

RPA Development using Automation Anywhere Training

Project report submitted in partial fulfilment of the requirement for the degree of
Bachelor of Technology
in

Computer Science and Engineering

By

Submitted by:
Madhumesh Shukla (191534)



Jaypee University of Information Technology, Wagnaghat Solan,
Himachal Pradesh - 173234

Candidate's Declaration

I hereby declare that the work presented in the report "RPA Development using Automation Anywhere Training" in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering submitted in the department of Computer Science and Engineering, Jaypee University of Information Technology, Waknaghat is an authentic record of my work from March 2023 to May 2023, under the supervision of Mr. Prateek Thakral, Assistant Professor, Computer Science & Engineering.

The matter in the report has not been submitted for the award of any other degree or diploma.

Madhumesh Shukla

Madhumesh Shukla (191534)

This is to certify that the above statement made by the candidate is true to the best of my knowledge.

Prateek Thakral
16.5.23

Mr. Prateek Thakral
Assistant Professor
Computer Science and Engineering Department

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Name: MADHUMESH SHUKLA Department: IT Enrolment No 191534

Contact No. 8840862210 E-mail madhumesk1226@gmail.com

Name of the Supervisor: MR. PRATEEK THAKRAL

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ACKNOWLEDGEMENT

It is a matter of pleasure for me to acknowledge the gratitude towards Jaypee University of Information Technology for giving me an opportunity to explore my abilities during this internship program at Tecnoprism Private Limited. I would like to express my thanks to Mr. Pankaj Kumar, Training and Placement officer, and our faculty Coordinator, Dr. Nafis U Khan.

I also take this opportunity to thank the supervisors at my organization, for valuable guidance and advice during the course of my training. Apart from this the colleagues and mentors at Tecnoprism Private Limited have my deepest regard and gratitude for being supportive all throughout the process of my training, always willing to lend a helping hand whenever needed.

Madhumesh Shukla
191534
Bachelor of Technology, Computer Science

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1. Introduction

. TecnoPrism Private Limited

A digital workplace, where we embrace ideas and curate them into cutting edge products. We believe in customer centric results that facilitate businesses to stay ahead of the curve. With knowledge, experience, and technology at our core, we thrive to deliver seamless services for desired project outcomes. We enable increased productivity via holistic automation and AI solutions, and unlock business values using data driven insights. At TecnoPrism, we help realize your vision. TecnoPrism Private Limited is a Private incorporated on 14 May 2021. It is classified as non-govt. company and is registered at Registrar of Companies, Ahmedabad, with its office located in Vadodara, Gujarat.

TecnoPrism has a team of coders, developers, and inventors, passionate about enhancing the way people work. The business process, workflow management and automation solutions are designed to accelerate operational efficiency of other organization.

Domain : Providing services in RPA, cloud, Salesforce.

Company website : <https://tecnoPrism.com/>

COO : Richard Sharma

Founded : 14 May 2021

Headquarters : Vadodara, Gujarat, India

Directors : Tapankumar Ishwarlal Patel, Kiritkumar Ambalal Parmar

Company's Market Presence

Over the year, TecnoPrism has constantly spread its services in almost every imaginable sector that can accommodate technology as a solution. Few choice sectors are -

1. Automotive
2. Investment
3. Legal and Law
4. Software and services
5. Banking
6. Retail

Services provided by the Company

1. Digital Transformation
2. Productization
3. Artificial Intelligence Services
4. Cloud Services
5. Robotics process automation
6. ERP
7. Internet of things
8. Product Engineering
9. Chatbots
10. Salesforce
11. Mobile Application Development
12. Blockchain
13. Data Science Business Intelligence & Analytics

TecnoPrism Outside India

TecnoPrism has its grasp outside India, providing services to multinational companies, as well as IT-related solutions.

2. Introduction - Training Programme

Being selected as a Robotics Process Automation Developer as part of the TecnoPrism Hiring Programme, I am being trained in the field of RPA development using Automation anywhere - primarily with Automation A360 as the main tool and technologies. The Training Programme was a 2-month long programme which aims to let us get familiar with the absolute basics of what is needed to eventually become a RPA engineer, all the way to learning more advanced technologies with hands-on projects and interactions with experts from the industry on the topics. The programme consists mainly of self-paced and self-learning courses including regular assessments to be taken up which would be evaluated for completion of the programme. The last step of the training programme was to be complete the Automation anywhere A360 advance certification from automation anywhere university.

The duration of the programme was 2 months. I was initially under the training head. Our primary task for the initial days was to register ourselves for the given courses and get accustomed to the learning portal given by TecnoPrism.

A detailed description of the week-wise activities and courses is given as follows.

- **Courses and Learning**



Learner Name	Course Title	Description
Madhumesh Shukla	Identifying Use Cases for Creating Bots	Completed
Madhumesh Shukla	Introducing Robotic Process Automation (RPA)	Completed
Madhumesh Shukla	Building Resilient Bots Using Automation 360	Completed
Madhumesh Shukla	Hello Automation 360 Bot: Getting Started with Building Bots (Archived)	Completed
Madhumesh Shukla	Documenting Business Processes Using Automation 360 Discovery Bot	Completed
Madhumesh Shukla	Did You Know that RPA is Simple, yet Powerful, When Compared to Traditional Automation?	Completed
Madhumesh Shukla	Managing an Automation Solution	Completed
Madhumesh Shukla	Deploying and Monitoring the Automation Solution	Completed
Madhumesh Shukla	Developing and Testing Bots for Automation	Completed
Madhumesh Shukla	Designing an Automation Solution	Completed
Madhumesh Shukla	Discovering Processes for Automation	Completed
Madhumesh Shukla	Beginning Your Automation Journey	Completed



Learner Name	Course Title	Description
Madhumesh Shukla	Automating Salesforce Tasks Using RPA Bots for Salesforce (Automation 360)	Completed
Madhumesh Shukla	Using REST and SOAP Packages in Automation 360	Completed
Madhumesh Shukla	Getting Started with Automation Co-Pilot Desktop	Completed
Madhumesh Shukla	Implementing Back Office Automation Using Automation Co-Pilot	Completed
Madhumesh Shukla	Did You Know that Attended Bot Runner Users can use the AARI Assistant Application to Directly Run Bots?	Completed
Madhumesh Shukla	Did You know that you can Switch to Different Automation 360 Control Rooms from the Same Device?	Completed
Madhumesh Shukla	Did You Know that you can Configure a Single Image of the Bot Agent for Multiple Virtual Desktop Infrastructure?	Completed
Madhumesh Shukla	Did You Know that you can Build Powerful Automation Using Variables and Advanced Data Type Commands?	Completed
Madhumesh Shukla	Did You know that you can Access and Automate Applications on Remote Devices?	Completed
Madhumesh Shukla	Did You know that you can Install and Upgrade Packages in Automation 360 Without Re-installing the Application?	Completed
Madhumesh Shukla	Did You Know that you can Create Automations Without Installing Automation 360?	Completed
Madhumesh Shukla	Did You Know that Bot Runners and Automation 360 Control Room can Communicate without Human Intervention?	Completed
Madhumesh Shukla	Automating Tasks Using the Automation 360 Email Package	Completed
Madhumesh Shukla	Automating Tasks Using the Automation 360 File and Folder Action Packages	Completed
Madhumesh Shukla	Managing RPA Reports Using Automation 360	Completed
Madhumesh Shukla	Writing Inline Scripts in Automation 360	Completed
Madhumesh Shukla	Automating Business Processes Using Automation 360 AISense	Completed
Madhumesh Shukla	Automating Tasks Using Automation 360 Universal Recorder	Completed
Madhumesh Shukla	Building Scalable Bots Using Automation 360	Completed

Learner Name	Course Title	Description
Madhumesh Shukla	Communicating with Email Servers: Methods to Automate Email Messages	Completed
Madhumesh Shukla	Hello Bot: Introduction to RPA and Use Cases V11	Completed
Madhumesh Shukla	Getting Started with Intelligent Document Processing (IDP)	Completed
Madhumesh Shukla	Secure Bot Deployment	Completed
Madhumesh Shukla	Secure Bot Development	Completed
Madhumesh Shukla	Secure Bot Design	Completed
Madhumesh Shukla	Identifying Business Processes for Automation	Completed
Madhumesh Shukla	Overview of the Commonly Used Automation 360 Packages	Completed
Madhumesh Shukla	What's Different in Automation 360	Completed
Madhumesh Shukla	Submitting Bots and Digital Workers to the Bot Store	Completed
Madhumesh Shukla	Bot Store Overview	Completed
Madhumesh Shukla	Building Paid Bots and Digital Workers	Completed
Madhumesh Shukla	Preparing Automation 360 Bots for Internet Explorer EOL	Completed
Madhumesh Shukla	Preparing Enterprise 11 Bots for Internet Explorer EOL	Completed
Madhumesh Shukla	Implementing Front Office Automation Using Automation Co-Pilot	Completed
Madhumesh Shukla	Driving Success in the Enterprise with Citizen Developer Capabilities	Completed
Madhumesh Shukla	Citizen Developer Journey: An Overview	Completed
Madhumesh Shukla	Building Action Packages for Automation 360	Completed
Madhumesh Shukla	Automating Business Processes in SAP Using Automation 360	Completed

RPA Development

Introduction

Robotic Process Automation (RPA) is a prominent technology in recent years due to its capacity to automate repetitive and rule-based operations. RPA is a software solution that uses bots to simulate human activities in order to complete jobs within current systems. These bots may learn and adapt over time, making them an excellent alternative for businesses trying to cut costs, improve productivity, and increase accuracy.

In this report, we will look at the many components and aspects that go into creating an RPA system. Key Components of RPA Development

1. Process Identification and Analysis

2. The initial stage in RPA development is to identify which processes should be automated. This necessitates an in-depth examination of existing procedures to determine which are repetitive, rule-based, and time-consuming. Processes that meet these requirements are prime candidates for automation. Once identified, these processes are analyzed to establish the particular stages involved as well as any dependencies or interactions between distinct processes.
3. This study ensures that the RPA solution is designed to connect seamlessly with existing systems while causing the least amount of disruption to ongoing operations. Infrastructure
4. RPA development necessitates the use of both hardware and software components. Servers, storage, and networking equipment are all part of the hardware component. The RPA software and any other software required to interface with current systems are included in the software component.
5. The infrastructure must be created to accommodate the RPA solution's specific requirements. Scalability, security, and dependability are all examples of this. It is also critical to guarantee that the infrastructure can be controlled and maintained simply throughout time.

Data Management

RPA solutions rely on data to carry out their functions. This information might come from a variety of sources, such as databases, spreadsheets, and other systems. As a result, data management is an essential component of RPA development.

This comprises cleansing, normalization, and integration of data. It is also critical to establish data models and data dictionaries to guarantee that the bots have access to the information they require. This necessitates a detailed understanding of the data needs for each automated procedure.

4. Robotics Development

The creation of software bots is an essential component of RPA development. This includes writing the code that the bots will utilise to complete their tasks. The code must be written in such a way that it can interface with existing systems and emulate human activities.

The development of robotics comprises the construction of test cases as well as the testing of bots to guarantee that they perform as planned. It's also critical to teach the bots how to learn from their behaviours and adapt over time.

Deployment and Maintenance

After developing the RPA solution, it must be deployed and integrated with existing systems. To guarantee that the deployment procedure does not disturb ongoing activities, extensive preparation and coordination are required.

Once installed, the RPA solution must be maintained and updated over time. This includes monitoring the bots' performance and making any necessary changes to increase their efficiency and accuracy.

Considerations for RPA Development

1. Security

2. RPA development must take security into account. Because RPA bots have access to sensitive data and systems, they are a potential target for cyberattacks. As a result, it is critical to install strong security measures to safeguard the RPA system from unauthorised access.
3. This includes putting in place access limits, encrypting data, and keeping an eye on the bots for any questionable behaviour.

4. Compliance

All necessary legislation and industry requirements must be met by RPA solutions.

This covers data protection legislation like GDPR and industry-specific standards like HIPAA in healthcare.

It is critical to ensure that the RPA solution is developed to meet these standards and that it is audited on a regular basis.

3. Scalability

Scalability is a crucial factor to consider in RPA development because the system must be able to handle a growing volume of transactions and procedures as the organisation grows. This necessitates meticulous planning and design to guarantee that the solution can be easily scaled to suit changing needs.

This involves building the infrastructure to be easily scalable, applying best practises for code development and testing to guarantee that the bots can handle higher transaction volumes, and ensuring that the data management systems can handle larger data sets.

User Interface

Although RPA systems are designed to automate repetitive and rule-based operations, some amount of human engagement is still required. Users will be able to monitor and control the bots, as well as intervene if necessary.

The user interface must be user-friendly and intuitive, with clear and straightforward user instructions. It should also be simple to customise to match the demands of various users and departments within the organisation.

Training and Support

RPA systems are only effective when utilised appropriately and by properly trained individuals. As a result, it is critical to give extensive training and assistance to users and stakeholders.

This includes thorough documentation and training materials, as well as continuing support for any difficulties or concerns that may emerge.

Benefits of RPA Development

1. Increased Efficiency

Increased efficiency is one of the primary advantages of RPA development. RPA technologies, by automating repetitive and rule-based operations, may accomplish these jobs faster and more precisely than people. This allows human workers to focus on more complex and valuable jobs, increasing total productivity and efficiency. **Cost**

2. Savings

3. RPA development can potentially result in substantial cost reductions. Organisations can cut labour expenses and enhance profitability by eliminating the demand for human labour in repetitive and rule-based processes. RPA systems can also help to minimise errors and enhance accuracy, resulting in cost savings by eliminating the requirement for rework or error correction. **Improved Accuracy**

RPA solutions are intended to mirror human actions, but with great precision and consistency. This can result in increased accuracy in operations like data entry or processing, lowering the likelihood of errors and enhancing overall quality.

4. Enhanced Compliance

RPA solutions can also help with regulatory and industry standards compliance. Organisations can lessen the risk of errors or non-compliance with rules by automating operations such as data entry or processing. RPA solutions may also provide an audit trail of all bot activity, making it easier to establish compliance during audits or regulatory inspections.

5. Improved Customer Experience

RPA solutions can also lead to an improved customer experience. Organizations can increase response times and accuracy by automating operations such as order processing and customer service enquiries, resulting in higher customer satisfaction.

Conclusion

RPA development is a complex and multifaceted process that demands meticulous planning and design in order to be effective. It entails identifying processes that are best suited for automation, designing and implementing infrastructure, managing data, developing robotics software, and deploying and maintaining the solution.

Security, compliance, scalability, user interface, and training and support are all important considerations. The benefits of RPA development, on the other hand, are substantial, including higher efficiency, cost savings, improved accuracy, enhanced compliance, and a better customer experience.

As a result, organizations contemplating RPA development must carefully assess the costs and advantages to determine whether it is the best option for their specific needs. However, with proper planning and design, RPA development can be a strong tool for increasing efficiency, lowering costs, and boosting overall performance.

3. Tools and Technologies

3.1 Automation Anywhere

Anywhere Automation A360 is a cloud-native intelligent automation platform that is aimed to ease the automation process and speed digital transformation. A360's extensive set of features and tools enables businesses to automate difficult business operations, cut expenses, and enhance operational efficiency. This post will go over the capabilities and benefits of Automation Anywhere A360 in detail.

First, let's go through A360's architecture. It is based on a microservices design, which makes it very scalable and versatile. This architecture also allows for simple interaction with other enterprise systems like ERP, CRM, and HCM. A360 allows multi-tenant installations, making it appropriate for organizations of all kinds, from small businesses to major corporations.

The Bot Store, a marketplace for pre-built bots and templates, is a fundamental element of A360. Hundreds of bots and templates are available for download and customization to meet unique company needs at the Bot Store. This capability saves organisations time and effort in developing bots from the ground up, allowing them to easily automate operations that are common across sectors.

The Intelligent Automation Cloud (IAC), which is a web-based platform for designing, deploying, and managing bots, is another major feature of A360. IAC provides a userfriendly interface for constructing bots with drag-and-drop components, making automation accessible to corporate people who do not have programming skills. IAC also encourages the use of code in more complex automation settings.

A360 also offers a range of analytics and reporting tools that provide insights into the performance of bots and processes. These tools enable organizations to identify bottlenecks and optimize processes for maximum efficiency. A360 supports real-time monitoring of bot performance, which means that organizations can detect and address issues before they impact business operations.

Another important aspect of A360 is its ability to provide real-time analytics and insights. With its powerful analytics engine, A360 can provide valuable insights into the performance of bots, processes, and tasks. This helps businesses to identify areas of improvement and optimize their automation processes for better efficiency and cost savings.

A360 also provides a suite of analytics and reporting tools that provide insights into the performance of bots and processes. These technologies enable organisations to detect bottlenecks and optimise operations for optimal efficiency. A360 offers real-time monitoring of bot performance, allowing organisations to detect and address issues before they disrupt business operations.

Another major feature of A360 is its capacity to give real-time analytics and insights. A360's strong analytics engine may provide vital insights into the performance of bots, processes, and activities. This enables firms to find areas for improvement and optimise their automated processes for greater efficiency and cost savings.

4. Projects

Nike (FAST- Finance Automation Strategy Team)

I received a project for working in the RPA department of Nike. I cleared my interview for this project on basis of my eager to learn approach and problem-solving skills. This project is providing me ways to interact with people from different organizations having years of experience. I am thankful to my organization for giving me this opportunity.

Nike has implemented RPA in various aspects of its finance operations to improve efficiency, reduce errors, and increase cost savings. Here are some examples of how Nike has utilized RPA in its finance department:

1. Account Reconciliation

Nike has used RPA technology to automate the account reconciliation process, which entails comparing financial data to bank statements to ensure they match. This process can be time-consuming and error-prone, but Nike was able to automate it with RPA, lowering the time necessary for reconciliation and enhancing accuracy.

2. Financial Reporting

RPA has also been utilised by Nike to automate its financial reporting process. This entails gathering information from multiple sources and combining it into financial reports. Nike has been able to minimise the time and expense associated with reporting by automating this process, while simultaneously improving the accuracy and consistency of financial data.

3. Invoice Processing

Nike has used RPA technology to automate invoice processing, which includes receiving, verifying, and approving invoices from suppliers. Nike has been able to minimise the time and expense associated with invoice processing by automating this process, while simultaneously improving the accuracy of invoice data.

4. Accounts Payable

Nike employed RPA to automate its accounts payable process, which includes tracking and paying supplier bills. Nike was able to minimise the time and expense associated with accounts payable by automating the process, while also enhancing payment accuracy and efficiency.

5. Financial Planning and Analysis

Nike has also used RPA in its financial planning and analysis activities, which involve examining financial data to make strategic decisions. Nike was able to minimise the time and expense of analysis by automating this procedure, while simultaneously improving the accuracy and consistency of financial data.

Nike has discovered that integrating RPA in their finance operations has resulted in increased efficiency, accuracy, and cost savings. Nike's finance department has been able to focus on higher value duties, such as financial analysis and planning, by automating repetitive processes and decreasing the chance of errors, which has contributed to the company's success.

5. Conclusion

Conclusion

The training at TecnoPrism has been an enriching experience, it has exposed me to learn about one of the most increasing trends in the world right now which is RPA Development and specific to Automation Engineering. Over the course of the last two months, I have got comfortable with understanding business problems when it comes to automating tasks, and how to prepare them.

I look forward to work more with TecnoPrism and developing RPA bots & Solutions.