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ROBOTIC PROCESS AUTOMATION

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Abstract: An automation process technology has been explained with the description of its uses in different business sectors. Robotic Process Automation is a revolution in business sector automation process, where an individual can be replaced by a robot. This automation process provides a better way to execute various tasks in the business sector which ultimately leads to increased productivity, reduced manpower and save time to a great extent.

Keywords: RPA, software robot, application programming interface (API), graphical user interface (GUI), automated robot.

I. INTRODUCTION

Over the last decade, the business world has changed rapidly. The increasing interest in automation techniques has led to the foundation of Robotic Process Automation. Robotic Process Automation is a robot with a computer program, it would be appropriate to mention the robot as a software robot. The robot has all the instructions fed into it through programming. In Robotic Process Automation, no new technology is introduced; just the human part in the current process is automated by replacing it with a robot. Robotic Process Automation can simplify the business process, for example, an organization can set up a robot for processing of data automatically, the robot can be used to enter data into the excel sheet which makes it easy for the management to keep a huge stack of data in no time. The robot imitates a human and performs tasks on behalf of him.

II. REQUIREMENTS

A. Repetitive & Accurate

The instructions of the process should be repetitive and rule-based so that the robot can easily make a note of those and follow the steps, the more repetitive and rule-based a process is, the more accurate it is. Hence providing an error-free system.

B. Reliability

As the robots will be used to automate millions of process, a built-in system should be set up for the analysis of health of these systems to make sure everything is on track.

C. Precision

Precision plays a key role in Robotic Process Automation. The more precise the automation is, the more is the efficiency and better efficiency means saving a great deal of time.

D. Decision Making

robot should possess good Decision-Making skills. A robot should be able to determine the appropriate actions to be performed whenever required. It should be able to use the input data from other systems and manipulate its actions to get better results.

E. Simple & Intelligent

It should be noted that the process is simple enough for individuals to operate. It should be used in such a way that they can be used to handle several kinds of work which then result in best business decisions.

III. WORKING

The developer produces a set of instructions in the form of application programming interface (API), the process of scripting is used in this case. The process performed by the user in the user interface is captured by the process recorder of Robotic Process Automation and a set of rules are generated for the process to be automated. Hence the robots are deployed which are configured with APIs to perform different tasks. There are various tools which can be used to make the Automation process easier along with the interaction with the graphical user interface. RPA tools are used to track the repetitive and rule-based processes and put it in the robot in the form of APIs. Once the APIs are fed into the robot, the robot can perform the process according to the APIs that has been recorded in it through scripting. Hence creating a fully automated robot which can perform tasks like copying piles of data into organized excel sheets in a remarkably short span of time. Hence, increasing efficiency and saving a great deal of time.

IV. RPA TOOLS

Some of the most used core tools for automating by using RPA include UiPath, Blue Prism, and Automation Anywhere. Among the mentioned tools, UiPath is the most popular tool in the market mentioned that it is absolutely free to use and has user-friendly interface.

IV. ADVANTAGES

A. Improved Efficiency

The robot mimics the human, when the robot handles these tasks the processing is much quicker and efficient.

B. Greater Productivity

Better efficiency leads to greater productivity, the process speeds up and delivers better productivity in case of RPA.

C. Increased Precision

By setting up a software robot the precision is increased, it eliminates the possibilities of human errors. Hence, resulting in a better accuracy.

V. CHALLENGES

A. Redundancy

The most important question that comes to everyone's notice

after hearing about RPA is that whether robots may take up our jobs. There will be a reduction in the number of people working for the processes which can be automated may it be managerial processes or administrative processes. The most important thing with this is that there should be a perfect balance between works of robots and humans.

B. Complex Maintenance

The maintenance of RPA is complicated. The systems set up for surveillance of the software robot needs to be looked after a particular span of time to make sure that the systems are updated and are working fine.

VI. APPLICATIONS

A. Banking

In the banking sector automation can help to save a lot of time and cost. RPA can be useful to handle low priority jobs, if such method is implemented then the valuable time of employee can be used to focus more on complex banking tasks and better interaction with the customer. RPA can be used to process several tasks in the banking sector; some of them are mentioned as follows- It can help in copying data into excel sheet.

It can help in the creation of new accounts for customers.

It can help in processing applications of debit/credit cards.

It can be used to update the loan forms of the customers.

In the modern era, every bank keeps a track of their customers and has all the necessary information about them, this information is taken through Know Your Customer (KYC). This process will work best if it's automated; hence RPA is the perfect solution for this.

A thing which every customer requires is improved customer support which is available to him 24 hours a day. Better customer service will make sure that the customers are satisfied with the services and their queries are resolved at any point of time. There should be 2 layers of customer service, from which the first layer is automated and will be used for minor and low-level queries however if any query is major or high-level it should be put into the second layer which requires human intervention to make sure that the best support is provided to the customer.

B. Healthcare

In healthcare, automation can be used to manage the health plan of patients. This can be used to track the data of the patients. It can be used to maintain data of hourly analysis of a patient's health status, such as keeping a record of blood pressure, heart rate, pulse, and other vitals. In case of doctor's absence, the robot can keep a check of those vitals and a system can be developed which can keep the doctor notified about those vitals of the patient. Automation can further help in managing appointments. It can also be used to make the processing of claims easier. Automated Insurance claim processing will prove advantageous in many ways such as it can manage all documents with respect to claims and also saves a great deal of time on the other side.

C. Human Resources

The introduction of automation in Human Resources can help to make the process a lot easier and convenient both for the management as well as the employees. The management can, for example, start the automation process by handing over the robots with the task to help with on boarding and off boarding of employees; this will make sure that the transition is smooth. Automation can also help the management to keep the data of the employees updated and they can also track the employee's data whenever required with the blink of an eye. This will ease the process of data management for the management with zero errors. Processes such as keeping a note of timesheet entries for all employees, automation in this will keep prompting pop up's on employee's screen if he or she fails to make timesheet entries based on appropriate dates. This will, in turn, make sure the payroll is processed accurately and without any delay, saving a lot of struggles for management. Through automation, the management can keep a track on the learnings of their employees and encourage them to learn because eventually better learning will lead to the development and growth of employees. This process will also be beneficial in managing the access and expenses, the renewal of access granted to the employees can be automated in order to avoid monthly hassle for both management as well as the employees, automated granting of access can prove very beneficial. Similarly, the expenses can be managed too without much human intervention, although little human efforts will be required in expense management as it may be done on a higher scale and irregular order.

D. Public Sector

The public sector has the most amount of work pending because of the fact that it has a lot of big tasks which consume a lot of time and at the same time it also has small tasks but the number of these small tasks are much higher as compared to other tasks. Let us take the breaking of traffic rules for example, there are many people who break those rules, in such cases an automated robot should be put to work, the robot can monitor the activities of the traffic on the surveillance system and if someone breaks the traffic rules then he or she should be handed over with an e-challan. Thus, in this way, the issuing of challan's can be automated and we can let robots do the work.

This will allow the humans to focus more on relevant and major issues which actually require human intervention and are not easy for robots to deal with.sRobot should Robot automatedCan be automaty

E. Supermarkets

The process of RPA can make the processing of supermarkets super-efficient by placing a robot at the billing counters. Robots can also be designated at the customer service desks for a better experience and quick resolution of customer queries. At customer service desks, a human needs to be deployed so that if some query is beyond the understanding of the robot, it can be taken care of by the human. Also, making a special mention of my major project during university graduation, a robotic trolley which works on the principle of RFID and follows customer around. It had an RFID tag reader which was able to fetch the details of the product which was put in the trolley. It also had an automatic

billing system which can be related to RPA. A robot can be used to make the bill processing efficient and convenient, it will also make sure that the process is user-friendly without the infusion of any errors and provides a better experience to customers. This will avoid people standing in queues as it speeds up the process by almost double the previous speed. Thus making automation a better fit in this sector as well.

VII. CONCLUSION

The introduction of Robotic Process Automation would be undoubtedly a sensation in almost every sector as it must reduce the work by more than 50% by deploying software robots to mimic humans and take their place for the work which meets the requirements of automation. At the beginning, RPA might seem expensive because it talks about deploying of robots but once these robots are put to work the costs will be reduced to such an extent that the investment in robots can be recovered and it will eventually lead to the profit of the organization. Along with this factor, we should not neglect the fact that the main advantage of RPA is that it saves our time to a great extent and in modern world time is a very precious thing to waste; we might as well compare time with elixir as we won't get it back once wasted. Therefore, a conclusion can be drawn from this, that RPA is very beneficial but with human intervention required at times. RPA can be used to wind up the low level or easy tasks which fall into its requirement perfectly and let humans deal with the complicated tasks because after all humans are the creatures with top-level intelligence and nothing can change that.

