robotization testing measure assumes an imperative part in the software testing achievement. This investigation points in knowing various sorts of software testing, software testing strategies and apparatuses and to look at manual testing versus mechanization testing.

6. Recent Trends in Automation-A study of RPA Development Tools

Robotic process automation is a savvy approach to oversee work across those machines which AI can without much of a stretch be order. Robot Automation is a succession of steps that gives bring about a significant activity without obstruction of individual. In any association, Robot automation can perform undertakings very much like an individual. RPA is a program wherein arrangement of orders are executed according to the predefined rules of association. At the point when any association change its guidelines then it is possible that it needs to recruit new worker those can work with new standards or it need to give preparing to existing representatives to plan the necessities of new principles. These the two different ways are time and cash burning-through. By the utilization of Robotic automation, the organization can put compelling specialists those can do an impression of human labour.

METHODOLOGY AND IMPLEMENTATION

3.1 EXISTING SYSTEM

In the existing system the existing system for workflow automation in business processes, manual methods are predominantly used. These methods often require human intervention for data entry, processing, and validation. While traditional software and systems facilitate some level of automation, they frequently fall short in terms of efficiency, scalability, and accuracy. Current solutions often lack advanced features such as dynamic content generation, real-time data analysis, and robust integration capabilities, leading to increased operational costs and time consumption. Additionally, these systems can be prone to human error and may not adapt well to changing business requirements and technological advancements..

3.2 PROPOSED SYSTEM

The Proposed system for workflow automation leverages Robotic Process

Automation (RPA) using UiPath to address the limitations of the existing manual methods. This advanced system aims to enhance operational efficiency by automating repetitive and timeconsuming tasks. Key features include:

- **Intuitive User Interface:** A user-friendly interface that allows for real-time editing and monitoring of automated processes.
- **Dynamic Content Generation:** Automated generation and customization of content based on predefined templates and rules.
- **Data Extraction and Validation:** Accurate data extraction and validation to ensure consistency and reliability.
- Integration Capabilities: Seamless integration with existing systems and applications to ensure smooth data flow and interoperability.
- **Security Measures:** Implementation of robust data privacy and security measures to protect sensitive information.

The proposed system intends to streamline business processes, reduce operational costs, and improve overall productivity by minimizing human intervention and errors

3.3 MODULES

- Automation Tools
- Automation Engine
- UiPath

3.3.1 Automation tools

The tools required for the technique are automation tools. Data scrapping or excel management system all these comes under the automation tools. These tools help us to do the workflow in a single way.

3.3.2 Automation engine

It is a new feature which is used to automate any task. It helps you to automate many tasks or multiple tasks in a same factor but automation engine is a beta engine to do with it the process must be highly efficient.

3.3.3 UiPath Studio

It is a major application to do automation where each and every tool is prebuilt in it. The tools working in UiPath studio helps any kind of task been automated the major module of this process is UiPath studio.

3.4 OVERVIEW OF RPA

Robotic process automation (or RPA) is a form of business process automation technology based on metaphorical software robots or on artificial intelligence. Sometimes it is referred as a software robot. In traditional workflow tools, a software developer produces a list of actions to automate a task and interface to the back-end system using internal application program interface (APIs) or dedicated scripting language. In contrast, RPA systems develop the action list by watching the user perform that task in the application's graphical user interface (GUI), and then perform the automation by repeating those tasks directly in the GUI. This can lower the barrier to use of automation in products that might not otherwise feature APIs for this purpose.

3.5 RPA FEATURES

The typical benefits of robotic automation include reduced cost increased speed, accuracy, and consistency; improved quality and scalability of production. Automation can also provide extra security, especially for sensitive data and financial services. As a form of automation, the concept has been around for a long time in the form of screen scrapping, which can be traced back to early forms of malware. However, RPA is much more extensible, consisting of API integration into other enterprise applications, connectors into ITSM systems, terminal services and even some types of AI (example Machine Learning) services such as image recognition.

A principal barrier to the adoption of self-service is often technological: it may not always be feasible or economically viable to retro-fit new interfaces onto existing systems. Moreover, organizations may wish to layer a variable and configurable set of process rules on top of the system interfaces which may vary according to market offerings and the type of customer. This only adds to the cost and complexity of the technological implementation. Robotic automation software provides a pragmatic means of deploying new services in this situation, where the robots simply the behaviour of humans to perform the backend transcription or processing. The relative affordability of this approach arises from the fact that no IT new transformation or investment is required; instead the software robots simply leverage greater use out of existing IT assets.

There are however several risks with RPA. Criticism include risks of stifling innovation and creating a more complex maintenance environment of existing software that now needs to consider the use of graphical user interfaces in a way they weren't intended to be used.

According to business review, most operations groups adopting RPA have promised their employees that automation would not result in layoffs. Instead, workers have been redeployed to do more interesting work. One academic study highlighted that knowledge workers did not feel threatened by automation: they embraced it and viewed the robots as team-mates. The same study highlighted that, rather than resulting in a lower "headcount", the technology was deployed in such a way as to achieve more work and greater productivity with the same number of people.

RESULTS AND DISCUSSION

4.1 RESULTS

SCREENSHOTS:

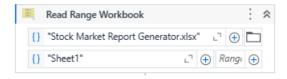


Fig 1- Read Excel File



Fig 2- Open Browser to extract data

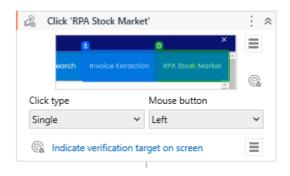


Fig 3- Select Stock Market

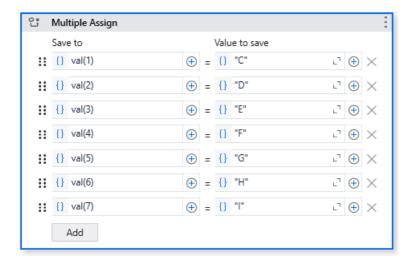


Fig 4- Dictionary for Achieve row wise write data in excel process scope

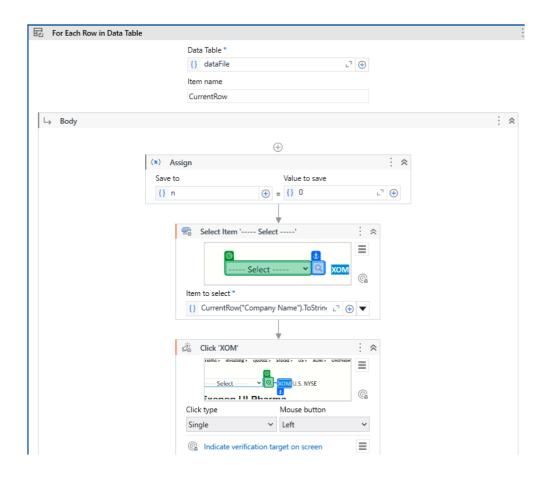


Fig-5 Loop the process First Select Company name

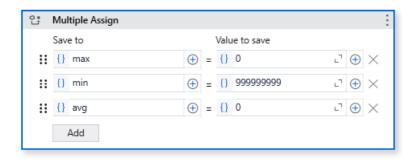
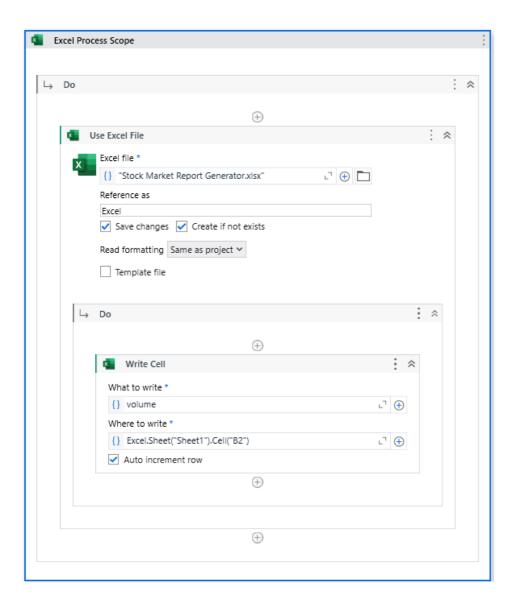


Fig-6 Create variable to store corresponding values







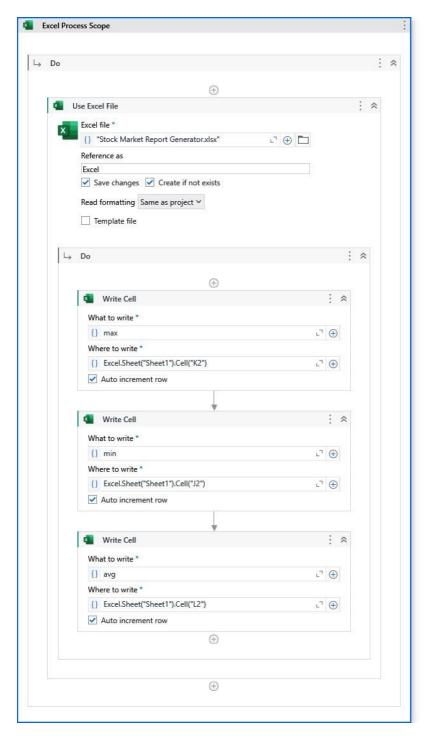


Fig-7 Fetch some sample values and analysis

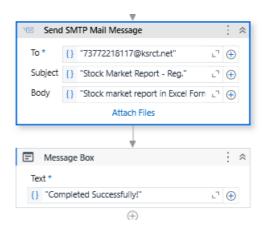


Fig – 8 Send report to clint and show completed message.

INPUT:

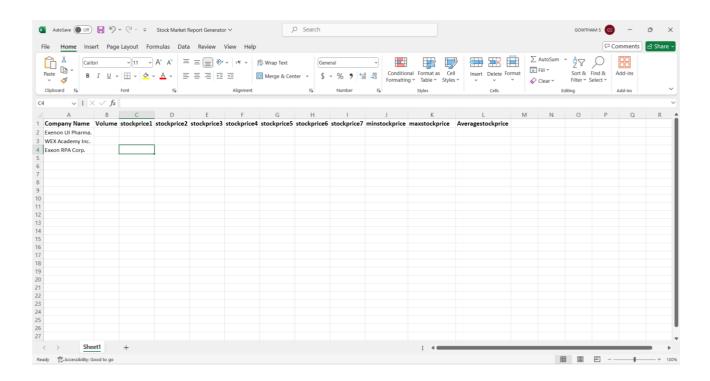


Fig 9 - Input from User

OUTPUT:

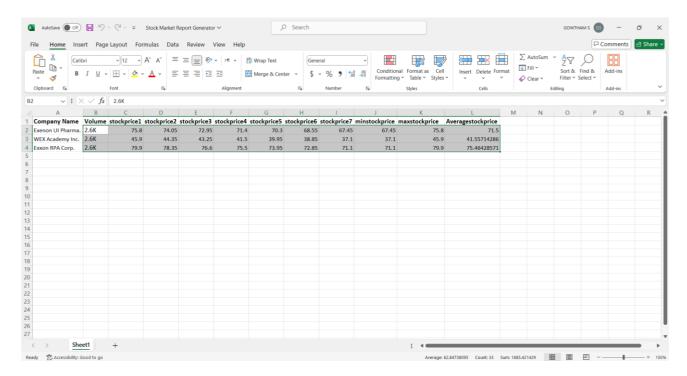


Fig - 10 Output Report As excel

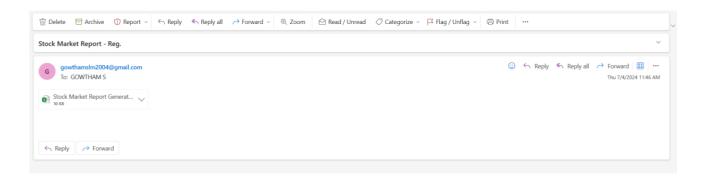


Fig -11 Mail Send to Clint

4.2 DISCUSSION (ABOUT ACTIVITIES)

KEYS:

Single Excel Process Scope:

In UiPath, the utilization of a single Excel process scope in robotic process automation, exemplified by tools like UiPath, concentrates automation efforts exclusively within the Excel environment. This approach facilitates precision in data extraction, manipulation, and management, ensuring accuracy and efficiency in tasks such as sorting, filtering, and executing complex calculations. By confining the automation activities to Excel-centric processes, the bot can dynamically update data, integrate seamlessly with other systems, and implement conditional logic for adaptable workflows. This targeted scope enhances the reliability and productivity of the automation process, making it particularly effective for scenarios where focused Excel operations are critical to business processes.

Use Excel File:

In Robotic Process Automation (RPA), "Use Excel File" in automation, particularly with tools like UiPath, signifies the strategic integration of Excel spreadsheets within processes. This involves actions such as reading, manipulating, and updating data stored in Excel files to streamline tasks ranging from data analysis to reporting. The versatile application of this approach spans various domains, from financial processes to human resources management, leveraging the structured format of Excel to enhance data accuracy and automate repetitive operations. This focused integration underscores the efficiency and productivity gains achievable through the strategic use of Excel files within automated workflows.

For Each Excel Row:

The "For Each Excel Row" is a pivotal command in robotic process automation, notably in tools like UiPath, facilitating the systematic iteration through each row of an Excel spreadsheet within automated workflows. This command is instrumental in efficiently processing tabular data, enabling actions such as data extraction, validation, and calculations to be executed seamlessly for each row. Its versatility finds application across diverse scenarios, enhancing the scalability and adaptability of automation processes by automating tasks that would traditionally require manual intervention. In essence, "For Each Excel Row"

significantly contributes to the efficiency, accuracy, and scalability of automation workflows involving Excel data manipulation.

Select Item:

In the "Select Item" activity is used to choose an option from a dropdown list or combo box within an application or web page. This activity is particularly useful for automating tasks that involve interacting with dropdown menus, ensuring specific options are selected as part of a workflow . It allows you to indicate the dropdown element on the screen and then provides a list of available options to select from . The activity supports dynamic selection using variables and can be integrated into loops or conditional logic to handle multiple items or scenarios .

Assign:

In Robotic Process Automation (RPA), In UiPath Studio, the "Assign" activity is used to assign a value to a variable. It's commonly found in the "Activities" panel under the "Programming" category .This activity is crucial for tasks like initializing variables, updating values within loops, or performing calculations. It helps streamline workflows by enabling direct manipulation of variables and their values, without needing separate activities for each assignment .

SMTP mail messages:

In Robotic Process Automation (RPA) you can send email messages using the SMTP (Simple Mail Transfer Protocol) activities available in the "Mail" category. These activities allow automation of email sending processes by configuring SMTP settings such as server address, port, credentials, and message details like recipients, subject, and body [1]. SMTP is fundamental for email communication as it defines the protocol for transferring emails between servers .

In Robotic Process Automation (RPA) provides robust integration with SMTP servers, enabling automation of various email-related tasks, from sending simple notifications to handling complex email workflows.

Use Application/Browser Activity:

The "Use Application/Browser" activity in UiPath is designed to interact with both desktop applications and web browsers during automation processes. Here's how you can effectively utilize this activity:

1. **Functionality**: This activity allows you to open a specific application or a browser window identified by its UI element. It captures the application or browser instance as a UiElement variable, which can be used for further automation tasks.

2. Steps to Use:

- o Drag and drop the "Use Application/Browser" activity into your workflow.
- o Indicate the application or browser window to specify the target.
- o Configure input and output properties to interact with the application or browser effectively.
- 3. **Integration**: It seamlessly integrates into automation workflows, enabling actions such as data entry, navigation, and retrieval of information from applications or websites .

This activity is pivotal for automating processes involving applications and web browsers, enhancing efficiency and accuracy in robotic process automation (RPA).

IFCondition:

The "If" activity in UiPath allows you to create conditional workflows based on specified conditions. Here's how you can effectively use it:

1. **Functionality**: The "If" activity evaluates a condition and executes a set of activities based on whether the condition is true or false. It contains a Condition field where you define the condition to be evaluated and separate sections for activities to execute if the condition is true (Then) or false (Else).

2. Usage:

- o Drag and drop the "If" activity into your workflow.
- o Define the condition using expressions, variables, or functions.
- Configure the actions to be performed in the Then and optionally in the Else section based on the evaluation of the condition .

CONCLUSIONS AND FUTURE WORK

5.1 CONCLUSIONS:

In conclusion, the UiPath-based Automated CV builder project has significantly revolutionized resume creation through automation and integration with UiPath's RPA capabilities. By simplifying complex processes, users can generate accurate resumes efficiently, while customizable templates and real-time editing empower personalization. This approach not only meets industry standards but also fosters individual expression in resume design. Looking ahead, continuous updates will maintain relevance amidst evolving career development standards, highlighting the transformative potential of automation in professional advancement.

5.2 FUTURE WORK:

In future enhancements for the UiPath-based Automated CV builder include integrating advanced NLP algorithms for precise content tailoring to job descriptions . Semantic analysis and sentiment recognition will enable deeper job posting language understanding, facilitating more nuanced customization . Seamless integration with professional platforms like LinkedIn will enhance user capabilities by automating profile data extraction for up-to-date resume content . Collaboration with industry experts and ongoing user feedback will refine algorithms and templates to align with evolving industry trends and user preferences, ensuring continuous improvement and relevance.

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