IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 7, July 2022

DOI: 10.17148/IJARCCE.2022.11776

ROBOTIC PROCESS AUTOMATION USING AUTOMATION ANYWHERE

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Abstract: Robotic Process automation (RPA) is a new technology in automation of any routine human task which is repetitive. This technology is useful to the organizations that are ready to implement automation. The information regarding RPA is scarce as it is a new technology. RPA is getting corporate attention particularly in digital transformation which is progressing in recent times. Even though RPA is very popular in corporate world, the academic research is lagging behind.

The processes which are performed by human are automated by using software robots. The companies use software robots as they are easy to use and very much adaptable. The direct effects of software robots and their indirect impacts on organizations needs to be addressed. In this paper we will discuss about RPA as well as a RPA Tool called Automation Anywhere

Keywords: RPA- Robotic Process Automation, AA- Automation Anywhere, Automation Bots

I. INTRODUCTION

RPA is an art of using software robots to automate the manual jobs which are rule based and repetitive in nature. RPA services provide better business efficiency by speeding up applications without any enhancement in the hardware infrastructure. RPA is the breed of technology in AI&ML. RPA can be considered as low risk process of automation. RPA is useful for non-technical business people those are looking for technology.

The importance of RPA is increasing with time because it is cheaper to automate and does not interrupt the current infrastructure in the organization. It can be deployed without disturbing the business process. RPA is quite scalable and adaptable by the business environments.

II. HISTORY

RPA is a technology which is used for automation tasks which are regular, repetitive in a process.The RPA development started in 1990's but became popular in 2000's. The idea is started from the technology called machine learning, which was developed by Arthur Samuel in 1959. There were some limitations in the machine learning technology which lead to the development of Natural Language Processing (NLP). To establish the interaction between human and computer, AI and NLP are combined. This lead to the development of RPA, and few more developments in 1990s.

The history tells that there were three predecessors of RPA. They are

- Screen Scraping

Screen scraping is an important step in the development of RPA. Screen Scraping is nothing but extracting data from different sources and displaying by other applications. It is very useful but there are some limitations in it

- Workflow automation and management tools

Whenever the process contains repetitive actions and steps can be predicted then the process can be automated by using tools.Workflow automation decides when one step is finished and the next step can start execution.

- Artificial Intelligence

Artificial Intelligence is helpful for computers to perform tasks which require human intelligence. Learning , reasoning and self correction are three techniques in Artificial Intelligence. Many organizations are using Artificial Intelligence in different sectors. The common AI technologies are

➢ Image Recognition
➢ Speech Recognition

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- Natural Language Generation and
- Sentiment Analysis

III. FEATURES OF RPA

Different RPA providers offer different features. The key features of RPA that are useful for businesses to work efficiently are

1. Rich Analysis:-

The performance of digital workforce can be evaluated. The data can be accessed from somewhere and can provide operation analysis in detail, so that the users can identify the issues and can steamline workloads in future.

2. Security:-

RPA provides role based security and accessibility. All the working members do not need all the permissions. Each member should be given particular permissions which are needed for that member.RPA tools have encryption capabilities to avoid tampering and to ensure legitimacy.

3. Version Control:-

All the versions of the bot should be available for the developer so that the difference between them is known. So all the versions should be stored..

4. Hosting and Deployment Option:-

RPA systems can be deployed on virtual machines, cloud and terminal services. Users can run multiple bots in a single process to do different tasks.

5. Bot Studi:-

The users can create and edit the bots using RPA tools with some interface.

6. Exception Handling.:-

RPA systems provide rule based exception handling. By handling exceptions proactively, few actions can be triggered by bot based on its configuration.

7. Seamless Integration:-

RPA allows integration with some other applications that are used in the organization. RPA provides better flexibility in determining the digital workforce performance.

8. Debugging:-

RPA allows the developers to test with different values of variables without halting the current bot. This feature helps in resolving the issues in the production without changing the actual process.

9. Optical Character Recognition (OCR):-

RPA tools not only recognize the text but also structure it from unstructured data. OCR with RPA is useful for documents like tax forms, invoices and rating generators.

10. Script Less Automation:-

RPA tools offer script-less automation by providing a drag and drop interface for bots. It helps the employees to create bots with little or no knowledge of programming. It also reduces the cost of installation, deployment and training

IV. AUTOMATION ANYWHERE

Automation Anywhere is an RPA tool which is extensively used in the market. It helps to automate end to end, when the processes are repetitive and rule based. Automation Anywhere is used at enterprise level. It offers services to users which are scalable, secure and resilient. It was firstly found in 2003 under the name Tethys Solutions,LLC. And then changed the name to Automation Anywhere in 2010.

Fig 1 Automation Anywhere Logo

V. FEATURES OF AUTOMATION ANYWHERE

Depending on the requirements, the RPA tool is selected by the organization. Globally many organizations are using Automation Anywhere. It helps the enterprises to empower the employees.

The reasons to use Automation Anywhere by the organizations are:

- No Programming

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Coding skills and programming knowledge are not required. Recorders are used to record manual actions and can be edited by task editor.

- No Errors

Automation Anywhere helps to eliminate human errors and thus is an error-free automation

- Fast Deployment

For the deployment of RPA solutions, it needs only few weeks.

- Fast Performance

The automation process is very fast , so saves time.

- Precise Engineering

Automation Anywhere adds innovations for enterprises and gives a visionary roadmap.

- Experienced Leadership

Several enterprises use Automation Anywhere to deploy RPA solutions. It has experienced RPA professionals and can achieve good ROI.

- Scalable

Automation Anywhere helps the enterprises to scale up automation in future easily and quickly.

VI. AUTOMATION ANYWHERE ARCHITECTURE

Automation Anywhere has a distributed architecture. It has two components, Bot Creators and Bot Runners which are attached to the Control Room.Let's understand about its components.

- Bot Creators

Bot Creators are used for creating bots. Control Room is used to store the code of the bots. Multiple developers can create bots and execute all of them at the same time.

- Control Room

The Control Room is the most important component of the Automation Anywhere architecture. It is a web-based server that deals with the bots created by Bot Creators. All the automated tasks are kept in the control room. It controls the entire execution and management of clients, roles, security, etc. It offers features like:
The most important component of AI is the Control Room. All The automated tasks are stored in it. It controls the execution, roles , security etc.

- User Management

Control Room controls the user access to different systems, applications, or networks.

- Source Control

The code can be shared among different systems.

- License Management

The Dev License to create, edit and run a bot and Run License for only running a bot in Automation Anywhere are managed.

- Automation Deployment

It offers options for the deployment of bots.

- Dashboard

The number of running bots, failed bots and passed bots are displayed using dashboard.

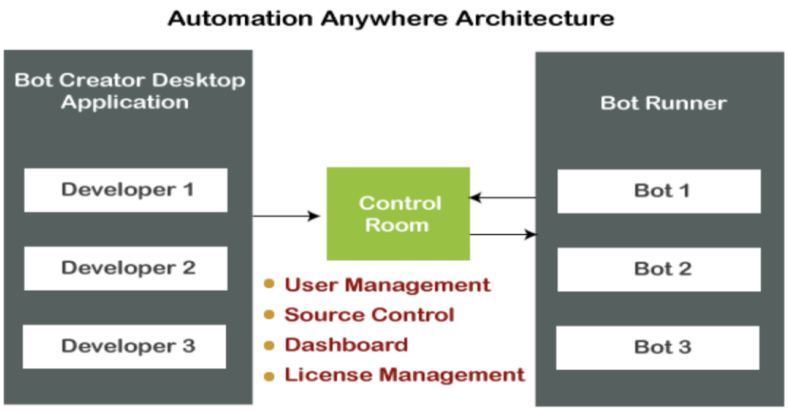

Fig 2 Automation Anywhere Architecture

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VII. CONCLUSION

RPA has become more popular as it is cheaper in the long run when compared to the traditional automation. RPA can be used without interfering with the current status of the organization. RPA can be adaptable easily and does not disturb the corporate operations.

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