

## ROBOTIC PROCESS AUTOMATION OF BACKEND PROCESS OF FEEDBACK USING UIPATH TOOL

**BARATAM SINDHURA**

Department of CS&SE, Andhra University  
College of Engineering(A),  
Andhra University, Visakhapatnam, India

**SATYANARAYANA MUMMANA**

Department of CS&SE, Andhra University  
College of Engineering(A),  
Andhra University, Visakhapatnam, India

### ABSTRACT

*Organisations are having so many mundane processes which are being done by employees daily. Several organisations recognised that these processes are affecting the productivity of an organisation. In order to overcome this, organisations are adapting robotic process automation. After the business rules are established, the system makes decisions consistently and correctly at every time. There is no employee stress, mistakes or judgement calls and information can be processed 24/7/365. Robotic Process Automation is a technology that allows "robot" to match and integrate the actions within digital systems to execute a business process just like the way human would interact. With RPA, processing time become predictable and consistent, ensuring that transactions are never delays due to employee illness or vacations, and high-quality customer service standards can be delivered across the board. Backend of the feedback is one such process that can be automated by using robotic process automation. This thesis aims to reduce the time consumption that a mundane process in an organisation will take and increase in productivity of the organisation because the human resources can be used for the better and efficient use.*

**Keywords-** ROBOTIC PROCESS AUTOMATION, UiPATH, AUTOMATION.

### 1. INTRODUCTION OF AUTOMATION

With the rise of technology and robotics, the human factor involved in the use of technology and other processes that are involved is slowly diminishing. Instead humans are being replaced by hardware which have their own brains and more than capable of solving all the issues and performing procedures all by themselves. This intelligence is called artificial intelligence and the hardware that does the job is called a bot or robot. The process of performing the actions

without the need for human involvement is called automation. IT automation depends on software tools to define and conduct a prescribed series of detailed actions that are invoked manually or by an external trigger, such as a change in IT capacity demand. complex IT automation's can be achieved by combining multiple scripts into a series. These automation processes have limited scope and will be most beneficial when they replace a task that an administrator has to perform frequently. Admins do not save much, if any, time by automating a rote action made once per month. Automating a manual process that occurs multiple times a day, however, significantly increases an admin's time for other process that require decision-making and assessment skills.

#### 1.1 Advantages of IT Automation

The first and most important advantage of automation is speed. IT operations require a significant number of different tasks. An IT administrator can achieve each task manually, but modern business demands place extraordinary pressure on IT staff to respond quickly to needs across large, complex infrastructures. Human beings cannot provision and configure workloads in minutes and achieve all of the individual routine tasks required, at any time of day. Automation frees adminis from the time they spent on routine tasks so that they can contribute to value-added projects for the business, such as experimentation with promising new technologies and products. While the automation saves time, admins should carefully plan and research each task necessary for the

intended workflow and then correctly translate those steps into the automation platform to achieve the desired end state. The second advantage is accuracy. An IT administrator can make an error while typing in a command line interface, may choose a wrong configuration setting for the server, may overlook a key step in a complex task or make other mistakes. Errors will lead admins to take additional time to troubleshoot and repeat the work process to get it right. IT automation will give the authority to an IT professional to construct a proven, accurate sequence of operations that can be run countless times in exactly the same manner. The third advantage is governance. Different IT employees perform the same task in different ways, and even the same employee handles a task differently from one time to the next. For organisation governance and regulatory compliance, an IT automation strategy clearly shows that consistency in IT operations, regardless of the administrator on any given day. The Fourth advantage is flexibility. Processes change over time as the IT infrastructure grows and changes, and technologies and best practices evolve. Automated processes remain static until a person decides to change them. Organizations must have a set workflow to update and revalidate automation processes, including disciplined automation versioning that tracks how tasks change over time.

**Low risk Non:** invasive Technology: robotic Process Automation can be overload on existing systems. It allows the creation of platform compatible with ongoing developments in sophisticated algorithms and machine learning costs.

**Reliability:** Robots will constantly work. It will not take any breaks and it will provide its services 365 days a year.

**Accuracy:** Robots will give cent percent accurate results for the first time. Human errors will not happen here.

**Cross Industry:** RPA can be used across industries since it follows procedure in use

**Retention:** organization will concentrate on more stimulating tasks.

**Consistency:** once the repetitive task is recorded in the studio then it will execute the same way whenever it is scheduled to execute. It doesn't change any code, and output will always be the same. It eliminates the inconsistency of outputs.

**Productivity:** Robotic process automation will increase the productivity of the organization. As manual process are being automated, human resources will be freed up for higher value added tasks in the organization.

## 1.2 ROBOTIC PROCESS AUTOMATION

Robotic process automation (RPA) is the use of software with artificial intelligence (AI) and machine learning capabilities to handle high-volume, repeatable tasks that previously required humans to perform. These tasks can include queries, calculations and maintenance of records and transactions. RPA tools have matured quietly over the last decade, and now they are finding a place in many organizations. It doesn't require any integrations with the back end IT applications. Forward thinking business leaders are paying attention to rpa because the technology holds the potential to computerize a variety of manual processes. As a result, it can help address business process complexity, increase efficiencies, and dramatically reduce costs. It doesn't requires any integrations with the back end IT applications. With its installation in your system, your organisation can put its human resources to a much better and efficient use, which will eventually result in increased productivity. It is easy to implement and takes lesser time to implement. The time taken by RPA to process data and do other rule-based and calculations work is less than 1/4th of what a human resource would take.



Fig1:- Design of Robotic Process Automation

RPA technology, usually called a software robot or bot, imitate a human worker, logging into applications, entering data, calculating and completing tasks, and logging out. RPA software isn't part of an organization's IT infrastructure. Instead, it sits on top of it, enabling a company to implement the technology quickly and efficiently without any change in the existing infrastructure and systems. It is a software application that automates tasks and processes which are otherwise performed only by humans. The term "robotic process automation" can be traced to the early 2000s. It had been developing for a number of years previously. RPA evolved from three key technologies: screen scraping, workflow automation and artificial intelligence. Screen scraping is the process of collecting the displayed data on the screen from a legacy application so that the data can be shown by a more modern user interface. The advantages of workflow automation software is, it will eliminate the need for manual data entry and increases order fulfilment rates, include increased speed, efficiency and accuracy. Lastly, artificial intelligence involves the ability of computer systems to perform tasks that usually require human intervention and intelligence.

### 1.3 UiPath

UiPath is an enterprise computing platform. It is dedicated to automate business processes. It provides process modelling, deployment management, change management, remote execution and scheduling, access control, execution monitoring, auditing, and analytics in full compliance with the enterprise security and governance best practices.

UiPath offers a variety of modules for automating a number of processes:

- **UiPath Studio:-** UiPath Studio is the highly visual productivity environment where business users can model end-to-end business processes into a process diagram with simple drag-and-drop functionality. Advanced error checking and history visibility ensure flawless execution and detailed project monitoring.
- **UiPath Orchestrator :-** UiPath Orchestrator is a scalable RPA server, fully integrated and equipped with centralized instrumentality for enterprise class management, security, compliance, support, and auditability. Our Orchestrator records everything the robots do through log files and transforms them into advanced analytics.
- **UiPath Front Office Robots :-** UiPath Front Office Robot is the agent-assisted robot that shares the same workstation with human employees and assists them to automatically execute business activities.
- **UiPath Back Office Robots :-** UiPath Back Office Robot is the autonomous software robot programmed to run unattended, independent from human interaction.

### 1.4 Recording

Recording is an important part of UiPathStudio, that can help you save a lot of time when automating your business processes. This functionality enables you to easily capture a user's actions on the screen and translates them into sequences. These automations can be modified and parameterized so that you can easily replay and reuse them in as many other processes as you need. UiPath consists four types of recordings. They are Basic, Desktop,

Web and Citrix recordings. A project is a graphical representation of a business process. It enables you to automate rule-based processes, by giving you full control of the execution order and the relationship between a custom set of steps, also known as activities in UiPath Studio. Each activity consists of a small action, such as clicking a button, reading a file or writing to a log panel. UiPath consists three kinds of projects. They are sequences, flowcharts and state machines

## FEEDBACK

Feedback surveys benefit leadership, teams, and the entire organization immediately. By providing a safe, confidential, and reliable way for colleagues to provide feedback, a company gains valuable insight into current leadership, teams, and overall health of the organization. feedback surveys provide leaders with powerful knowledge and feedback into what is working and what isn't. When using this feedback data correctly, organizations can quickly take action, by helping employees improve and become better leaders and contributors in the company.

## 2. Related works:

How a manual process can be automated by using robotic process automation[1], the organisations which are using robotic process automation are hugely benefited[2]. How the process of automation is being done[3]. explains about UiPath tool[5]. many organisations are automating their manual process got benefited in terms of financially also[6]. RPA reduces time consumption, human costs[9]. Briefly explains about how the repetitive tasks are being automated[8]. Introduction to robotic process automation and benefits of it[4]. How the back office process which doesn't include customers[7]. robotic process automation is very useful in many areas like accounting, finance[10]. the robots which are used in robotic process automation are not physical robots and

## 4. RESULTS

will perform the tasks just like the humans would do manually[11].

## 3. Methodology

Backend of the feedback process is a manual process which can be automated by using RPA tool UiPath.

- HTML PAGE DEVELOPMENT:

Creating the necessary html pages for the feedback process. The first html page is login page, second is survey page, third is a thank you page. login page has email validation which will ensure that the employees of the organisations only submitting the survey.

- TABLE CREATION:

Creating the tables for respective login, questions and answers for the survey in the database. The answers which are submitted by the employees will be automatically stored in the database.

- AUTOMATING USING UIPATH:

Automation of the backend of the feedback process will be done in the UiPath studio project.

- CONNECTING DATABASE:

Integration of UiPath and MySQL database through database connect activity. System should have odbc(open database connectivity) driver which is an interface by microsoft to access data in database management systems(dbms).

- EMAIL AUTOMATION:

After the connection is successfully established, now take the answers table data(survey data) and send it to admin through emails by doing email automation The mails which are send to admin will be in a different folder. So ,that there will be no confusion for the admin while checking them.



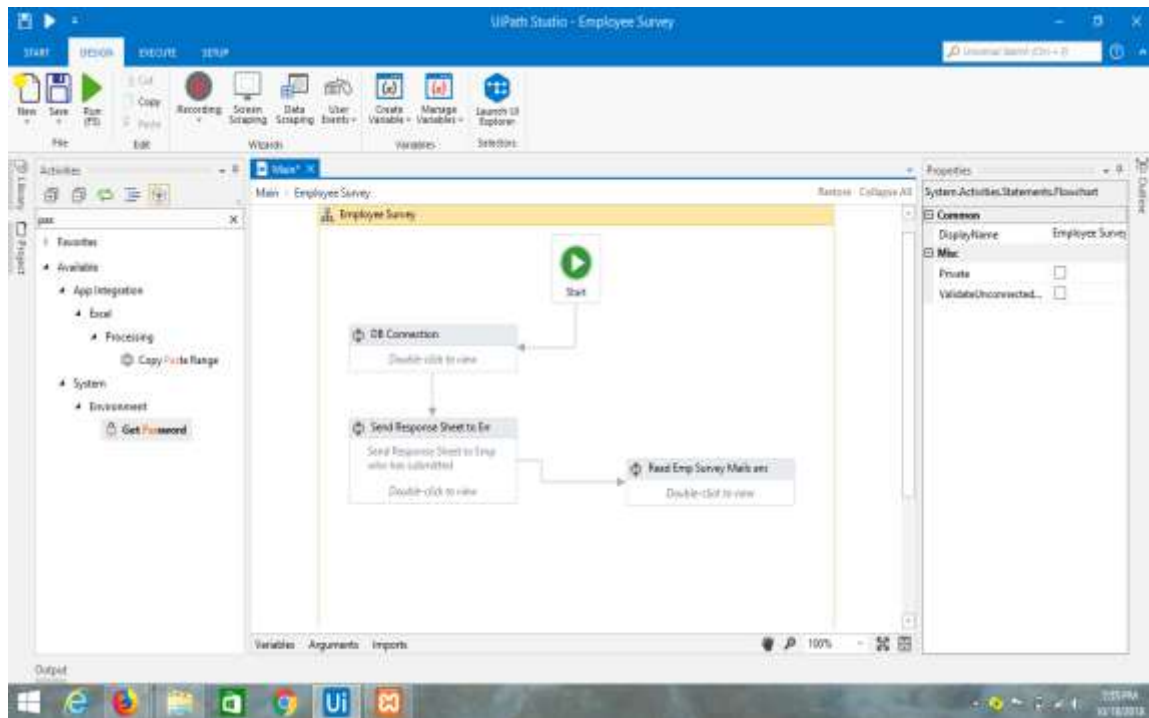


Figure1 :screenshot of UiPath studio project of employee survey

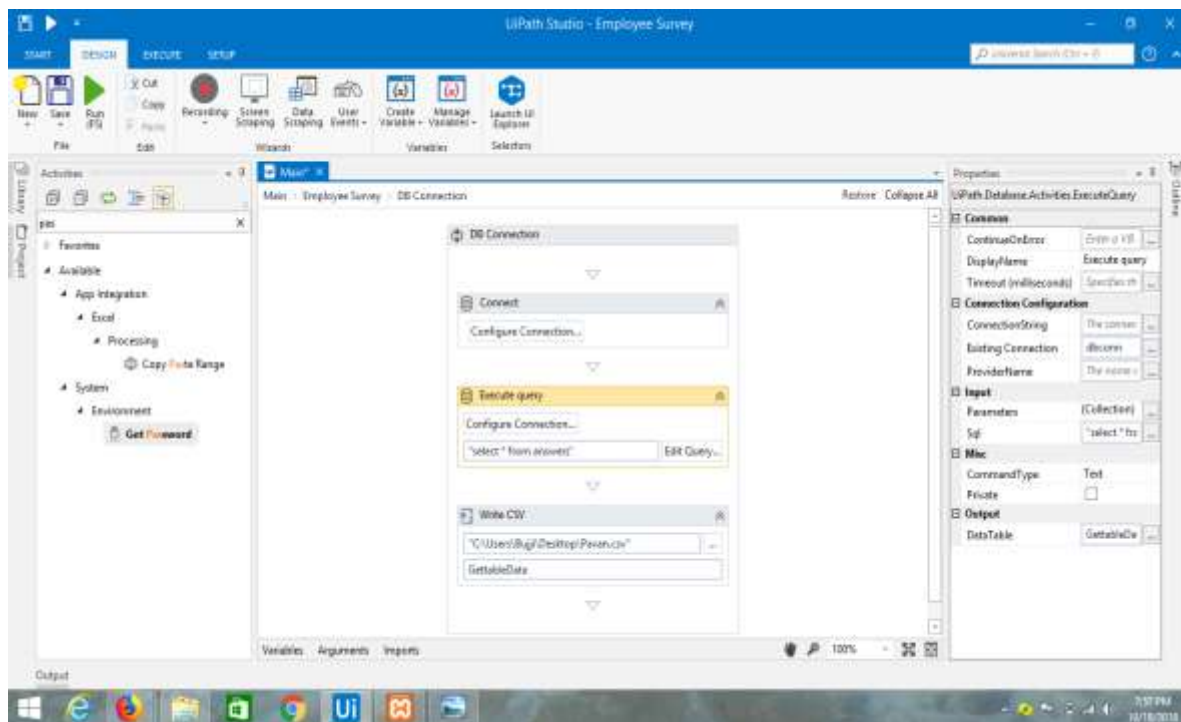


Figure2: screenshot of step by step process of database connection in UiPath studio

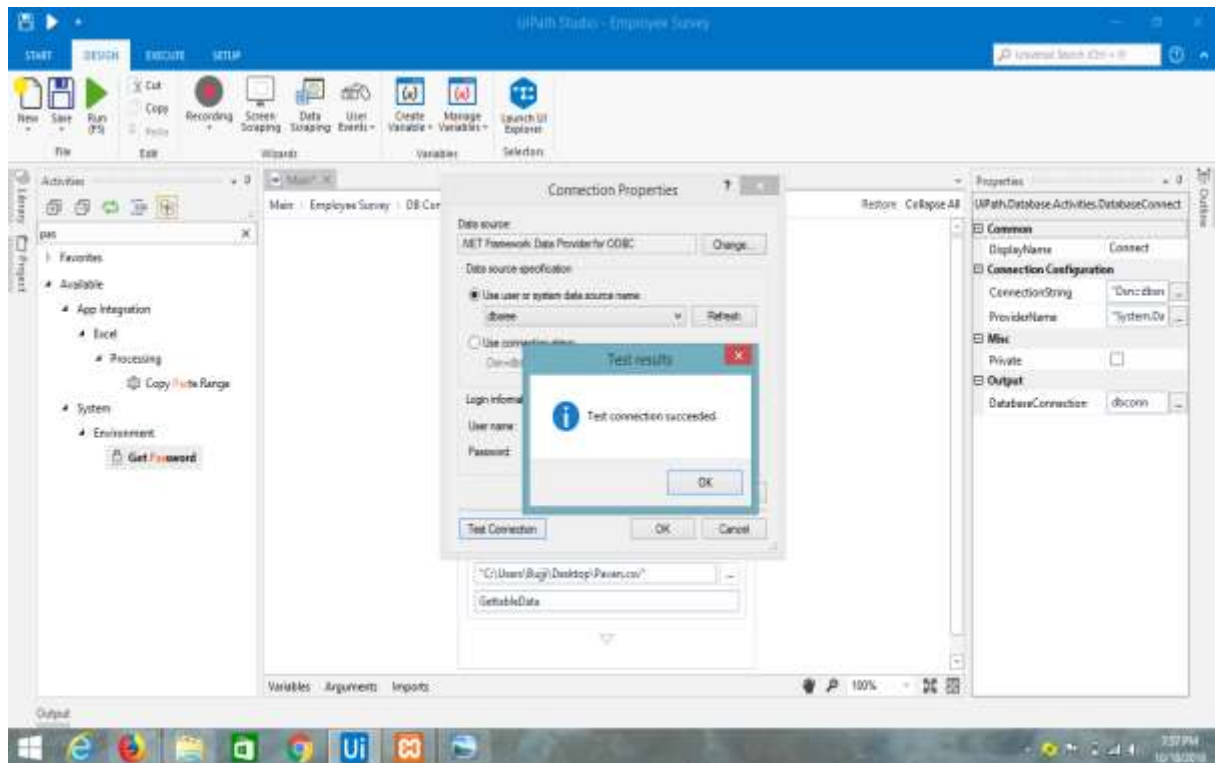


Figure3: screenshot of database connection successful.

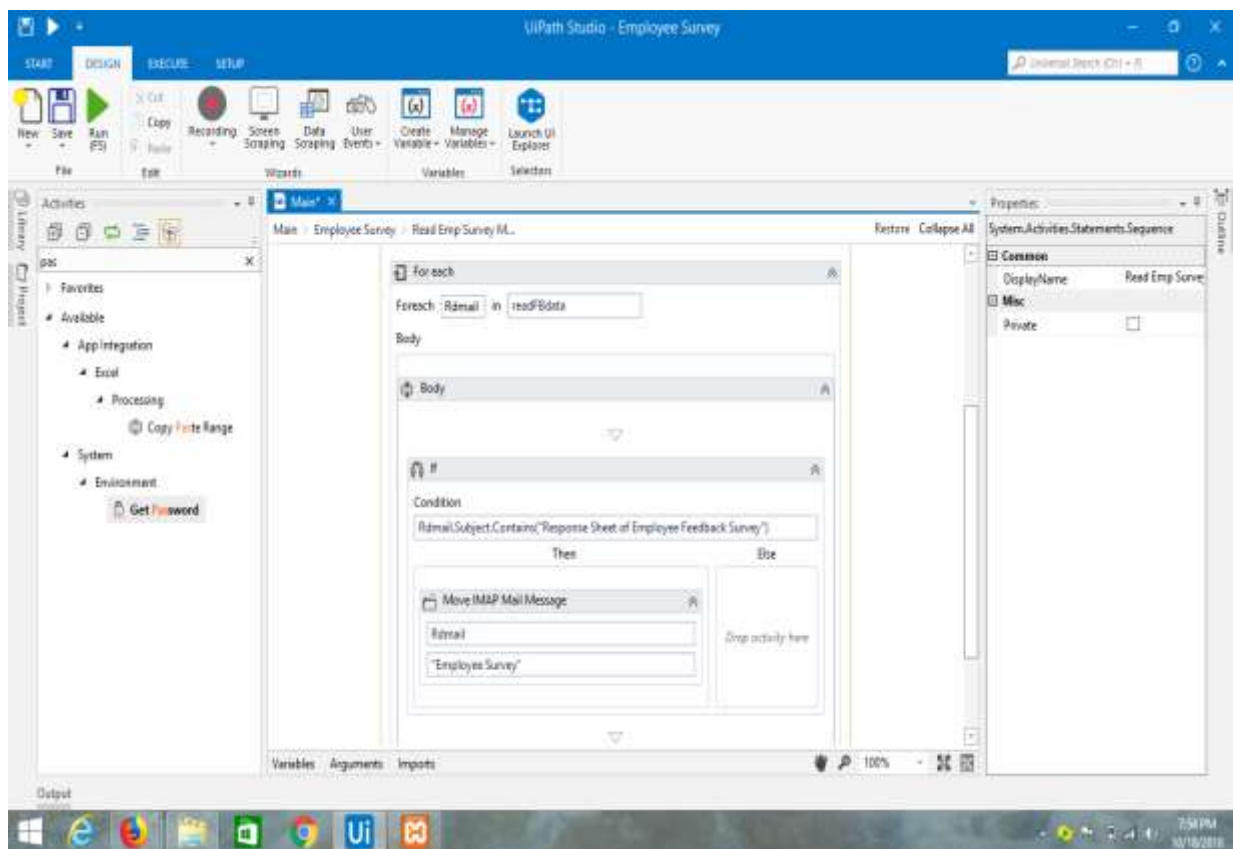


Figure 4: step by step process of Email automation in UiPath studio

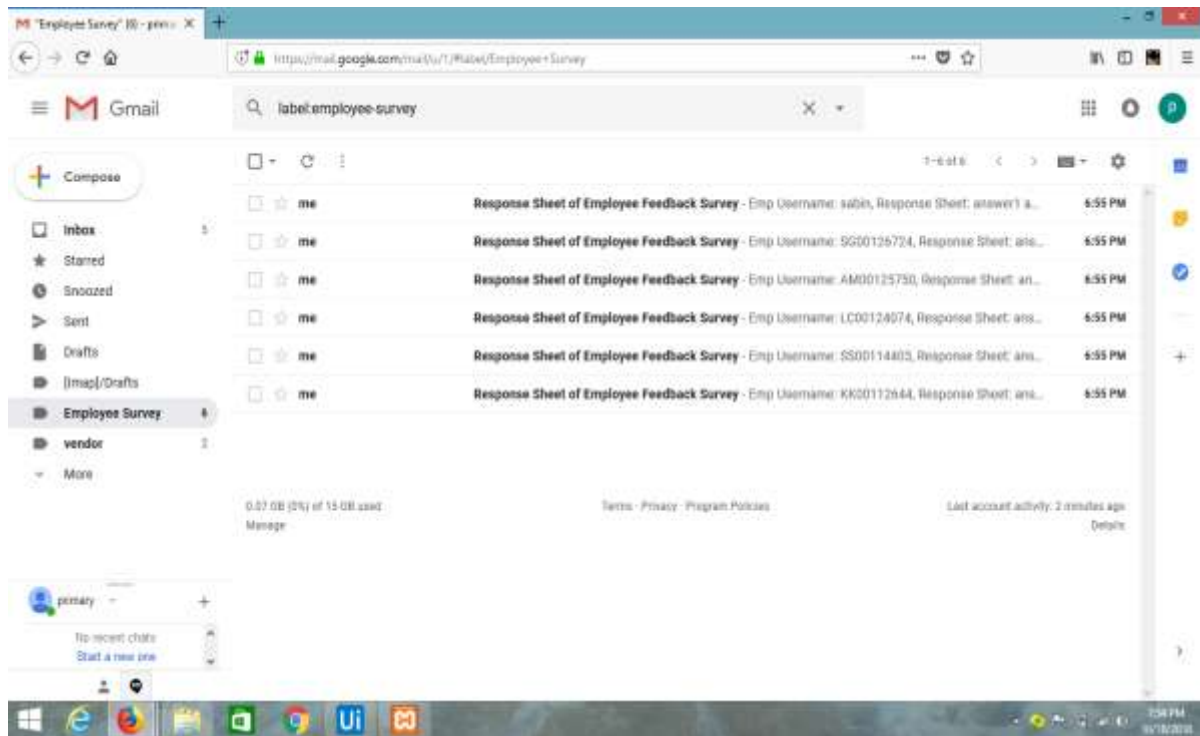


Figure 5: admin mail which contains survey data in a separate folder.

## 5. CONCLUSION

By using RPA, we will automate the most manual process in the organisations. organisations will benefit in many ways like reduce in human costs, reduce in communication delays in between the employees and customers, reduce errors generated by humans because robot will never make errors. It gives cent per cent accurate results It gives faster results by reducing time. . A robot will work never sleeps and it will work all the time. Human resource can be used for the better purpose which will lead to the organisational growth.

## 6. FUTURE SCOPE

The no.of organisations which are using RPA are rapidly increasing in past years and it will continue to be. There are so many manual process which can be easily automated by using RPA tools in the organisations. It is very high in the fields of data entry, email sending and rule based

process. There are many areas in like banking, accounting, finance, customer service, health care, supply chain management etc. where RPA can be proved as very beneficial for the organisations. Further with the advancements of the tools and techniques of robotics science, it is expected that during some point of time RPA will be able to perform all those operations that a human does today.

## 7. REFERENCES

1. Cyrille Bataller, Adrien Jacquot, Sergio Raúl Torres. *Robotic process automation*
2. Leslie Willcocks, Mary Lacity, "The IT Function and Robotic Process Automation", in *The Outsourcing Unit Working Research Paper Series, Paper 15/05, October 2015.*
3. B.T. Gibson, H. Lammlein, T.J. Prater, W.R. Longhurst, C.D. Cox, M.C. Ballun, K.J. Dharmaraj, G.E. Cook, A.M. Strauss *Friction stir welding: Process, automation, and control, January 2014*
4. Institute for Robotic Process Automation (IRPA): *Introduction to Robotic Process Automation (2015).*
5. UiPath [Web Document] <https://studio.uipath.com>



6. Aleksandre Asatiani, Esko Penttinen "Turning robotic process automation into commercial success – Case Opus Capita", in *Journal of Information Technology Teaching Cases* (2016)
7. Capgemini Consulting: *Robotic Process Automation-Robots conquer business processes in back offices* (2016).
8. Santiago Aguirre, Alejandro Rodriguez *Automation of a Business Process Using Robotic Process Automation (RPA): A Case Study*, august 2017
9. Hon-yuen Tam Osmond Chi-hang Lui Alberet C.K. Mok *Robotic polishing of free-form surfaces using scanning paths*.1999.
10. Season good, S.: *A case for robotics in accounting and finance. Technol. Account. Financ. Executive*, 31–39 (2016).
11. Deloitte: *The robots are coming* (2015) .  
<https://www2.deloitte.com/uk/en/pages/finance/articles/robots-coming-global-business-services.html>