

RPA AUTOMATION ANYWHERE

(Based on Automation Anywhere tool)

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

in

Computer Science and Engineering

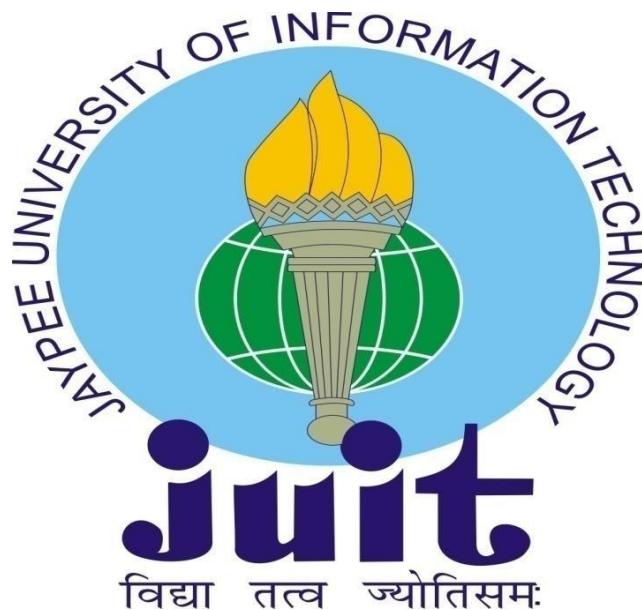
By

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UNDER THE GUIDANCE OF

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to



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DECLARATION BY SCHOLAR

We declare that work in the B-Tech thesis entitled “RPA AUTOMATION ANYWHERE” submitted at Jaypee University of Information Technology, Waknaghat India, is an important record of our work carried under the supervision of Mr. Kiran Kumar. We have not submitted our work anywhere else for other degree or diploma.

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ACKNOWLEDGEMENT

We would like to express our gratitude to our supervisor Mr. Kiran Kumar who helped us in conceptualizing the project and also for the valuable suggestions, remarks and engagement through this learning process of our project and our sincere thanks to CSE Department of JUIT. I am highly grateful to them for sharing their truthful and illuminating views on variety of problems associated with the project. We would like to thank all our friends and classmate for their help and support with smiles and friendship making the college life enjoyable and memorable and family members who always stood beside us and provided the utmost important moral support. Finally, we would like to thank everyone who has helped us directly or indirectly in our project.

Thanking you,

Ujjwal Gupta

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ABSTRACT

As the whole method of Automation anyplace report was done manually and therefore the question was engineerd manually there was large likelihood of human error happening during this process. This automation can Minimize the possibility of human error and additionally the time pay in extracting information would be saved. In order to avoid the time delay and human errors during this process the aim is to alter the method of report extraction and place it in an exceedingly shared folder. Automation is new development of technology and its application so that we can control and keep the sharp eye on the production and giving of various goods and services. It develops different tasks that were earlier done by humans. Automation is used in a different areas like manufacturing, transport, defense, facility, operations and information technology. Process in Vision aid users to users will record totallydifferent methodes simply one time so convert them & share the total process captured in a very single video, storyboard, PDF or PPT. additionally to the current, everyone within the organization will analyze & separate totally different space of repetition, cross division task duplication and change processes at once. method in Vision feature immediate recording, broad collaboration, automation nimbleness and writing of the various accessible automation processes.

Chapter 01: INTRODUCTION

1.1 Introduction

Automation is new development of technology and its application so that we can control and keep the sharp eye on the production and giving of various goods and services. It develops different tasks that were earlier done by humans. Automation is used in a different areas like manufacturing, transport, defense, facility, operations and information technology. As the whole method of Automation anyplace report was done manually and therefore the question was engineerd manually there was large likelihood of human error happening during this process. This automation can Minimize the possibility of human error and additionally the time pay in extracting information would be saved. In order to avoid the time delay and human errors during this process the aim is to alter the method of report extraction and place it in an exceedingly shared folder. Automation is new development of technology and its application so that we can control and keep the sharp eye on the production and giving of various goods and services. It develops different tasks that were earlier done by humans. Automation is used in a different areas like manufacturing, transport, defense, facility, operations and information technology. Process in Vision aid users to straightforward the method. With this resolution, users will record totally different 3ethods simply one time so convert them & share the total process captured in a very single video, storyboard, PDF or PPT. additionally to the current, everyone within the organization will analyze & separate totally different space of repetition, cross division task duplication and change processes at once. Method in Vision feature immediate recording, broad collaboration, automation nimbleness and writing of the various accessible automation processes. The significant advantage we found in the 16 contextual analyses we attempted is an arrival on speculation that fluctuates among 30 and as much as 200 percent in the primary year. Be that as it may, it's inappropriate to take a gander at the momentary monetary benefits, especially if those are basically a consequence of work reserve funds. For instance, organizations in exceedingly controlled enterprises, for example, protection and banking finding that robotization is a shabby and instant method for apply better ability than issue which is consistence. You likewise show signs of improvement client administration since you have more power all the while. An organization that gets heaps of client request, forinstance, can free staff to manage the more intricate inquiries. Every organizationwe have examined reports that it is managing greater remaining tasks at hand. I think there will be an exponential measure of work to coordinate the exponential increment in information50percent all the more every year. There is likewise a monstrous increment in review guideline and administration. We need mechanization just to assuage the pressure that makes in associations. One online retailer estimates the accomplishment of RPA as far as the quantity of hours offered back to the business. So it's not simply the investors, the ranking directors.

RoboticProcessAutomation technology can help companies on their digitalTransformation journeys by:

- Enabling Better customer Service.
- EnsuringBusiness operations and different processe Comply with regulations.
- AllowingProcesses to be complete more rapidly.
- EnablingEmployees to be more efficient.

CHAPTER 02: Automation Anywhere

What is Automation Anywhere ?

Automation Anywhere is no 1 used RPA offering strong and userfriendly RPA capability to automate different processes that are done by humans.

- 1) Bot Creator - It give the developers the opportunity to create bots to automate their Desktop based different applications.
- 2) Control room - An application that act as a controller and handles the various execution and arranging of scripts, credentials, security,clients.
- 3) Bot Runner - A machine which allows us to run the bot. status of bot execution is revert back to the control room.

The company provides several product to assist enterprises in their journey of the digital transformation. they're as given below:

IQ larva may be a psychological feature bot created to support furthermore as learn from various things from business customers and permits the business user to expertise the strength of advanced artificial intelligence technologies. it'sjoined with the automation anywhereenterprise, the IQ larva alsooffers enterprise giant gains in efficiency, because it includes competent of automating tough tasks involving unstructured information. The table explains the assorted sorts of larvas in aa: Task bot, Meta bot, and IQ bot.

| TYPES OF BOTS IN AUTOMATION ANYWHERE | | |
|--|--|---|
| Task Bot | Meta Bot | IQ Bot |
| Automate rules-based repetitive tasks, in areas like document administration | Automation building blocks that facilitates scalability with next-generation integration | Relies on continuously learning and enhancing process automation |
| Best for: Repetitive, rules-based tasks that rely on structured data | Best for: Complex scalable processes | Best for: Managing hrough fuzy rules & procesing unstructured data |

FIGURE01 : DIFFERENT TYPES OF BOT

1) BotInsights

The platform shows different figures and graphs to investigate our larva performance in several system. It permits measure the time that's saved within the automation method. It absolutely was initial solutions that is specially created for bots. larva Insights powerfully joins the important time business processes with digital forceperformance.

2) Bot Farm

It is AN on demand enterprise platform for several bots. This platform will increase the capability of the digital personnel by deploying bots anytime, anyplace with a really less effort. It will produce, deploy and handle several quantity of software system bots that has totally different properties like silience, elasticity, and measurability.

3) Bot Store

This is the primary marketplace for plug and play bots that is accountable for business automation activities. It permits completely different enterprise to seek out, deploy and mobilize bots which has method bots, and psychological featurebots in a very fraction a part of seconds. This figure highlights the top features of each product:

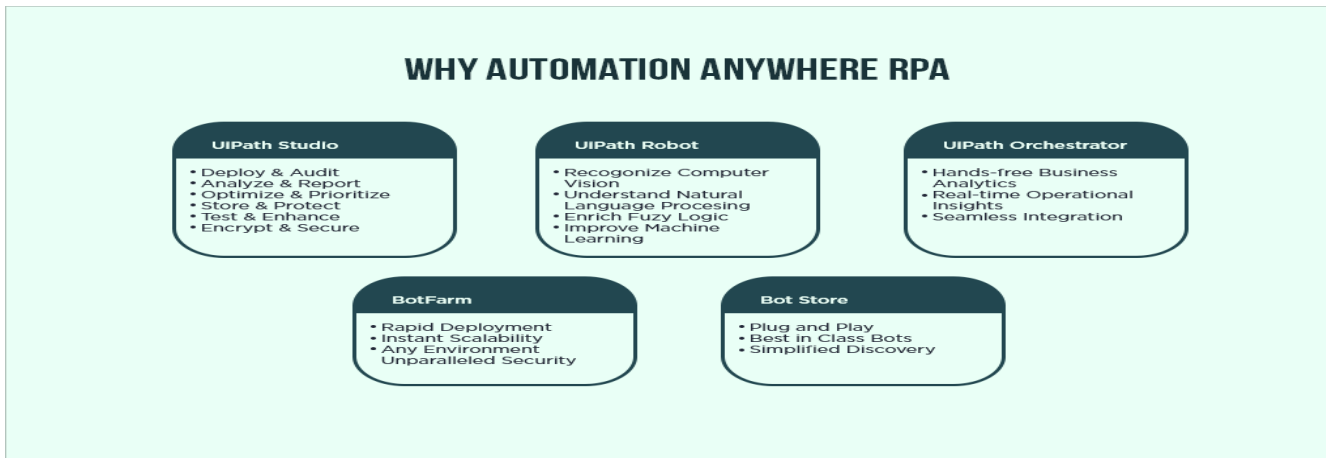


FIGURE02: UNIQUEFEATURESOF EACH PRODUCT

Chapter 03: Features of Automation Anywhere

In the part of the RPA, the automation anywhere RPA is sweet for its completely different functionalities to scale back the time and enhance the potency taken to fulfill the process. victimisation this tool, the organization can create good bots which may perform completely different advanced tasks. And there's no programming knowledge is needed for doing automation because it allows clickactions. the automation anywhere computer code comes up with massive of fine options to support the method automation. some important options give by this tool:

1. Task Editor

In automation anywhere, it's potential to create code by dragging the item and dropping the things from the page. With the help of the task editor, user will do several things like alter, break down completely different tasks. task editor includes of 380 and actions that includes:

- a) KeyboardMouseactions
- b) Window sactions Databaseactionz ConditionalActions
- c) Files/FolderActions
- d) Loopactions
- e) Internetactions
- f) Clipboardactions

2. Workflow Designer

This option permits U.S.A. to make a simple to understand, already engineered graphical read of varied business processes. it's for automating processes that embody several tasks into a series together with totally different ways to assist if a step fails.

3. Report Designer

With this automation anywhere possibility, the user will build and print reports that show the execution history of some tasks. It permits United States making custom reports. The AA tool options TaskTimeline, TaskRun, WorkflowTimeline, VisualLogs, and ROIreports.

4. Trigger Manager

This AA option allows to execute workflows or tasks which are based on the external events like a service start/stop, a file or folder changes system performance changes like CPU consumption disk space.

5. Workload Management

This option includes prioritized queueManagement to complete SLA. work Management permits United States the manual Prior transactions within the automatic line management model. Fully automation anywhere enterprise offers the SLA calculators & RPA Which allows us to turn on lots of bots to meet the automation demand immediately. Therefore this option allows the good process optimization.

6. **PredictiveOperationalAnalytics**

With the builtin larva read, the central space of version11 choices prophetic operational analytics. The RPA analytics from the dashboards includes several unjust insights like bots at riskoffailure, bots with the massive come on investment and plenty of additional. additionally to the current, the analytics and news choices supply the business with intelligence concerning the bots performance and their impact on completely different business.

7. **TrayNotificationwithNumericIndications**

In Enterprise eleven, the central room is absolutely updated with completely different receptacle notification, together witha numeric direction that warns users concerning completely different problems to unravel them straightaway.

8. **CitrixAutomationwithAISense**

There are Some security environments, which incorporates Citrix, that are imagebased systems and are terribly tough to automatise that. during this surroundings, bots are solely allowed to use key strokes and mouseclicks, so the alternativesare terribly less to speak based mostly automation

9. **Recorders**

Using the recorders within the automationanywhere, the users will do several things like record, save and run the testing actions. this selection records completely different user actions in accordance with the management coordinates. It offers the most simplest way to form a larva while not writing programs. associate degree RPA task through a recording is way a lot of quicker than creating a task doing manually. There are 3 kinds of recording choices that are obtainable within therecording practicality of AA. they're like:

- a) SmartRecorder – this recorder takes entire activity as object biological research. It provides massive flexibility throughoutrecording tasks that involve completely different technologies like Java, HTML, and Flex.
- b) ScreenRecorder – this recorder takes activities like mouse move, mouse clicks, and keyboard operations etc. It takes internet and screen. it's wide referred to as a customary recorder.
- c) WebRecorder – this recorder is employed for internet knowledge extraction. This selection dead and faithfully records stillas automates most weboriented tasks while not a lot of logic.
- d) VisualizeTechnology

The nice designed visualize technology of VB permits thestoryboard and pictorial views of some machine-controlled tasks. This technology are often employed in completely different views within the Task editon.

e) ScreenScraping or WebDataExtraction

This option allows America in extracting each structured and unstructured knowledge scattered over the various sites, even as users would manually do. additionally to the present, as these actions are saved, they'll be machine-driven in an right method in later stage. With the net knowledge extraction possibility, AA becomes a lot of good to match with totally different style of net technology and nonintrusive.

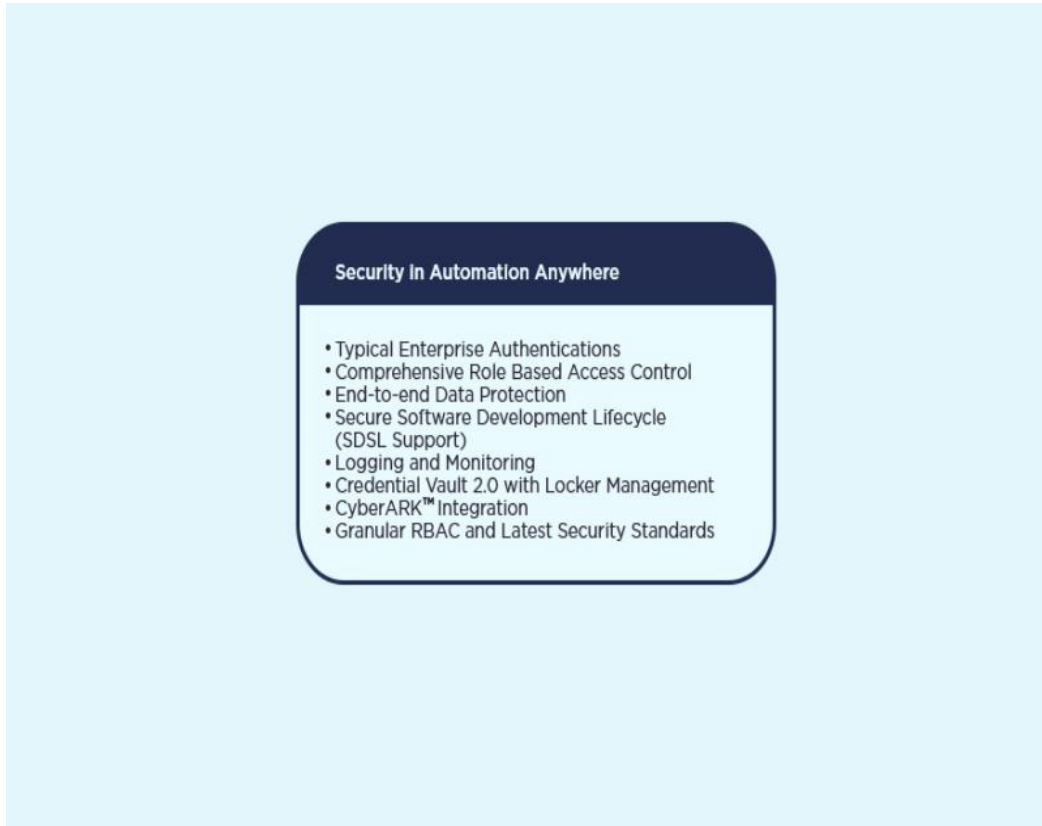


FIGURE 03: SECURITY

This tool allows us scheduling different backups of different test cases; hence, users can recover lost files if they need urgently.

1) ProcessinVision

Process in Vision aid users to straightforward the method. With this resolution, users will record totally different methodes simply one time so convert them & share the total process captured in a very single video, storyboard, PDF or PPT. additionally to the current, everyone within the organization will analyze & separate totally different space of repetition, crossdivision task duplication and change processes at once. method in Vision feature immediate recording, broad collaboration, automation nimbleness and writing of the various accessible automation processes.

2) SnapPointIcon

the tasks execute in an automatic method, still, it's important to trace the behavior and execution of that software system. Snap purpose icon facilitate in providing screen snapshots of the recorded steps on demand to support totally differentusers to check a failure. Therefore, rather than reading the tasks, they'll visualize them in an exceedingly correct graphical manner.

3) ROICalculatorinCOEDashboard

Roi calculation analyzes the factors like:

- a) ReducedErrorrates
- b) TrainingBenefits
- c) ResourceCostForTimeSaved
- d) ResourceRealignment
- e) KnowledgeCapture
- f) AutomatedTroubleshooting

Some new points in aa Enterprise are With the the higher than options, the version eleven comes with new options like DBCS (DoubleByteCharacterSet) to support several languages, document Vault, API, better OCR engine and work bench for taskbots and metabots.

Chapter 04 Development Methodology

AGILE methodology could be a quite common observe that enhance continuous iteration of development and testing full package development lifecycle of project. each development and testing activities are one to 1 not like the falls model.

Main goods of visual project management in agile are:

- a) VisibilityOfProjectDetails
- b) IncreasedTeamEfficiency
- c) AbilityToAdaptToChanges
- d) AbilityToScale

MainBenefits of Agile Development Stakeholder involvement and their Satisfaction. Predictable and fast Delivery.Predictable and Schedule.It gives your Team Purpose. Agilemanagement reduces the different risks which are linked with delivery, scope of project, and budget of the project.

Different Principles of Agile are:

- 1) The agile process enhances SustainableDevelopment.
- 2) Accept change of requirements matter either it is early or late in the project.
- 3) DeliverSoftware that works within a small timescale.
- 4) Both developers and professionals are working closely daily throughout the project.
- 5) Motivate different people to create an environment of happiness, trust, and empowerment.
- 6) Working software is the main measure of success.
- 7) Continuous moving toExcellence and quality in technical development which increases the agility.
- 8) Simplicity is a important part of Agile management.
- 9) SelfOrganized teams produce the good architecture, requirements, and design.Teams should show to be more effective.
- 10) protocol of a way to add associate agile team are given within the agile , a collection of rules were developed by software system developers to form expectations around a way to work.

These principles are :

- 1) PeopleBefore processes tools WorkingSoftware and not on Documentation
- 2) Collaboration is strong as compare to negotiation
- 3) Change management is strong over planning a project.

Development Cycle

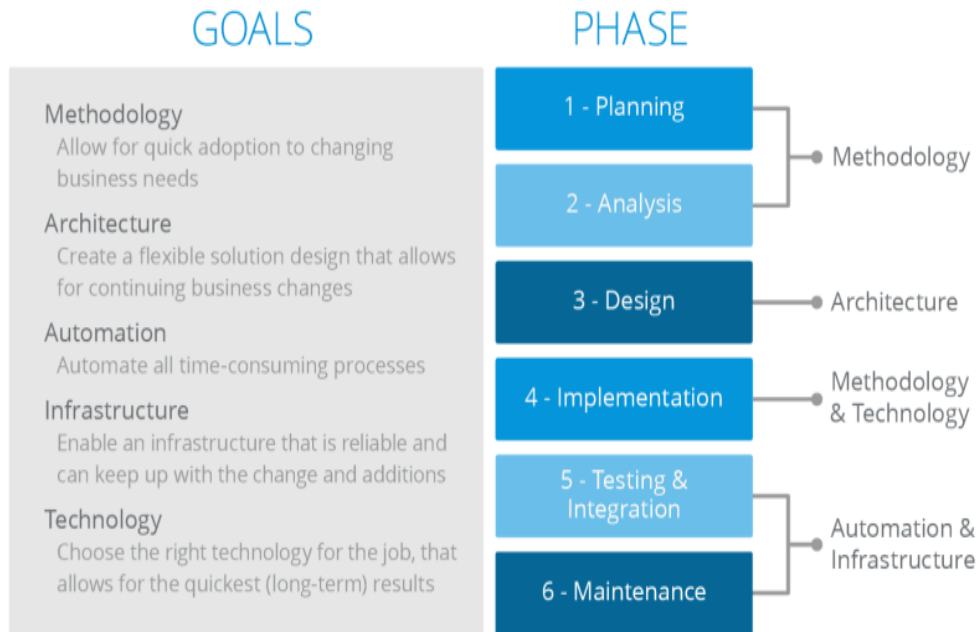


Figure 04: Development Cycle

Chapter 05 HIGHLEVELARCHITECTURE

The design diagram can have larva creator World Health Organization will develop the bot. The developer can produce, edit and execute the larva as a part of development method. larva Runner are going to be employed in production surroundings. room is centralized management of larva creator and bot runner in real. time.

The presentation layer has 3 users i.e., Accountant, Developer and Administrator this is often a skinny layer wherever it'llresides in Genpact surroundings. The room are going to be put in on Virtual server and AA ten.5 shopper are going to beput in on VDI for developing bots & running bots.

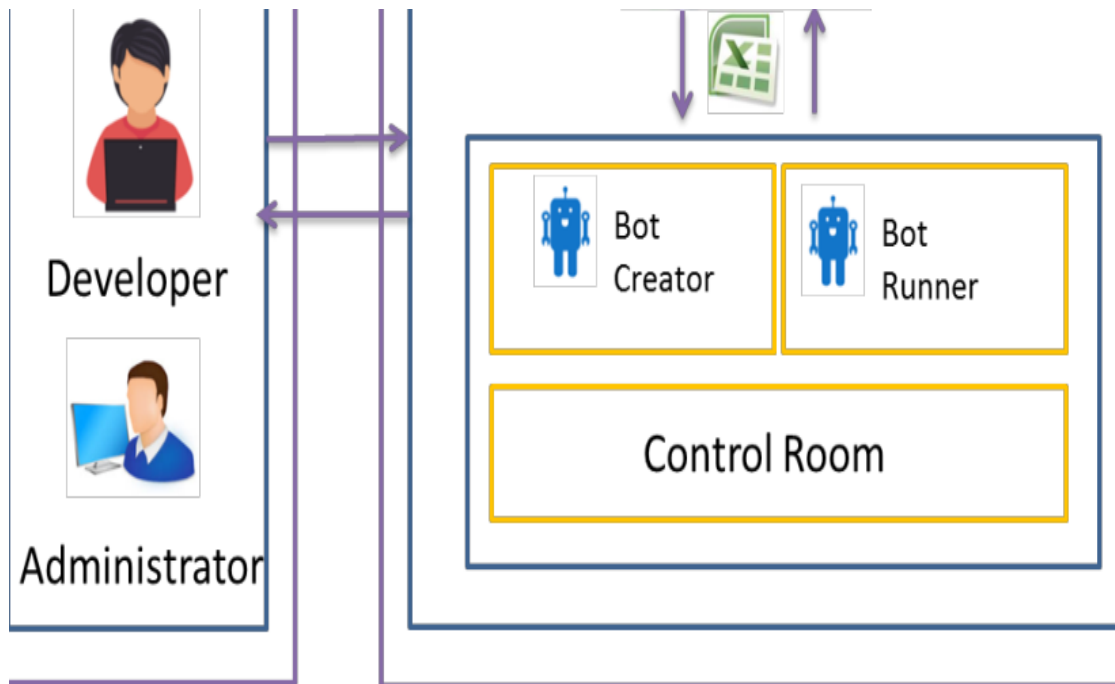


FIGURE5ARCHITECTURE

AutomationAnywhere is one amongst the favored RPA supply powerful & userfriendly RPA capabilities to automatize all tough tasks. It isone of the nice technology that changes the strategy the corporate work. Automation anyplace will automatize ends to finish business tasks for various organizations. AutomationAnywhere is one amongst the favored RPA supply powerful & userfriendly RPA capabilities to automatize all tough tasks. It isone of the nice technology that changes the strategy the corporate work. This tool combines ancient rpa with completely different new things like tongue process and reading information that is unstructured. Automation anyplace permits firms to automatize the method that are completed by the human. it's a WebBased ManagementSystem that uses a ControlRoom to run the machine-driven tasks. Automation anyplace will automatize ends to finish business tasks for various organization.

Chapter 06 SECURITY

Automationanywhere room could be a centralized administration module that's enabled to try and do twenty four hour beatall users, tasks, servers& logs. It provides complete user management, monitoring, and troubleshootingfacilities with a graphicalinterface. The metal is additionally used for pushing tasks to shoppers, programing them, running them, and checking the logs.

The following sections detail out however the varied security needs are addressed:

1) ACCESSCONTROL

Bot’s credentials are going to be maintained by the ‘Credential Manager’ role created among the Control area. a chosen person are going to be assigned this role. The role can solely enable him/her to manage the credentials of larva. All roles among Automation anyplace are going to be created in keeping with the safety necessities. management Room’s ‘Security’ element provides associate access control list that may be accustomed create/modify roles to segregate the duties as per the safety necessities. All requests for roles are going to be done through ‘Service Now’ and can follow the approval mechanism followed by AA. Once the request is approved, the room Administrator can produce the role / add the user to a task, supported the request. Please refer the matrix below (the particular file additionally embedded) to know the various roles created for this project and also the individual accesses

| Role | Control Room(CR) | | | | | | | | | | | | AA Client | | | | | | Comments | | | | | | | | |
|------------------------------|---------------------|-------|--------|-----------------------|-------|--------|-----------------|--------|------|-----------------|--------|------|------------------|------|-------|-----------|------|--------|----------|---------------------------|-------|--------|--------------------------|--------|------|-------|--|
| | Registry Management | | | Credential Management | | | Task Scheduling | | | User Management | | | Operational Room | | | Audit Log | | | | Creator (in Dev env only) | | | Runtime (Bot processing) | | | | |
| | Read | Write | Delete | Read | Write | Delete | View | Manage | Read | Write | Delete | View | Manage | Read | Write | Delete | View | Manage | | Read | Write | Delete | View | Manage | Read | Write | Delete |
| Administrator | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Can do all the activities including creating and managing the Control Room. No CR activities available for scheduling, task and managing users along with other CR Admin activities. |
| RPA Developer (L1 & Support) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Development team/Level 1 Support team will have access to create, modify, the code and run the bot along with access to the task or Development environment only. |
| Credential Manager | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | This role will have access to the 'Credential Manager' module with in the Control Room. He/she will use this module to manage the credentials used by the bot along with processing. |
| RPA Support (L1 and L2) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | This role will permit the users to run the bot along with accessing the logs. He/she will not be able to modify the code or create/modify or perform any other activity. The Level 1 Support/Operational Team (aka Level 2 Support team) will have this role as their primary role. |

Note : Control Room is only for Bot management. All the Bot processing activities like development, modification of code, testing and running of the bot happens on the client VDI, i.e. on Development (i.e., Creator) or Runtime (i.e., Bot Runner/Support) environments. All these activities are protected by VDI logon credentials, which will only be available with the 'Credential Manager'.

FIGURE 06 Access and control

Note: room is simply used for larva management - All the larva process activities like development/modification of code, testing and running of the larva happens on the consumer VDI, i.e. on Development (i.e., Creator) or Runtime(i.e., larvaRunner/support) environments. of these activities are protected by VDI logon. This can be enforced exploitation hybrid security using RSA+AES+HMAC (2048 bit key). Passwords entered in the application or any other sensitive information are not stored on the client machine, rather it is encrypted using AES (256 bits key length) and RSA (2048 bits key length) and stored into the database using SHA256 algorithm after g SHA256 al salting. Passwords are protected in memory exploitation system level knowledge Protection API (DPAPI), so that it can't be discovered by heart mapping tools. Credential Manager are going to be given access to enter the larva watchword through AAControl room that is encrypted.

2) SECURECODING

Fields knowledge that are used with inscribe Keystroke & inscribe Text choices in commands are protected victimisation machine level knowledge protection genus Apis to avoid its direct visibility on the screen. Client sessions are abundantly secured by JSON primarily based token authentication mechanism. It includes management of session expiration and session renewal policies After completion of the group action the reverse traceability are performed through Audit log file which can be hold on in server.

3) DATASECURITY

Bot won't store any data though it'll method the information mistreatment existing process steps and participant applications. Existing method information security process/ framework are going to be applicable because it is and cannot be compact by the larva. Secure larva Communication The Client/Server communication model has server-side authorization for any user action like transfer, transfer ordelete of server files. Unauthorized users cannot gain privilege escalations to perform these actions and therefore the appliance security isn't compromised. Handling Sensitive User Information in Automation Anywhere To remember a user on a specific machine, last logged in user information is saved on the local disk. However, this information does not contain any password. It is used to do application leve auto-login on next application start up. Fields data which are used with Encrypt Keystroke & Encrypt Text options in commands are protected using machine level data protection APIs to avoid its direct visibility on the screen. Client sessions are secured by JSON based token authentication mechanism. It includes management of session expiration and session renewal policies. Task files are obfuscated to protect against direct access of task contents. This includes all the information provided while recording or creating a task.

4) MONITOR

Monitoring is supported by central room with 24hour beat up each users, tasks, servers, &logs;. It provides complete user management, monitoring, and troubleshootingfacilities with a graphical computer programme. we've to Push tasks to shoppers, schedule them properly, run them precisely, and check logs timely. The observation support are going to be as per Support agreements.

Chapter 07 LOGGING&AUDIT TRAIL

Logging for the larva is completed mistreatment 2 sorts of logs:

1) Business/Audit Logs

All group action level details are going to be hold on among the Business/ Audit log. The file can offer full traceability of all activities performed by the larva. The name of the file are going to be 'Activity_Log.txt'. The file are going to be reviewed sporadically by the operations team. A sample of the log is embedded here.

2) Technical logs

All technical data (task level details, access to all or any applications, errors and exceptions) for every group action are going to be captured among the log file. A sample of the log is embed there. each these logs are keep on the native desktop machine.

i) Technical_Log.txt ControlRoomLogs

Control Room also gives us the logs which is used to audit all activities performed on tool.

ii)LogRetention

Bot Log keeps this policy centralized location till the period of One year.

iii)Log Rotation

A new folder will be created every day with the name date inside this Block, there are two log files will be created:

a) ActivityLog- This book can hold business information for that day. This log file will solely be accessed by the operations team and therefore the RPA team
TechnicalLog.txt - This file can hold the technical data for different transactions. This data file will solely be access by different operations team and therefore the RPA team.

b) TOBEPROCESS.

The method map below explains the ToBe process that may be performed by larva. every method step within the process maps has been found out supported the disaggregation sheet. The following are blessings for the method automation:

- i)reduce human mistakes & prevent Time
- ii)enhance dependableness & method time
- iii)Cost saving
- iv)Improve client Satisfaction.

3) PROCESSFLOW IN UI SCREEN

This section tells us the ways followed by the bot for playing the Jira report extraction method as per the updated ToBe in process flow. to start the method, the larva can bear the link. RPA may be installed on a PC of an employee to serve as a digital assistant, to carry out labor intensive, monotonous tasks. RPA may be implemented in IT environment of a company to completely replace human employees with bots.

If there is some wrong or incorrect Link shared by Bot so In this scenario Bot will send a different mail to operation's team. The mail paper will be given as follow:

Incorrect or Broken Link

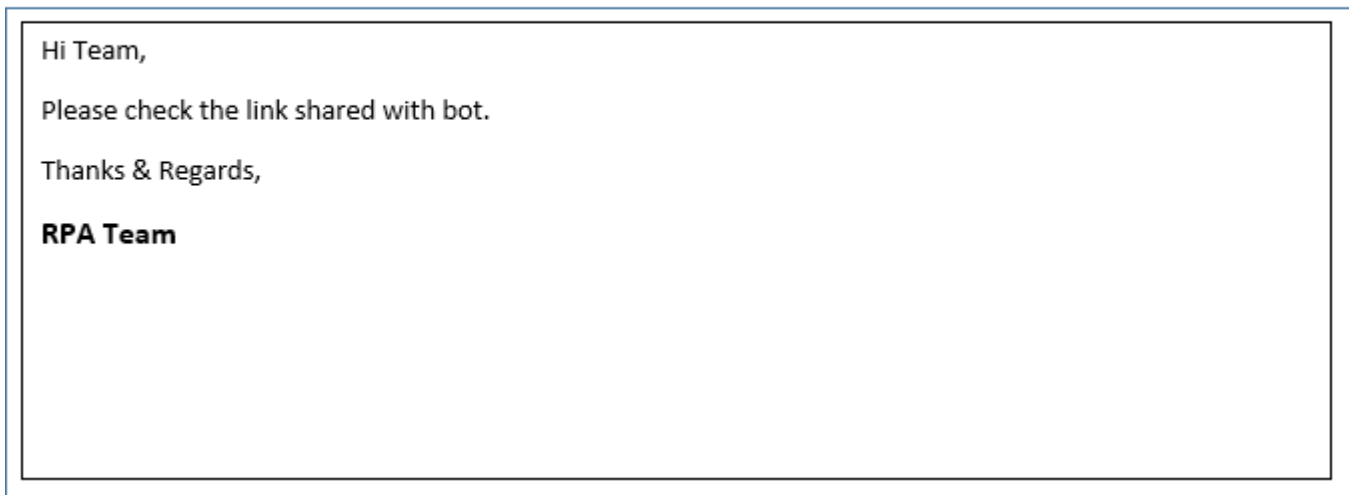


FIGURE 06 INCORRECTLINKMAIL

Browser will not open and In that scenario Bot will send different mail to operations team.The mail picture will be as follow:

Hi Team,
Please check the Browser, There is some problem with the Browser.
Thanks & Regards,
RPA Team

FIGURE07: Browser not responded mail

This section explains the steps followed by the animal for taking part in the Jira report extraction methodology as per the updated ToBe method flow. to start out the strategy, the animal will bear the link.

Hi Team,
Please check Folder Access Rights, There is some problem in accessing the folder.
Thanks & Regards,
RPA Team

FIGURE08 Checking different rights

Chapter 08 RISKSANDMITIGATION

| SL.No | Risk | Mitiga |
|-------|----------------------------|---|
| 1 | Consoli Dated Excel format | the accountant(Operation Team) need to check Excel sheet before sending a mail • If there are some changes in excel then we can do it later. |
| 2 | Jira G Changes | If an changes must be informed on time to team |
| 3 | Screen Re – Solution | If any changes in Screen resolution of Jira Screen, then, it need to inform to the development team and it considered as a CR and re-work on coding |

Chapter 09 Techniocal Specification

ControlRoomServer

- x64 Server based mostly computer hardware with Minimum four Core and 2 Threads
- eight GB RAM needed
- JRE 1.8 onward
- MicrosoftWindows seven SP1
- MicrosoftWindows Server 2012 R2
- web info Services seven Onwards
- Access needed for drive for code installation
- MicrosoftWorkplace
- VersionManagement integration
- NeededPort to open
- Number of Virtual Desktops
- one dedicated VirtualDesktop for Development
- one dedicated VirtualDesktop for User Testing + Prod
- No. of dedicated VirtualDesktops for Production varies supported variety of Production licenses needed
- Number of desktops
- one Genpact dedicatedDesktop dedicated for Development
- one Genpact dedicatedDesktop dedicated for Testing
- No. of dedicated VirtualDesktops for Production varies supported variety of Production licenses needed
- Grant access to Developer ohr id to login onto GenpactDesktop from wherever they ought to be able to login to CitrixVDI desktop.
- check atmosphere that's a duplicate of Production have to be accessible for all the applications to make and test the automation.
- Admin access on RemoteDesktops to put in fast Automation code.
- Access needed on remoteDesktops for log file creation
- Copy Paste practicality ought to be enabled within vdi
- Access to shared filer to method files.
- TCP and UDP Port to be open between the various desktops.
- RDP communication Port have to be opened on the Remote desktops to modify rdp
- some changes within the application computer address, needs changes within the larva

1) CONTROL ROOM

Automation Anywhere's room may be a central interface that enables you to manage and monitor all the processes of RPA infrastructure. It permits you to manage your bots, monitor activities, produce and manage users and roles, monitor connected and disconnected devices, read audit logs, schedule once to run larva etc., briefly, it's master controls

Some of the room options are as follows:

- read task relevant activities exploitation the Dashboard
- Manage and tack users (client and administrator), assign roles and licenses exploitation the Users page
- produce new and manage existing roles exploitation the Roles page
- read the history, tasks current and also the tasks and activities distributed on top of things space exploitation the Activity page
- Manage the automation (bot) files repository and schedule or run tasks exploitation the Bots page
- Manage credentials and lockers exploitation the Credentials page
- read and manage the statuses of devices exploitation the larva runners and bot creators page
- read schedule details exploitation the scheduled activity page
- Manage numerous work things exploitation employment management page
- read recent activities of users and directors exploitation the Audit Log page

2) JIRA setting DETAILS

It has 3 environments for automating the Report Extraction method. every setting incorporates a specific purpose, that has careful as below: Development setting RPA Development team, access this setting to develop Robotic Application UAT setting CR Administrator & Operations team (designated member) has access to the present setting Operations team (designated member) can login to RDT with the User ID of Jira and login to AA with ID created by Cr Admin to perform UAT CR Administrator can move code from Development setting to UAT setting Production setting CR Administrator team & Operations team (designated member) has access to the present setting Operations team (designated member) can login to RDT with the User ID of Jira and login to AA with ID created by Cr Admin to run larva CR Administrator can move final code from Development setting to Production setting

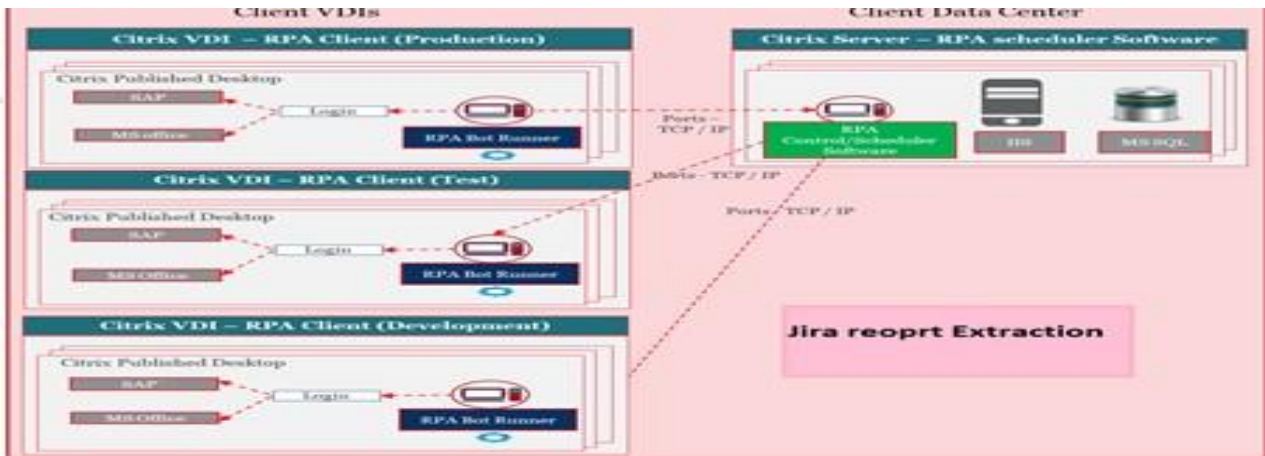


FIGURE 09 recommends the following IT infrastructure

Chapter 10 Robotic process Automation

The process of automating different business with the help of bots to make less human effort is said to be RoboticProcessAutomation.

If someone have to explain on each of these terms then:

- 1) A process is a way of steps which lead to some interesting activity. For ex, the method of making tea or your favorite dish.

 - automation is any way which is done by a bot without human interfere.

RPA is known as intelligent automation in general called to taking previously humanDriven tasks as small, selfContained software applications ICTSystems a organization needs for its regular work. These tasks that operate on saidICT systems can be run onDemand and way up to series of actions. They put all the focus on the organization decision needed to make in the organization. For ex a backOffice process like checking personnel information from a system while creating an document with another system will be good candidate to automate partly.

So when we make summary of all these terms, then copying human actions to perform aSequence of steps, leading to a meaningActivity, without any human interfere is also known as **roboticProcess Automation**.RPa technology consists of softwareBots that can copy a humanWorker. RPABots can different into to enter, to calculate and to complete tasks and then to log out. Currently people divide RPATechnologies into three big categories:

1)Knowbots

2))Chatbots.

- Probots are those bots that follow very simple different rules to processes some different data.
- Knowbots are those bot that search on the internet to collect and store userSpecified information.
- Chat bots are VirtualAgents who have different respond to different customerQueries in small

10.1 Types of Robotic Process Automation

Below are the various kinds of rpa:

- 1) Attended Automation: These apparatuses will require human intercession while performing robotization forms.
- 2) Unattended Automation: These tools are very intelligent and have decision Making capabilities.
- 3) Hybrid RPA: These tools will have mixed capability of both attended and unattended automation Tools.

General Functions Of RPA Include:

- Opening many applications like email etc.
- Combining with the present tools.
- Collecting Data from different web Portals.
- Processing data which includes calculations, data extraction.

Points to Consider While selecting the tool:

- Platform Independence
- User Friendliness
- Less Cost
- Large Scalability
- Industry Specific
- Maintenance and support Services by a company
- Tool Smartness: It should act as Enduser.

10.2 BenefitsOf RPA

The significant advantage we found in the 16 contextual analyses we attempted is an arrival on speculation that fluctuates among 30 and as much as 200 percent in the primary year. Be that as it may, it's inappropriate to take a gander at the momentary monetary benefits, especially if those are basically a consequence of work reserve funds. For instance, organizations in exceedingly controlled enterprises, for example, protection and banking are finding that robotization is a shabby and instant method for apply better ability than the issue which is consistence. You likewise show signs of improvement client administration since you have more power all the while. An organization that gets heaps of client request, for instance, can free staff to manage the more intricate inquiries. Every organization we have examined reports that it is managing greater remaining tasks at hand. I think there will be an exponential measure of work to coordinate the exponential increment in information 50 percent all the more every year. There is likewise a monstrous increment in review guideline and administration. We need mechanization just to assuage the pressure that makes in associations. One online retailer estimates the accomplishment of RPA as far as the quantity of hours offered back to the business. So it's not simply the investors, the ranking directors, and the clients who advantage, yet in addition representatives.

RoboticProcessAutomation technology can help companies on their digitalTransformation journeys by:

- EnablingBetter customerService.
- EnsuringBusiness operations and different processeComply with regulations.
- AllowingProcesses to be complete more rapidly.
- EnablingEmployees to be more efficient.

10.3Myths of RPA:

1. CodingIsRequired to use rpa software

That is false. To use RoboticsProcessAutomation tools one needs to understand how the software do on the frontend and can how they can use forAutomation.

2. RPASoftware does not need humanSupervision

This is an confusion because humans are needed to code the rba bot, give them some important tasks for automation and manage them nicely.

3. OnlyLargeBigCompanies canAfford toDeployRPA

Small to mediumSized Organizations can deploy to automate different business. Howeve initial rate will be very high but it will be restored in 4/5 years.

10.4 Applications Of RPA

Some Of The Top Applications Of RPA Include: In this way, presently given me a chance to reveal to you the top uses of RPA with the goal that you know the different divisions wherein RPA can be utilized.

1) General Use Of RPA

1. Emulates Human Actions:

Emulates Human Execution of the repetitive process using different various different Application and Systems.

2. Conduct High Volume repeated tasks:

Robotics Process Automation can easily stimulate of data from one pc to another system. It do tasks like data entry, copying, and pasting and many other things.

3. Perform Multiple Tasks:

Operates on multiple and difficult tasks across multiple Systems. This helps to process and change data and Send different report.

4. Virtual System Integration:

This Automation System can Transfer data Between Disparate and Legacy systems by connect them at the user level instead of developing new data Infrastructure.

5. Automated Report Generation:

Automates the Extraction of data to comes up with good, effective and exact reports.

6. Information Validation And Auditing:

Resolves and Crossverify data between Different systems to validate and check different information to provide information.

7. Technical Debt Management:

Helps to Reduce Technical problem by reducing the errors between systems, stopping the introduction of different implementations.

8. Product Management:

It helps to bridge the gap of system and which are connected product management platform by automatically updating of different Systems.

9. Quality Assurance:

It can be helpful to different process which cover different testing and analyzing customer use case scenario.

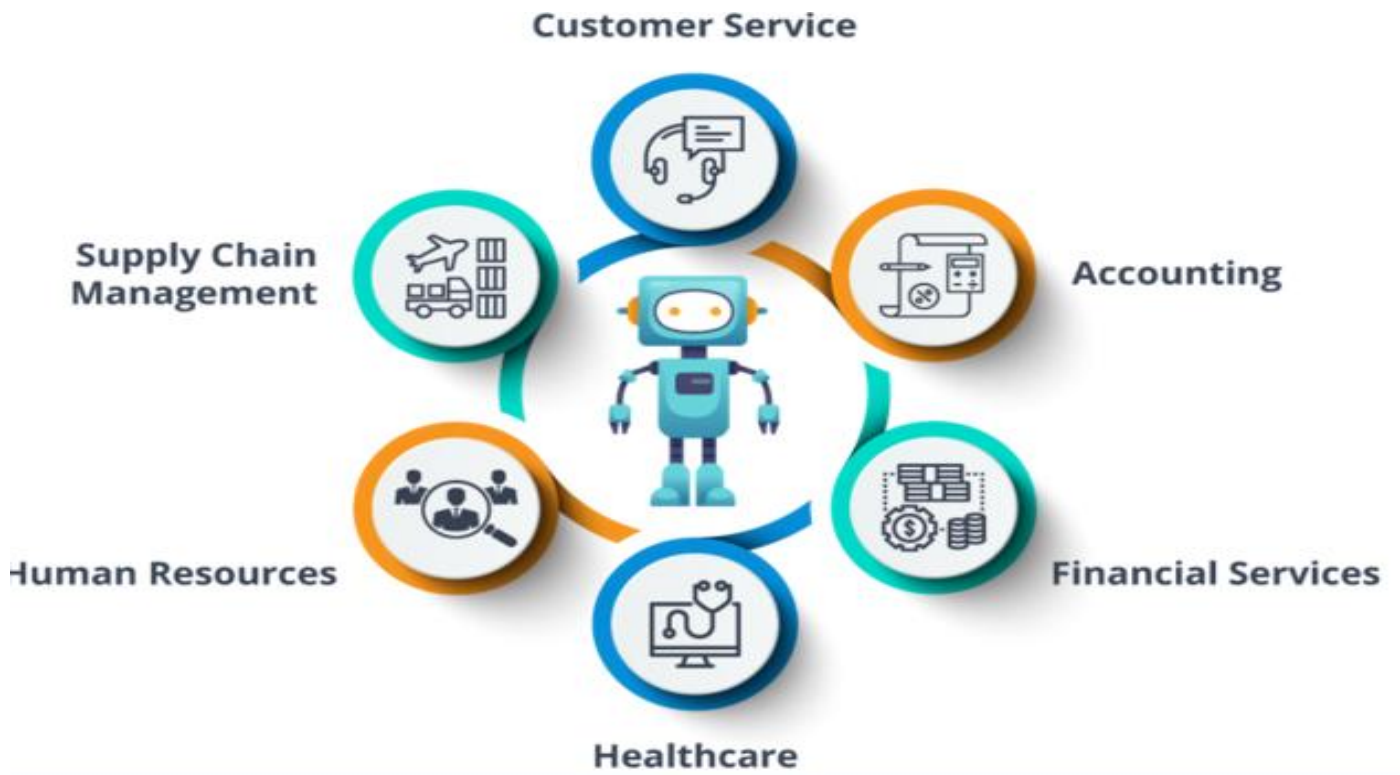


Figure 10: The Evolution Journey Of RPA

Despite the fact that the expression "RoboticProcessAutomation" can be followed to the mid 2000s, it had been producing for various years beforehand. RPA developed from three key advances: screen scratching, work process mechanization and man-made consciousness. Screen scratching is the way toward gathering screen show information from a heritage application with the goal that the information can be shown by an increasingly present day UI. The upsides of work process mechanization programming, which dispenses with the requirement for manual information passage and expands request satisfaction rates, incorporate expanded speed, effectiveness and exactness. Finally, computerized reasoning includes the capacity of PC frameworks to perform assignments that ordinarily require human mediation and insight.

Today, RPA programming is especially helpful for associations that have various and confounded frameworks that need to interface together smoothly. For example, if an electronic structure from a human asset framework is feeling the loss of a postal division, customary robotization programming would hail the structure as having a special case and a representative would deal with the exemption by looking into the right postal division and entering it on the structure. When the structure is finished, the representative may send it on to finance so the data can be gone into the association's finance framework.

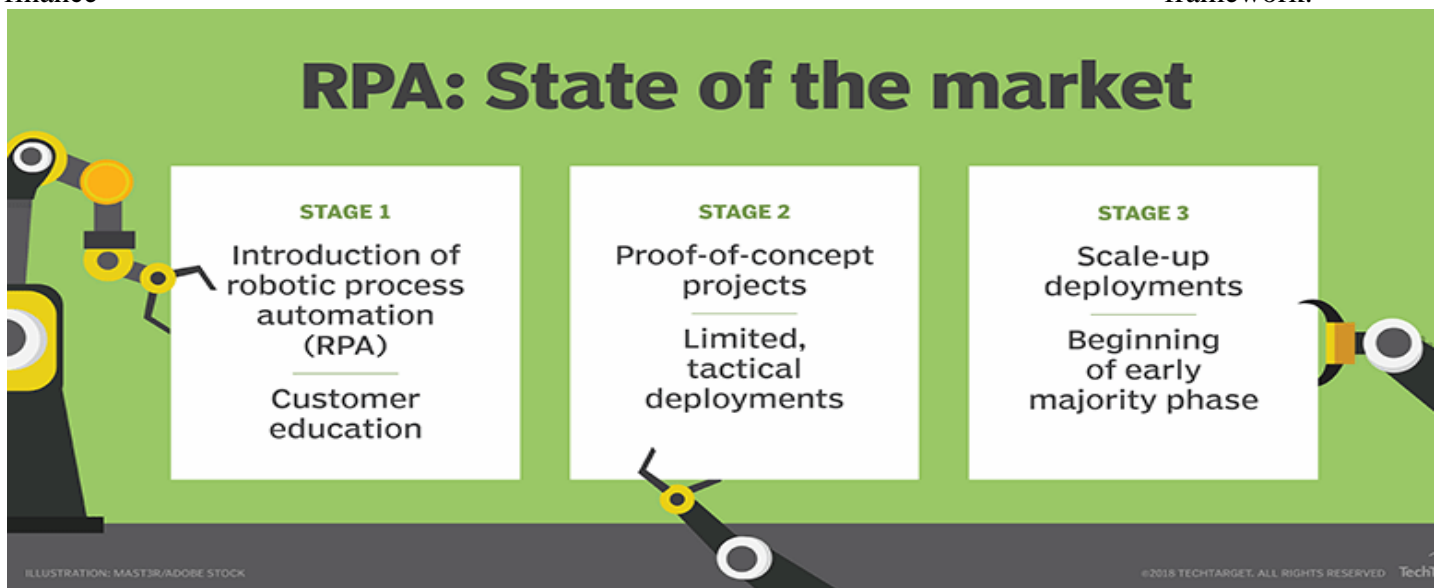


Fig11. rpa :state of the market

Chapter 11 Development of RPA



11.1 Development

In this time, some start developing automation tasks as per plan. the implementation is very fast Testing In this time, you run different Testing different cycles for in their Scope automation to find and correct errors.

a) Support & Maintenance

It Provide continuous support and help after going live and helps in immediatedefect solution. Please Follow general maintenance guidelines and rules with roles with business and IT support team. TheNextAcronymYouNeedToKnowAboutare RPA removes the robot from the human. The normal information laborer utilized on a backoffice process has a ton of tedious, routine errands that are terrible and uninteresting. RPA is a sort of programming that mirrors the movement of an individual in completing an errand inside a procedure. It can do monotonous stuff all the more rapidly, precisely, and energetically than people, liberating them to do different errands requiring human qualities, for example, enthusiastic insight, thinking, judgment, and connection with the client. You can multiskill each bit of programming. It's lightweight as in you needn't bother with great deal of IT inclusion to get it ready for action. Business-activities individuals can adapt rapidly how to design and apply the robots. It's lightweight additionally in that it just tends to the introduction layer of data frameworks. It doesn't need to address the business rationale of the fundamental framework or the information get to layer.

11.2 HowIsRPADifferentFromCognitiveIntelligence?

RPA manages less complex sorts of assignment. It removes principally physical undertakings that needn't bother with learning, comprehension, or understandingThe assignments that should be possible by classifying rules and teaching the PC or the product to act. With intellectual mechanization, you encroach upon the information base that an individual has and on other human properties past the physical capacity to do something. Subjective computerization can manage common language, thinking, and judgment, with setting up setting, potentially with building up the significance of things and giving bits of knowledge. So there is a major contrast between the two. Likewise, though RPA is really ready as an innovation, subjective computerization isn't. I've not seen a rush of incredible, intellectual robotization instruments show up in the market or numerous organizations utilizing them yet.

B) Cognitive Automation:

Intellectual computerization depends on programming conveying knowledge to data concentrated procedures. It is normally connected with Robotic Process Automation (RPA) as the combination between Artificial Intelligence (AI) and Cognitive Computing. By utilizing Artificial Intelligence advances, subjective mechanization broadens and improves the scope of activities that are commonly connected with RPA, giving points of interest to cost reserve funds and consumer loyalty just as more advantages regarding exactness in complex business forms that include the utilization of unstructured data.

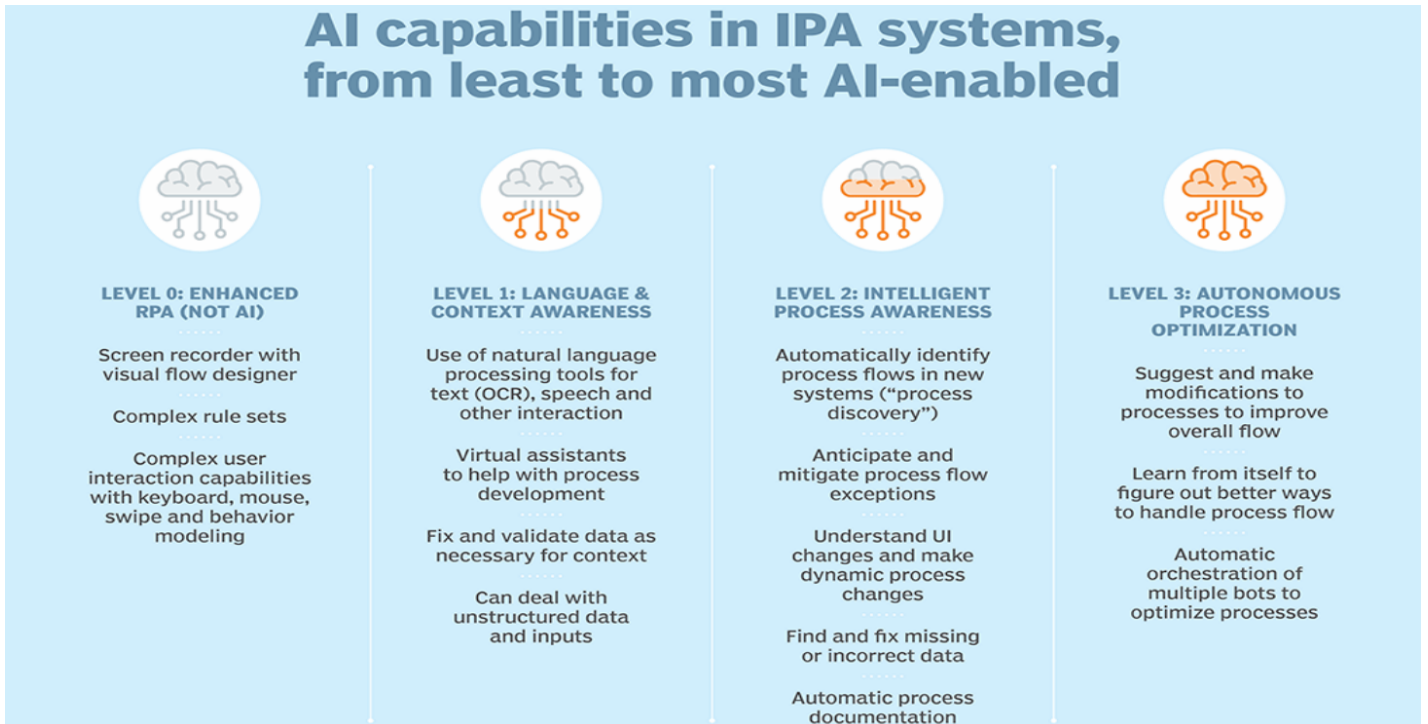
C) What is Cognitive automation and what it is not Intellectual robotization isn't AI.

Intellectual robotization use various calculations and innovation methodologies, for example, normal language preparing, content investigation and information mining, semantic innovation and AI. What does cognitive Automation mean for the enterprise? The coordination of various AI highlights with RPA causes associations stretch out computerization to more procedures, taking advantage of organized information, however particularly the developing volumes of unstructured data. Unstructured data,

for example, client connections can be effectively broke down, prepared and organized into information valuable for the subsequent stages of the procedure, for example, prescient examination, for instance Cognitive automation creates new efficiencies and improves the quality of business at the same time. As organizations in every industry are putting cognitive automation at the core of their digital and business transformation strategies, there has been an increasing interest in even more advanced capabilities and smart tools. Enterprise Challenges and Cognitive Automation Benefits Today's enterprise faces a number of challenges: increasing efficiency, enhancing decision making, staying competitive, ensuring customer loyalty, compliance are just some of the hurdles that businesses are facing. Based on our experience, we believe that companies can expect more than 50% in savings for FTE activities and relevant cost reductions (from 30% to 60% for email management, quote processing, etc. Advantages resulting from cognitive automation also include improvement in compliance and overall business quality, greater operational scalability, reduced turnaround, and lower error rates. All of these have a positive impact on business flexibility and employee efficiency.

Chapter 12 Analysis of RPA

Intelligent process automation may eventually supplant traditional robotic process automation as AI propels the technology away from automating rote tasks.



The future of robotic process automation isn't what it used to be

When RPA became mainstream around 2015, cognitive RPA was considered the evolutionary path for the technology. Basic RPA was useful for automating repetitive tasks, but the rules-based approach worked best with structured data. The cognitive variety, however, would add some new features. RPA vendors since 2015 have indeed pushed RPA technology in the cognitive direction, adding AI capabilities. But not everyone is convinced this is the ultimate destination for the technology. Ron Schmelzer, managing partner and principal analyst at Cognilytica, a market research and advisory firm that focuses on AI and related fields such as RPA, believes intelligent process automation, or IPA, is the shape of things to come. IPA diverges from RPA in that it goes far beyond recording a particular business process and repeating it again and again. IPA aims to harness AI to learn how to adjust and improve the process flow, creating intelligent processes. So, is infusing RPA with NLP and other technologies an exercise in pouring new wine into an old cask? Schmelzer seems to think so. "Cognitive RPA is still RPA, which means, it's unintelligent at its core," he said. "Simply using OCR or NLP or machine learning approaches doesn't make the systems less cut-and-dried automated as they are now." Schmelzer isn't alone in this view of the future of robotic process automation. Management consultant McKinsey & Co. last year published an article on IPA, describing it as strong technology. The end of RPA? Smart IPA tools that adapt to new situations and expand beyond templated or recorded activities will supplant RPA of any sort. That possible future of robotic process automation has yet to materialize, however. Cognilytica has created a scale to assess the capabilities of next-generation IPA systems.

The yardstick starts at Level 0, which represents RPA products that have yet to embed AI, and peaks at Level 3, which represents technology that can learn from itself to determine better ways to handle a given process flow. At that stage, hard coding disappears and the system relies entirely on machine learning.



Project Learning

From this project I learnt about different RPA processes and how we can automate those processes. Earlier the tasks were done humans, but after coming of robotic process automation technology, this work becomes very easy. The bots do the time taking tasks which if done by human would consume a lot of time. I learnt about

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