DAYANANDA SAGAR COLLEGE OF ENGINEERING

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Accredited by National Assessment & Accreditation Council (NAAC) with 'A' grade, Shavige

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Minor Project Report
on
"Certificate Generator"

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Fifth Semester B.E (CSE)
in

Emerging Technologies

19CS5DMETG

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Abstract

A certificate generator bot is a computer program that automates the process of creating certificates. These bots can be used to generate certificates for a variety of purposes, such as award certificates, completion certificates, and more. The bot can be programmed to follow a set of instructions to create a certificate template, and then use that template to generate a certificate for a specific individual or group.

The certificate generator bot can be integrated into different platforms like website, mobile app and can be triggered by a user with specific inputs. The user can provide the required details such as name, course completed, date and the bot generate the certificate in a given format like PDF or JPG. The certificate can be delivered via email or can be downloaded from the website/app.

The use of certificate generator bots can save a lot of time and effort for organizations and institutions that need to create and distribute large numbers of certificates. They also help to standardize the process of certificate generation, ensuring that all certificates are consistently formatted and of high quality.

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1 Introduction

1.1 Introduction to Robotic Process Automation

Robotic process automation (RPA) is a technology that allows you to automate repetitive and rules-based digital tasks. It involves creating software "bots" or "robots" that can perform tasks that are normally done by humans, such as data entry, processing transactions, and handling customer inquiries.

RPA bots can be programmed to work with various types of software and systems, including web applications, desktop applications, and database systems. They can be used in a variety of industries, such as finance, healthcare, and customer service.

One of the main benefits of RPA is that it can improve efficiency and reduce the workload for employees by automating routine tasks. This can allow employees to focus on more complex and value-added work, and can also help reduce errors and improve accuracy.

RPA scope of the work and its importance

1.1.1 Introduction to Automation anywhere

Automation Anywhere is a leading provider of Robotic Process Automation (RPA) software. The company's software products enable organizations to automate repetitive and rules-based digital tasks, such as data entry, processing transactions, and handling customer inquiries.

Automation Anywhere's software includes a range of tools and features that make it easy to design, develop, and deploy RPA bots, or "robots." These tools include a visual bot builder, a task editor, and a control room for managing and monitoring the bots.

Automation Anywhere's software is used by organizations in a variety of industries, including finance, healthcare, and customer service. The software is designed to be flexible and scalable, so it can be used to automate a wide range of processes and systems.

Some of the benefits of using Automation Anywhere's software include:

Improved efficiency and productivity: Automation Anywhere's software can help organizations to automate routine tasks, freeing up employees to focus on more complex and value-added work.

Reduced errors and improved accuracy: RPA bots can perform tasks with a high degree of accuracy, reducing the risk of errors.

Cost savings: Automation Anywhere's software can help organizations to reduce labor costs and increase operational efficiency.

Scalability: Automation Anywhere's software can be used to automate processes at scale, helping organizations to expand their operations and increase their competitiveness.

1.1.2 About the Robotic Process Automation on Automation Anywhere platform

Robotic Process Automation (RPA) is a technology that allows users to automate repetitive and routine tasks by creating software robots, or "bots," to mimic and execute the actions of a human user. Automation Anywhere is a popular RPA platform that provides a range of tools and features for building, deploying, and managing bots that can automate a wide variety of business processes.

Some of the key capabilities of Automation Anywhere include:

Bot creation: Automation Anywhere provides a visual interface for building bots using pre-built "recipes" or by dragging and dropping actions onto a canvas. These actions can include tasks such as filling out forms, extracting data from websites, or interacting with applications such as Microsoft Office or SAP.

- **Deployment and management:** Automation Anywhere provides tools for deploying bots to various environments, such as the cloud or on-premises servers. It also includes features for monitoring the performance and status of deployed bots, and for managing bot access and security.
- **Integration:** Automation Anywhere supports integration with a variety of external systems and applications, including CRM systems, databases, and APIs. This allows bots to access and manipulate data from these systems as part of their automated processes.

RPA can provide significant benefits for organizations, including increased efficiency, reduced errors, and lower costs.

1.2 Objectives of Robotic Process Automation

Robotic Process Automation (RPA) is a technology that allows organizations to automate repetitive and routine tasks by creating software robots, or "bots," to mimic and execute the actions of a human user. RPA can be used to automate a wide variety of business processes, including data entry, customer service, and financial transactions.

The main objectives of RPA are to improve efficiency, reduce errors, and lower costs. By automating repetitive and routine tasks, organizations can reduce the need for human labor and increase the speed and accuracy of their processes. This can result in cost savings, as well as improved customer satisfaction and employee satisfaction.

RPA can also help organizations to improve their compliance with regulatory requirements and to reduce the risk of errors or fraud. By automating tasks such as data entry and validation, organizations can ensure that their processes are consistent and accurate, and can easily track and audit their activities.

Overall, the main goal of RPA is to provide organizations with a way to improve the efficiency and effectiveness of their business processes, while reducing the cost and risk associated with these processes.

2 Problem statement

Certificate generation for many people and sending the respective certificate to their respective email is a repetitive and the complex task.

2.1 Scope of work and its importance

Certificate generation for many people is a repetitive task, which takes a long time. As it is a long task to complete this repetitive process, we can automate this to generate certificates. Even the input for this automation if taken by the people through the form into the excel sheet. The scope of work for a certificate generator of RPA (Robotic Process Automation) refers to the specific tasks and responsibilities that are associated with the development and maintenance of the certificate generator. The importance of a certificate generator in the context of RPA lies in its ability to generate certificates that can be used to authenticate the identity of RPA bots and ensure the integrity of the processes they are executing.

There are several key tasks that may be included in the scope of work for a certificate generator of RPA, including:

- Designing and implementing the certificate generator: This may involve tasks such as designing the user interface, determining the data that should be included in the certificates, and implementing the certificate generation logic.
- Testing and debugging the certificate generator: This may involve tasks such as testing the certificate generator to ensure that it is functioning correctly and debugging any issues that are discovered.
- Maintaining and updating the certificate generator: This may involve tasks such as fixing bugs, adding new features, and ensuring that the certificate generator is compatible with new versions of RPA software.

Overall, the importance of a certificate generator of RPA lies in its ability to provide a secure and reliable way to authenticate the identity of RPA bots and ensure the integrity of the processes they are executing. This can help organizations to build trust in their RPA systems and ensure that they are being used effectively and efficiently.

3 System requirements

The system requirements for creating a bot in Automation Anywhere will depend on the specific needs and goals of the bot, as well as the hardware and software resources that are available. However, there are some general considerations that may be relevant when designing and implementing a bot in Automation Anywhere.

Some potential system requirements for creating a bot in Automation Anywhere could include:

- **Compatibility with Automation Anywhere**: The system should be compatible with Automation Anywhere software, including any relevant versions or editions of the software.
- **Processor:** The system should have a fast and powerful processor to support the demands of creating and running a bot.
- **Memory:** The system should have a sufficient amount of memory to support the demands of creating and running a bot.
- **Storage:** The system should have a sufficient amount of storage to support the demands of creating and running a bot.
- **Operating system:** The system should have a compatible operating system, such as Windows or Linux, to support the installation and operation of Automation Anywhere.
- **Network connectivity:** The system should have a stable and reliable internet connection to allow for the creation and operation of the bot.

Overall, the system requirements for creating a bot in Automation Anywhere should be designed to ensure that the system has the hardware and software resources necessary to support the creation and operation of the bot.

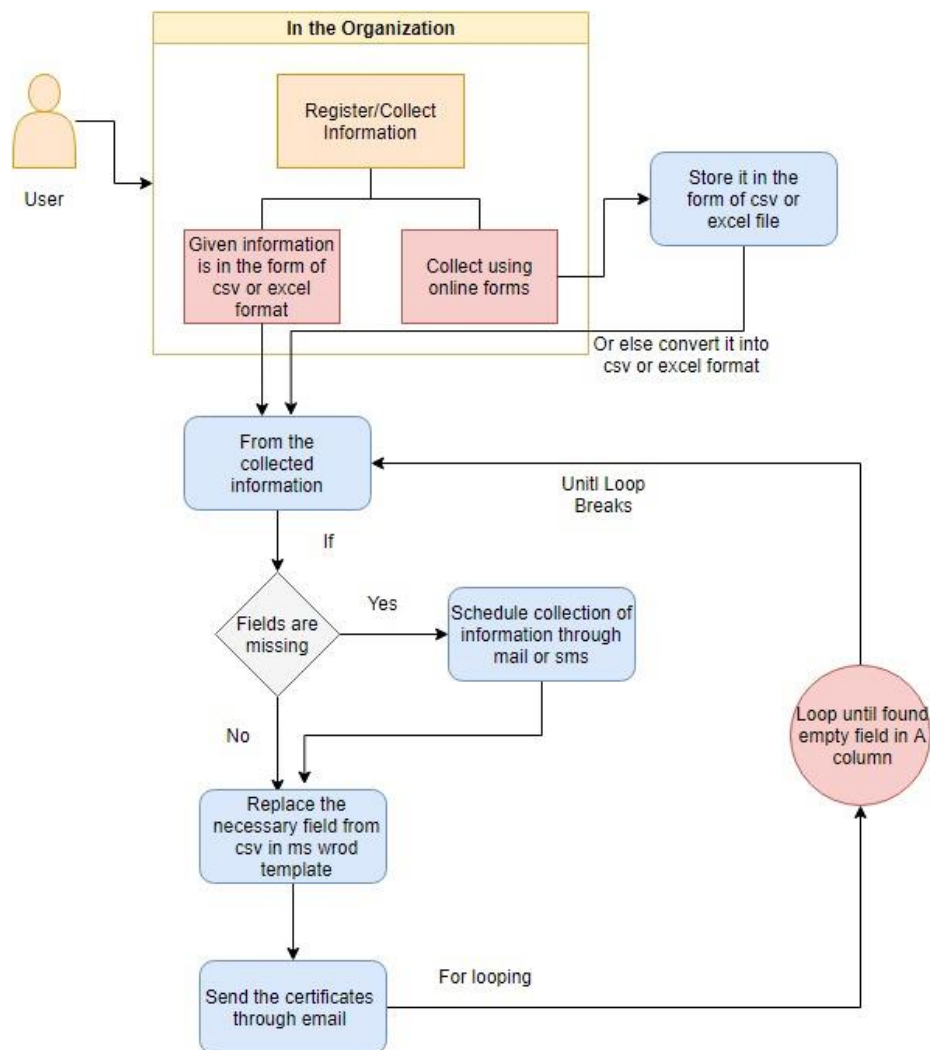# 4 System Design

4.1 Flow diagram

Fig. system flow diagram

User gives his information through the form and also through the online forms which will be collected and stored in the excel sheet. The online collected data and the data collected in the excel sheet can be used to generate the certificates which is automated and done by the bot and can also be automated to send all the certificates to their respective owners through mail system

4.1.1 About process to be automated?

The processes to be automated are:

- Collecting user information through forms

- Downloading the csv file from online collected form and converting it into excel sheet format

- Storing and updating the information in the excel sheets

- Replacing the texts from the excel sheet from the collected data that is present inside the excel sheet

- Sending all the certificates to their respective owners through mail system

4.1.2 Why it should be automated

The reason for the above processes to be automated is to reduce the repetitive tasks of collecting user information and storing it in the excel sheet. The traditional method of creating certificates to each and every single user is very hectic and this automation helps in reducing all these tasks. I t also helps in sending the emails to their respective owners which can save a lot time.

5 Implementation

The steps that include in automating the processes are:

- Convert csv to excel data

- Replacing the text from the word template to the required information inside the excel sheet

- Sending all the certificates to the respective owners through mail system
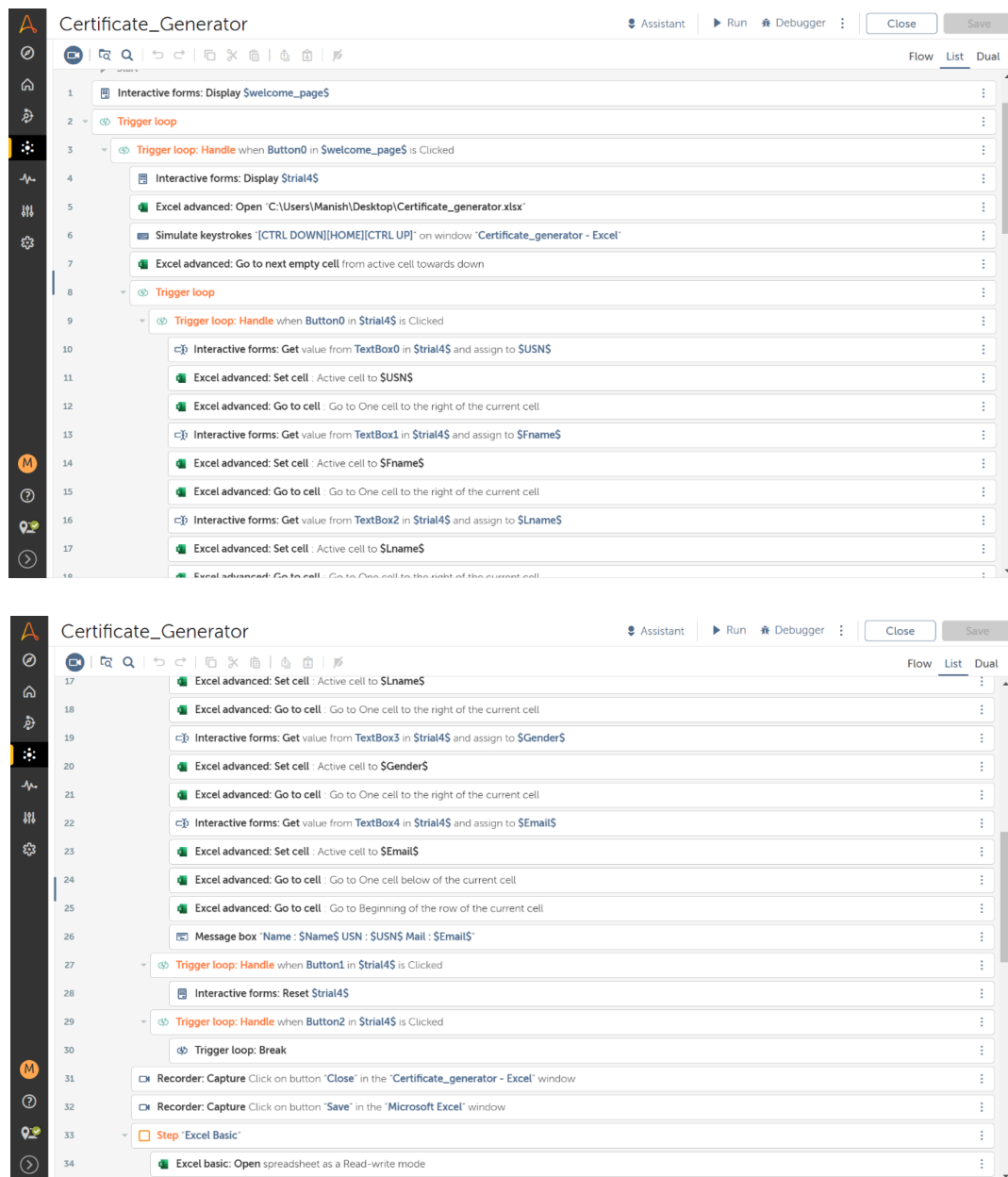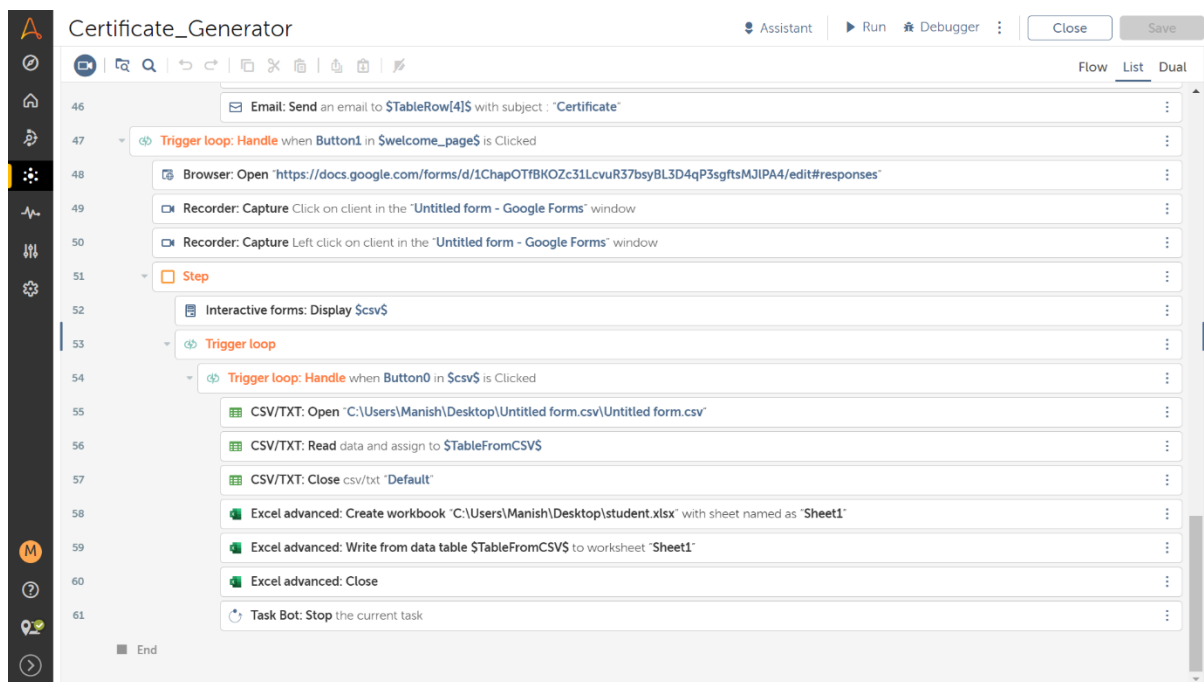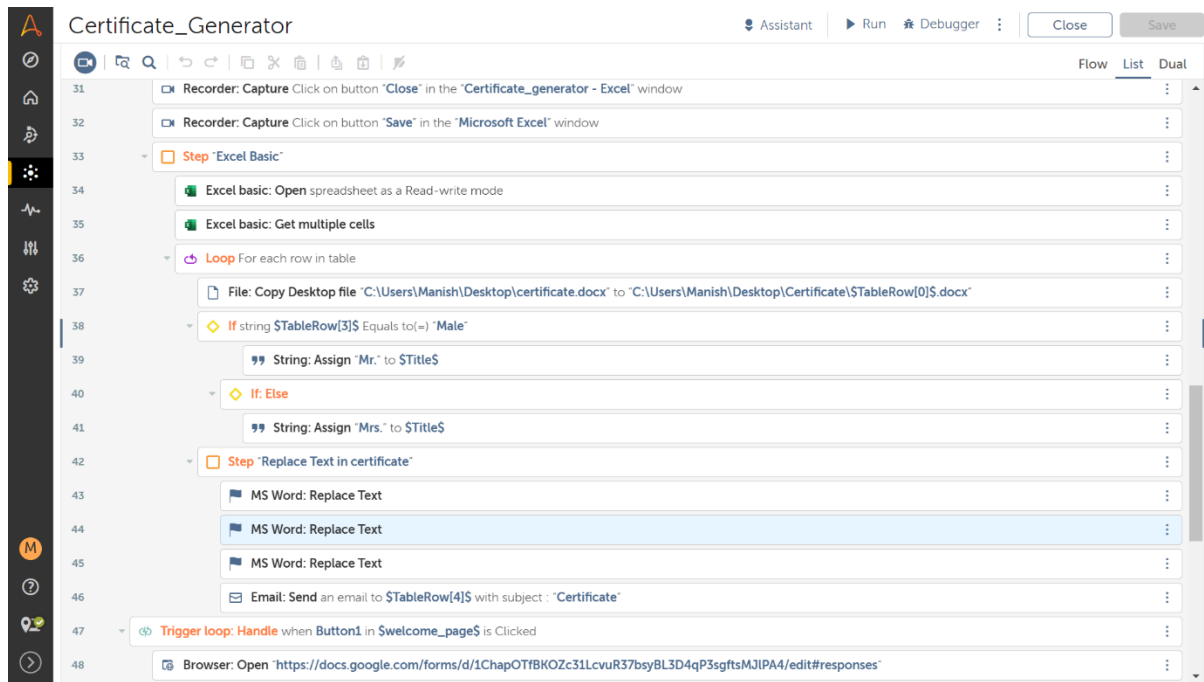
Fig a. Order of bot execution

6 Testing and Result

6.1 Bot execution

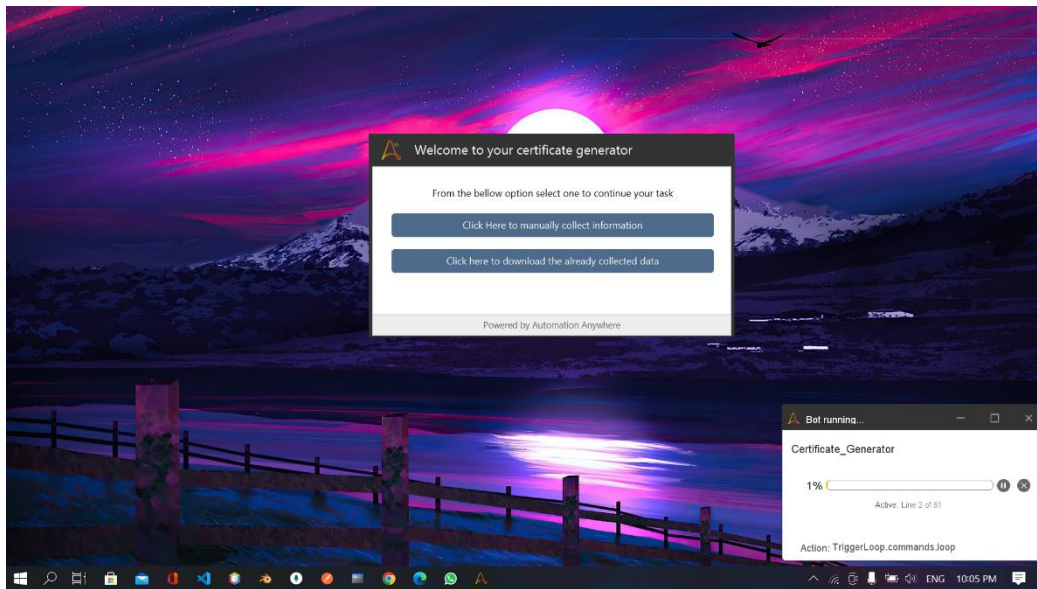- The bot is executed by showing the welcome page

Fig b. Welcome page of certificate generator

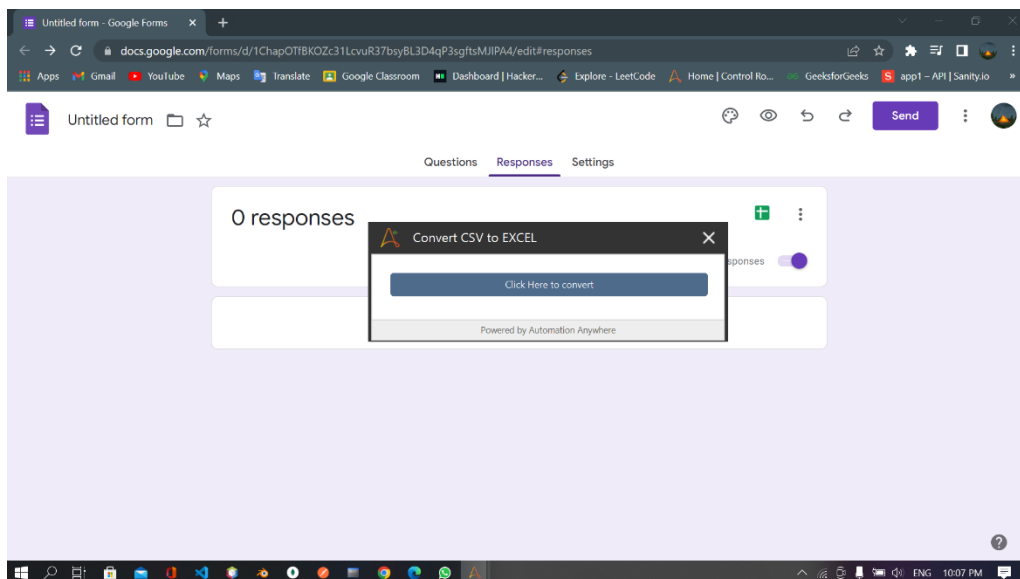- Convert downloaded csv file from online forms which collected data to excel format

Fig c. Convert csv to excel

- Enter user information inside the forms which in turn will be saved inside the google forms
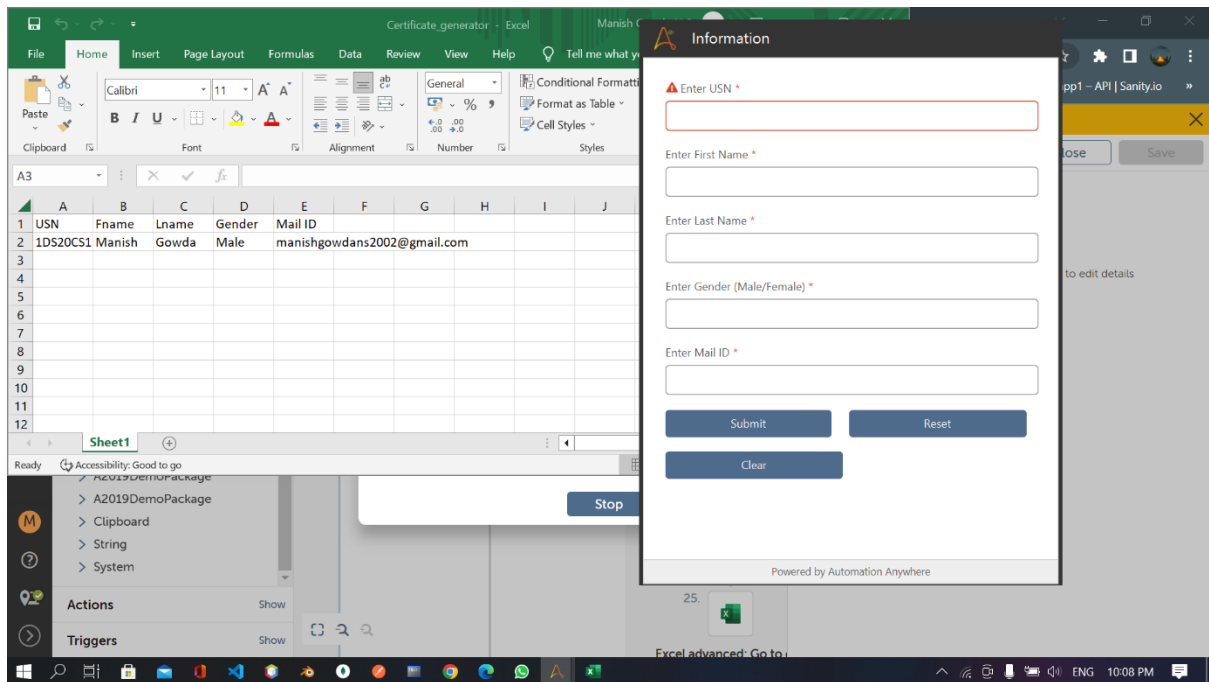

Fig d. Collect information

- Validating the information that is collected by user id proper or not
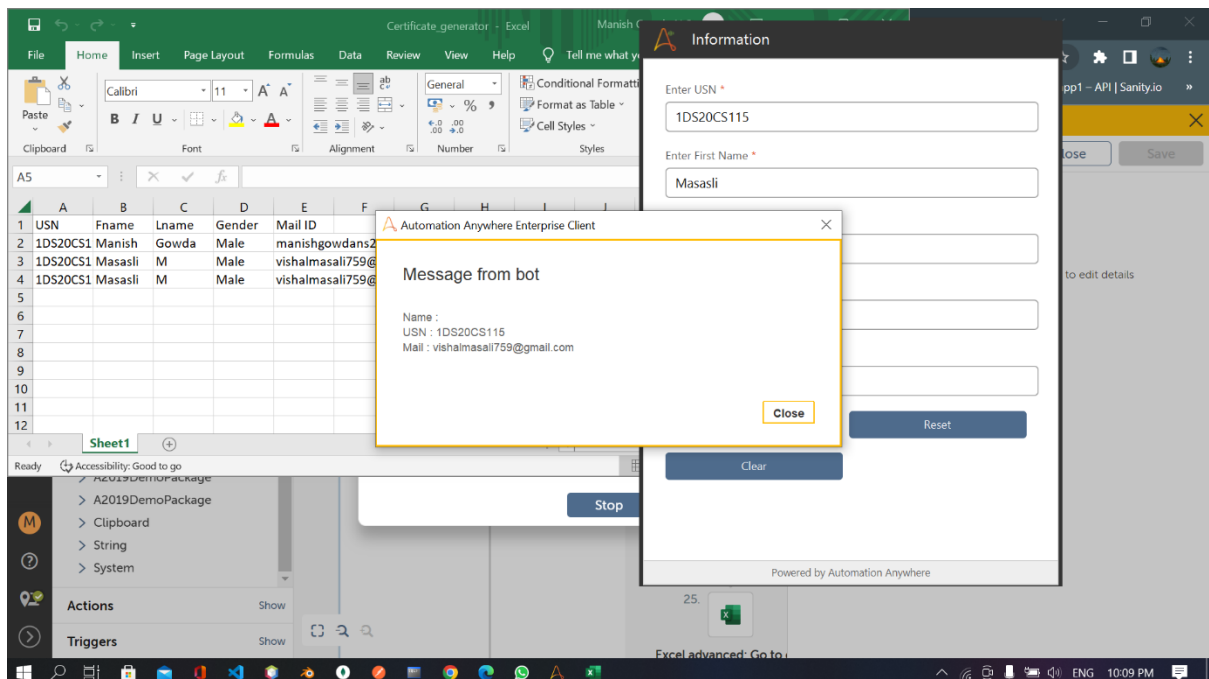

Fig e. Validate the collected information

- Certificate being generated by the bot can be visible and will be stored inside the folder in the folder to be sent through mail
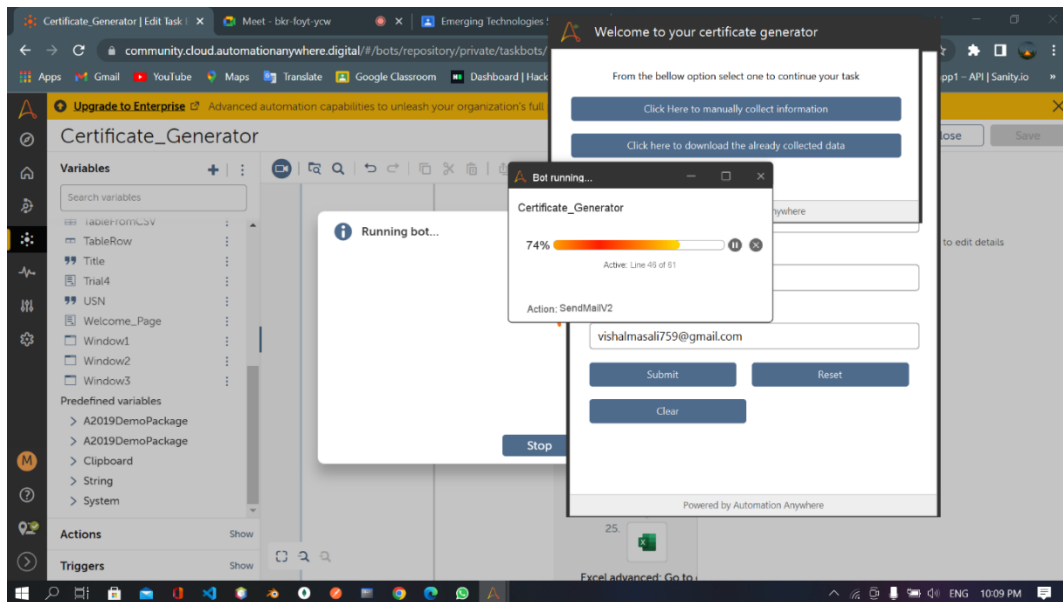

Fig f. Certificate is being generated

- The generated certificate can be successfully sent to all the users through mail using smtp server

Fig g. Certificate is generated
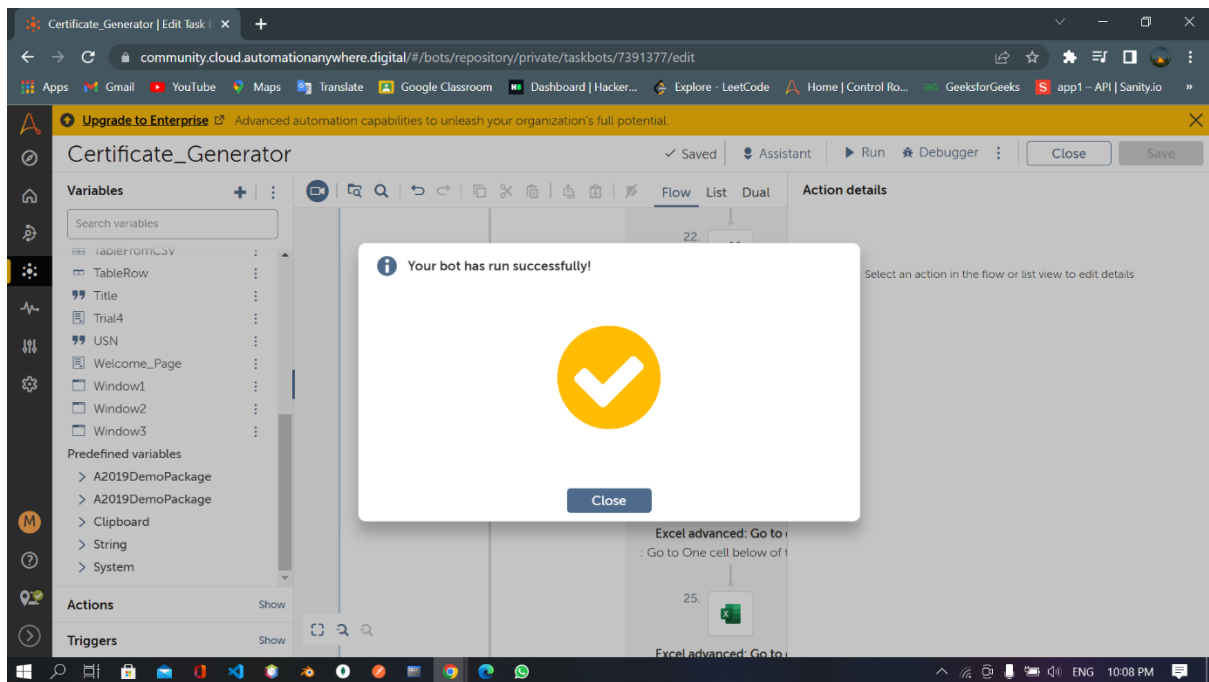
- The bot execution is completed

Fig h. The bot has successfully completed its task

7 Conclusion

Automation has many benefits, including increased efficiency, cost savings, and improved accuracy. One specific application of automation is the use of a "certificate generator bot" in Robotic Process Automation (RPA).

One of the main benefits of using a certificate generator bot in RPA is that it can automate the creation and issuance of certificates. This can significantly reduce the amount of time and effort required to manually create and distribute certificates, as well as reducing the likelihood of errors. For example, a certificate generator bot could be used to automatically generate and send certificates of completion for an online training course, or to automatically generate and send certificates of achievement for a sports event.

Another benefit of using a certificate generator bot in RPA is that it can be customized to meet the specific requirements of the organization or application for which it is being used. For example, the bot could be programmed to include specific logos, text, or formatting based on the needs of the organization, and could also be configured to automatically retrieve information from databases or other sources to populate the certificates.

RPA also offers scalability and flexibility, where the process can be easily configured to support new requirements and situations, this applies to the certificate generator bot as well.

Additionally, Certificate generator bots in RPA can also be integrated with other software systems, such as email, database, and other systems that can help streamline the certificate generation process and make it more efficient.

Overall, using RPA for certificate generation can help organizations improve their efficiency and productivity, while also reducing costs. This makes it a valuable tool for any organization that needs to generate and distribute certificates on a regular basis.

References

- Automation Anywhere – Version 11.3 Release Notes
- Automation Anywhere – Hardware and Software Requirements
- Automation Anywhere – Developer Documentation