

ACKNOWLEDGEMENT

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ABSTRACT

- Payroll and salary administration are necessary tasks within every HR department, even if there is a separate payroll team. In recent years, both have been made significantly easier with new technology, but there is still the risk of human error, and it can take hours of work to complete payday obligations. And, as everyone in HR has experienced at one point in their careers, a simple error in payroll can easily lead to disgruntled Employees. By using Digital Workers, the payroll process can be virtually pain-free. With their ability to work easily across multiple systems and in tandem with your team, Digital Workers can complete the traditionally manual salary and payroll administration process effectively and accurately, ensuring your people are paid the correct amount and speeding up the monthly process that many teams dread. With the increasing emphasis on evidence-based management, the human resources (HR) function has enthusiastically embraced technology with a view to provide more efficient and effective delivery of HR services. Supported by new technologies, such as cloud computing and analytics, the e-HRM applications are becoming ever more popular; however, the intangible nature of people management, social processes and actors and holistic nature of technology project management highlight the limitations of technology in HR services delivery. But implementing such automated tools for HR processes will create a friction between the current and newly formulated practices. Employees may perceive this impact in a different way than the organization would. This study examines the perception of Employees regarding HR process automation in terms of both individual as well as organizational level. Whether HR automation can deliver the quality and satisfaction that it promises? This remains a critical question to answer in today's fast moving technology dependent world.

1. INTRODUCTION

1.1 Introduction & Objectives

- Payroll is a list of Employees who get paid by the company. Payroll also refers to the total amount of money employer pays to the Employees.
 - Robotic Process Automation (RPA) is a type of automation technology currently transforming the way businesses operate.
 - Excel automation streamlines your use of the application by automatically performing tasks.
 - Managers today must make better and faster business decisions than ever. Investments which are focusing on information technology are often considered as a critical method of speeding up and improving the management decision making. Yet it has proved distressingly difficult to understand the actual potential of investments in Information Technology. This is particularly common in business areas focusing on Human Resources (HR).
- In almost every organization, the responsibility of performing various strategic tasks such as management of the recruitment process, termination process, payroll management etc. lies within the Human resource department. Some of it may include Employee_ monitoring at different levels, payroll management, Employee_ benefits, training, and development, etc. In-order to make this work a lot easier, organizations across the world are investing in HR automation in-order to find out and perform the best human capital decision. However, every organization are now looking for more advanced methods of automation, which may help them to manage various complex processes such as, Data storage, Data control and modifications, Effective communication process enhancement, better connectivity with all departments easily and swiftly which would also be useful for the long-term goals of the organization. Information Technology has now considered as a potential tool that managers use, both generally, and in human resource functions, to increase the capabilities of the organization.

1.2 Purpose of the Project

Payroll systems manage everything having to do with the process of paying Employees and filing employment taxes. They are put in place to keep track of worked hours, calculating wages, withholding taxes and other deductions, printing and delivering checks and paying government employment taxes.

The automated system performs all types of payments: hourly, overtime, double-time, salaries, commissions, bonuses, pay raises, retroactive pay, wage deductions, auto payments and tuition reimbursements. Notably, the automated system eliminates manual paycheck writing. The system automatically generates paychecks and stubs and enables direct deposit.

The automated time-keeping system allows the employer to import time clock data into payroll software. Specifically, the Employee_ uses a swipe card or badge, or the handprint or fingerprint method, to clock in and out. Once the entries are transported into the payroll software, the software computes the time worked. All the payroll staff member must do is ensure the time is transported appropriately and make the necessary edits. Payroll Management System gives you the power to:

- Manage Employee Information Efficiently.
- Define the emoluments, deductions, leave etc.
- Generate and Manage the Payroll Processes according to the Salary structure assigned to the Employee.
- Generate all the Reports related to Employee, attendance/leave, payroll etc.
- Manage your own Security.

It may be difficult to decide which system to choose, but there are some factors to keep in mind when deciding. First, analyze the size of your business and decide how much you are willing to spend on payroll processing. Payroll Management System. While it is possible for smaller businesses to handle payroll duties in-house through a manual process, much time can be wasted while attempting to calculate everything correctly.

2. REQUIREMENTS

- Blue prism is a UK-Based Software Company and is one of the leading robotic process automation tools. It is used to automate mundane tasks such that they could operate without any manual intervention. Blue prism has gained edge over its competitors as it has better security, flexibility, scalability, compliance, and resilience.

Pre-requirements for Blue Prism

The following are the pre-requisites for the Blue Prism. It is the only software which –

- Creates and supports a digital workforce of industrial strength and enterprise scale.
- Does not require IT skills to implement
- Can be implemented in sprints of 4 to 8 weeks (Start to finish)
- Is very low cost compared to the TCO of alternative solutions
- Provides tremendous payback with self-funding returns and an ROI that has been as high as 80%
- Can be managed within IT infrastructure and processes

Installation of Blue Prism

- The following are the installation requirements for Blue Prism –
- Windows 10 (Preferred) OS, 64 bit
- Blue prism installation Software, 64 bit
- Blue Prism License File
- SQL Server Express Edition, 64

2.1 Software Requirements

Requirement is a condition or capability possessed by the software or system component in order to solve a real-world problem. The problems can be to automate a part of a system, to correct shortcomings of an existing system, to control a device, and so on.

IEEE defines requirement as A condition or capability needed by a user to solve a problem or achieve an objective. A

condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed documents.

Requirements describe how a system should act, appear or perform. For this, when users request for software, they provide an approximation of what the new system should be capable of doing. Requirements differ from one user to another and from one business process to another.

- Operating system: Windows XP/Vista or any main stream OS
- Installation and Setup Guide for Blue Prism
- Installation and Setup Guide for MS Excel
- Blue prism Version: 6.10.1
- Blue prism License File
- Blue prism installation Software 64 bit
- MS Excel
- Windows 7/8/10

2.1 Hardware Requirements

The hardware requirements are the requirements of a hardware device. Most hardware only has operating system requirements or compatibility. For example, a printer may be compatible with Windows XP but not compatible with newer versions of Windows like Windows 10, Linux, or the Apple mac OS. If a hardware device is not compatible with your computer, it is up to the manufacturer to release drivers. Unfortunately, many manufacturers only release updated drivers to fix problems with older drivers and often do not release drivers for newer operating systems or alternative operating systems. If a hardware device doesn't have drivers for your operating system, the only solution may be to get a more up-to-date replacement device.

The following is the Hardware required to complete this project:

- Internet connection to download and activate
- Administration access to install and run Blue Prism
- Minimum 10GB free disk space
- Windows 8.1 or 10.
- Minimum System Requirements to run Office Excel 2013, your computer needs to meet the following minimum hardware requirements:

- 500 megahertz (MHz)
- 256 megabytes (MB) RAM
- 1.5 gigabytes (GB) available space
- 1024x768 or higher resolution monitor

3. FLOW AND IMPLEMENTATION

3.1 Creation

3.1.1 Idea:

Need to find a new one --“Generally, in the industries monitoring the machine status continuously and maintaining the records of the entire data plays a very important role as that helps the officials to analyze the production factors. This also helps in resolving some of the problems like machine failures, production delays, etc.

Through this project, we can create a system that will capture some important parameters of the Employees like their Employee_ id, Name, salary and etc., All the parameters along with the salary are stored in excel sheet. Admin can monitor the entire device parameters and the previous records of data through the excel sheet.”

3.1.2 Objectives:

By the end of this project, you will:

- Gain insights into building blocks of Blue Prism automation.
- Importing MS Excel VBO (Visual Basic for Applications) in Blue Prism.
- Tuning Process Studio with specific needs.
- Working with different stages in the Process studio.
- Build a HR Payroll Excel Automation that works over Microsoft excel 2013.

3.1.3 Project Flow:

- Importing Blue Prism MS Excel VBO (Visual Basic for Applications)
- Binding Process Studio with MS Excel VBO.
- Opening MS Excel Workbook.
- Specifying Blue Prism Stages to work on MS Excel Workbook in Blue Prism.
- Tuning Process Flow with Blue Prism Actions.
- Closing MS Excel Workbook.

To accomplish this, we must complete all the activities and tasks listed below:

ü Configure the Process Model

- o Import MS Excel VBO
- o Process Model binding with MS Excel VBO

ü Adding Process Stages

- o Create Instance
- o Open Excel file
- o Get to collection
- o Loop module
- o Multi Calculation module
- o Write collection
- o Save Excel file
- o Close workbook

ü Test the Model

- o Test Process Model

3.1.4 Prerequisites:

To complete this project, you must require the following concepts and software's:

- Knowledge of programming language, network structures, should know how to perform administrator activities on windows server. Understanding of Installation models and design of infrastructure. Able to detect repeating tasks and automate them.
- MS Excel basic knowledge like Cell, Worksheet, Workbook, etc.

4. ACTIVITIES

Milestone 1: Configure the Process Studio

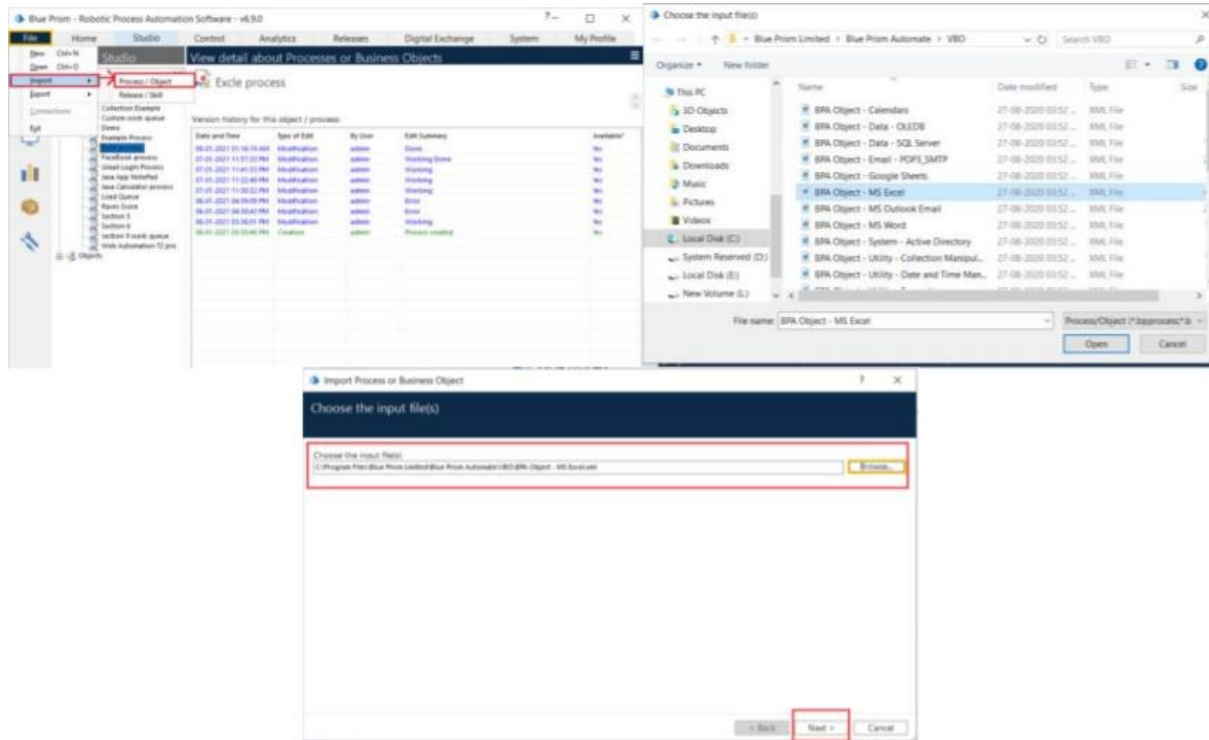
Let us create the Process Object bind with MS Excel VBO.

Object studio is mainly used to develop the objects. Inside the object, we have different types of actions as follows:

1. Application Modular to Spy the Elements
2. Initialize page and clean up page

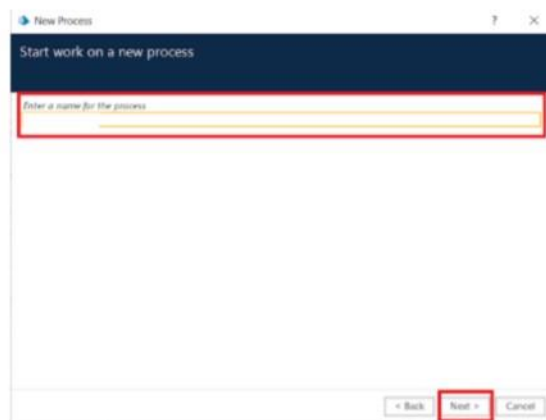
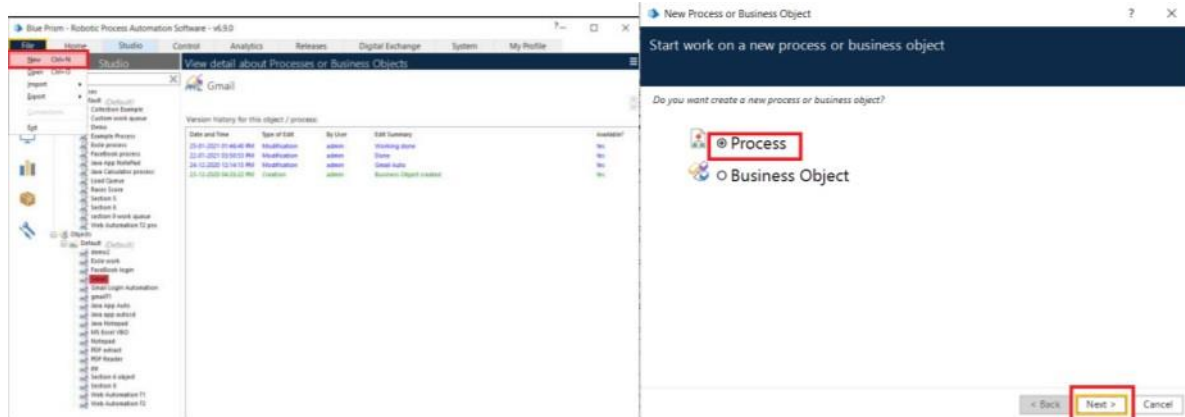
Activity 1: MS Excel VBO (Import VBO file)

File -> Import -> Browse -> (C:\Program Files\Blue Prism Limited\Blue Prism Automate\VBO\BPA Object-MS Excel). Click Finish.

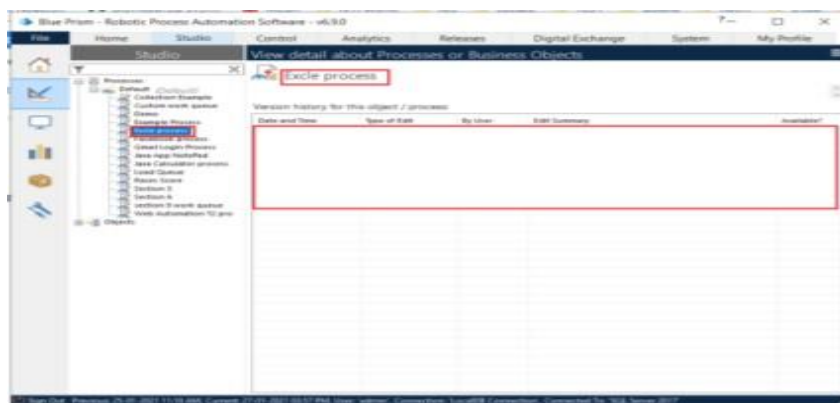


Activity 2: Creating the Process Object from Object Studio

Process studio has only the Main page. We can call from the process studio. We use the Process studio for developing and testing.



Open Created Process Model (HR Payroll Process)

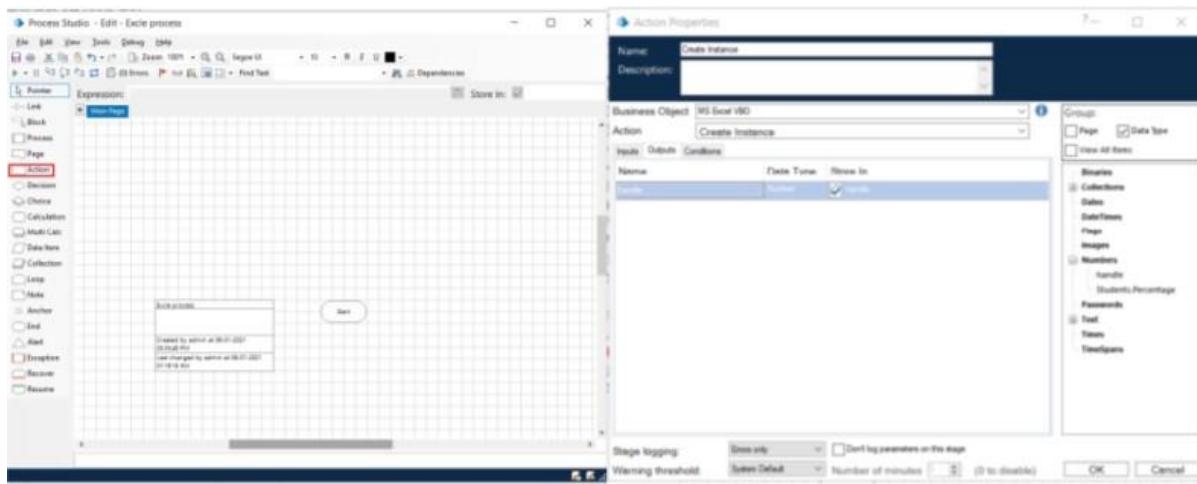


1. Create Action Stage as “Create Instance” (Business Object = MS Excel VBO; Action = Create Instance).

a. Click on the Outputs tab

I. Create Data Item, type = number, name = “handle”. Drag it into the store in column.

II. Click on ok.

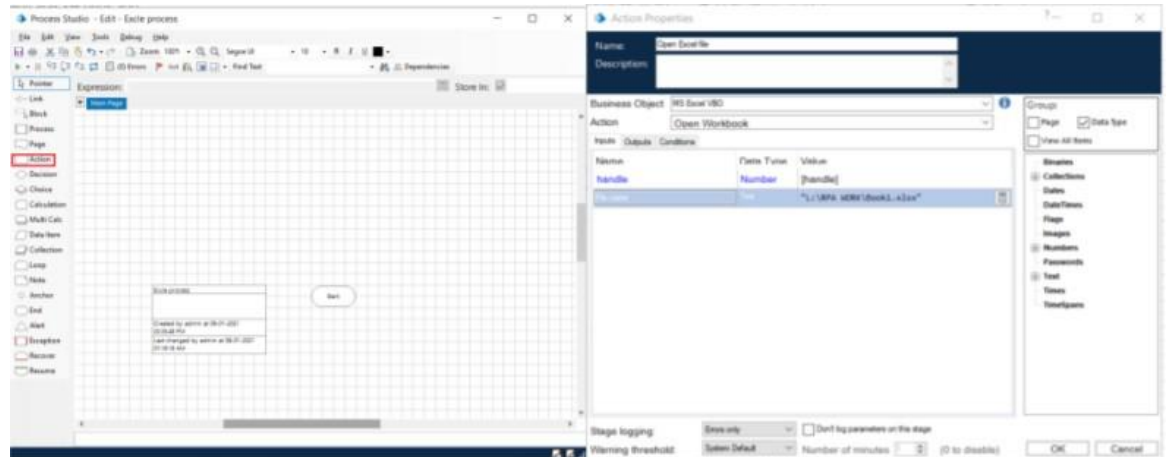


2. Create Action Stage as “Open Excel file” (Business Object = MS Excel VBO; Action = Open Workbook).

a. Click on the Inputs tab

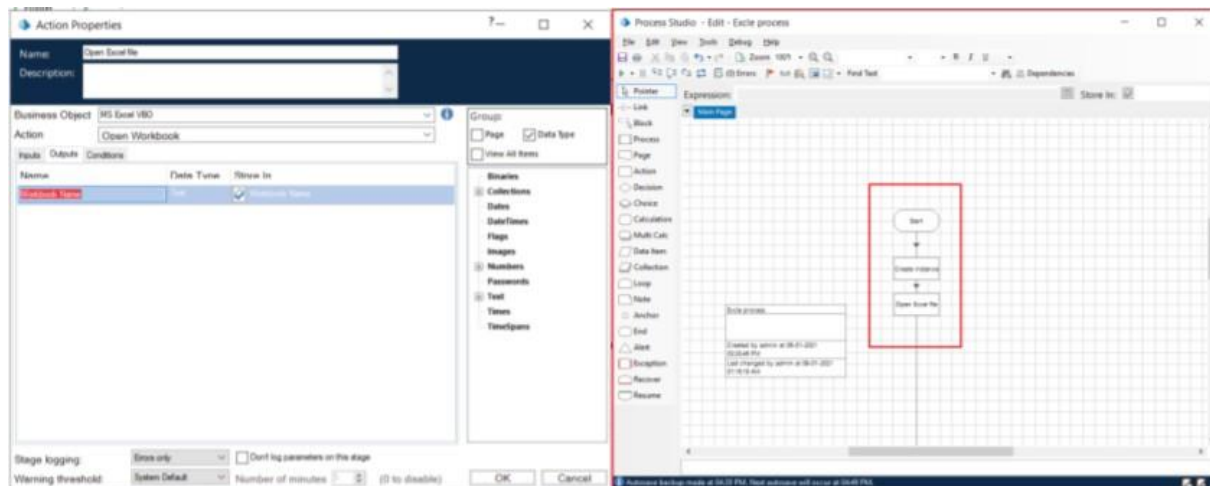
i. Drag “handle” data item into handle Value column.

ii. Set file path of excel file in File Name Value column



b. Click on the Outputs tab

- i. Create Data Item, type = Text, name = "Workbook Name". Drag it into the Store in column. Click on OK.



3. Create Action as "Get to collection" (Business Object = MS Excel VBO; Action = Get Workbook As Collection).

a. Click on the Inputs tab

- i. Drag "handle" data item into handle Value column.
- ii. Drag "Workbook Name" data item into the Workbook Name Value column

iii. Write Worksheet name as “Sheet1”.

b. Click on the Outputs tab

i. Create Collection as “Employee_”, with the following fields.

ii. Use Add Button to add fields in collection.

Name	Type	Description	Fields
EMP ID	Number	Employee ID	
EMP NAME	Text	Name of the employee	
SAL RATE BASIC	Number	Basic salary rate	
SAL RATE DA	Number	Salary rate for DA	
SAL RATE HRA	Number	Salary rate for HRA	
TOTAL SALARY	Number	Total salary rate for employee	
ATTEND P	Number	Attendance for pay employee	
ATTEND PL	Number	Attend pay leave	
ATTEND WO	Number	Attend weekly off	
ATTEND PD	Number	Attend pay days	
GROSS BASIC	Number	Gross earnedbasic salary	
GROSS DA	Number	Gross earned DA	
GROSS HRA	Number	Gross earned HRA	
INCENTIVE	Number	Incentive offer for employee	
ESI AMT	Number	Deduction for ESI amount	
PF AMT	Number	Deduction for PF amount	
TDS	Number	Deduction for TDS	
PT	Number	Deduction for PT	
GROSS	Number	Gross earned	

4. Drag Loop module, Drag Multi Calculation module. Connect loop start with Multi Calc stage. Open Multi Calculation Properties and create the following fields.

- a. $[\text{Employee_}.\text{SAL RATE BASIC}] * 0.1$
- b. $([\text{Employee_}.\text{SAL RATE BASIC} + \text{Employee_}.\text{SAL RATE DA}]) * 0.3$
- c. $[\text{Employee_}.\text{SAL RATE BASIC} + \text{Employee_}.\text{SAL RATE DA} + \text{Employee_}.\text{SAL RATE HRA}]$
- d. $[\text{Employee_}.\text{ATTEND P}] + [\text{Employee_}.\text{ATTEND PL}] + [\text{Employee_}.\text{ATTEND WO}]$
- e. $([\text{Employee_}.\text{SAL RATE BASIC}] * [\text{Employee_}.\text{ATTEND PD}]) / 31$
- f. $([\text{Employee_}.\text{SAL RATE DA}] * [\text{Employee_}.\text{ATTEND PD}]) / 31$
- g. $([\text{Employee_}.\text{SAL RATE HRA}] * [\text{Employee_}.\text{ATTEND PD}]) / 31$
- h. $[\text{Employee_}.\text{GROSS BASIC}] + [\text{Employee_}.\text{GROSS DA}] + [\text{Employee_}.\text{GROSS HRA}] + [\text{Employee_}.\text{INCENTIVE}]$
- i. $[\text{Employee_}.\text{TOTAL GROSS}] * 0.0075$
- j. $([\text{Employee_}.\text{GROSS BASIC}] + [\text{Employee_}.\text{GROSS DA}]) * 0.12$
- k. $[\text{Employee_}.\text{ESI AMT}] + [\text{Employee_}.\text{PF AMT}] + [\text{Employee_}.\text{TDS}] + [\text{Employee_}.\text{PT}]$
- l. $[\text{Employee_}.\text{TOTAL GROSS}] - [\text{Employee_}.\text{TOT DED}]$

Multiple Calculation Properties

Name: Calculate Payroll

Description:

Formula	Store In
$(\text{Employee_SALARY RATE BASIC}) \times 0.1$	Employee_SALARY RATE DA
$(\text{Employee_SALARY RATE BASIC}) + (\text{Employee_SALARY RATE DA}) \times 0.3$	Employee_SALARY RATE HRA
$(\text{Employee_SALARY RATE BASIC}) + (\text{Employee_SALARY RATE DA}) + (\text{Employee_SALARY RATE HRA})$	Employee_TOTAL SALARY
$(\text{Employee_ATTEND P}) + (\text{Employee_ATTEND PL}) + (\text{Employee_ATTEND WO})$	Employee_ATTEND PD
$(\text{Employee_SALARY RATE BASIC}) \times (\text{Employee_ATTEND PD}) / 31$	Employee_GROSS BASIC
$(\text{Employee_SALARY RATE DA}) \times (\text{Employee_ATTEND PD}) / 31$	Employee_GROSS DA
$(\text{Employee_SALARY RATE HRA}) \times (\text{Employee_ATTEND PD}) / 31$	Employee_GROSS HRA
$(\text{Employee_GROSS BASIC}) + (\text{Employee_GROSS DA}) + (\text{Employee_GROSS HRA}) + (\text{Employee_INCENTIVE})$	Employee_TOTAL GROSS
$(\text{Employee_TOTAL GROSS}) \times 0.0075$	Employee_ESI AMOUNT
$(\text{Employee_GROSS BASIC}) + (\text{Employee_GROSS DA}) \times 0.12$	Employee_PF AMOUNT
$(\text{Employee_ESI AMOUNT}) + (\text{Employee_PF AMOUNT}) + (\text{Employee_TDS}) + (\text{Employee_PT})$	Employee_TOTAL DED
$(\text{Employee_TOTAL GROSS}) - (\text{Employee_TOTAL DED})$	Employee_NET SALARY

Group: ☒ Page ☒ Data Type ☒ View All Items

Main Page

- Binaries
- Collections
 - Employee
 - Employee_ATTEND P
 - Employee_ATTEND PD
 - Employee_ATTEND PL
 - Employee_ATTEND WO
 - Employee_EMP ID
 - Employee_EMP NAME
 - Employee_ESI AMOUNT
 - Employee_GROSS BASIC
 - Employee_GROSS DA
 - Employee_GROSS HRA
 - Employee_INCENTIVE
 - Employee_NET SALARY
 - Employee_PF AMOUNT
 - Employee_PT
 - Employee_SALARY RATE BASIC
 - Employee_SALARY RATE DA
 - Employee_SALARY RATE HRA
 - Employee_TDS
 - Employee_TOTAL DED
 - Employee_TOTAL GROSS
 - Employee_TOTAL SALARY
- Dates

5. Create Action Stage as “Write collection” (Business Object = MS Excel VBO; Action = Write Collection).

a. Click on the Inputs tab

- Drag “handle” data item into handle Value column.
- Drag “Workbook Name” data item into the Workbook Name Value column.
- Drag “Employee” Collection into the Collection Value column.
- Write Worksheet name as “Sheet1”.
- Write Cell Reference as “A1”.
- Set Include Column Names as True

Action Properties

Name:

Description:

Business Obj:

Action:

Inputs Outputs Conditions

Name	Data Type	Value
handle	Number	[handle]
Workbook Name	Text	[Workbook Name]
Collection	Collection	[Employee_]
Worksheet Name	Text	"Sheet1"
Cell Reference	Text	"A1"
Include Column Names	Flag	True

Group: ☒ Page ☒ Data Type ☒ View All Items

Main Page
Binaries
Collections
Employee_

Employee_AT
Employee_AT
Employee_AT
Employee_AT
Employee_EM
Employee_EM
Employee_ESI
Employee_GR
Employee_GR
Employee_GR
Employee_IN
Employee_IN
Employee_NE
Employee_PF

Stage logging: ☐ Don't log parameters on this stage

Warning threshold: Number of minutes (0 to disable)

OK Cancel

6. Create Action Stage as “Save Excel file” (Business Object = MS Excel VBO; Action = Save Workbook).

a. Click on the Inputs tab.

i. Drag “handle” data item into handle Value column.

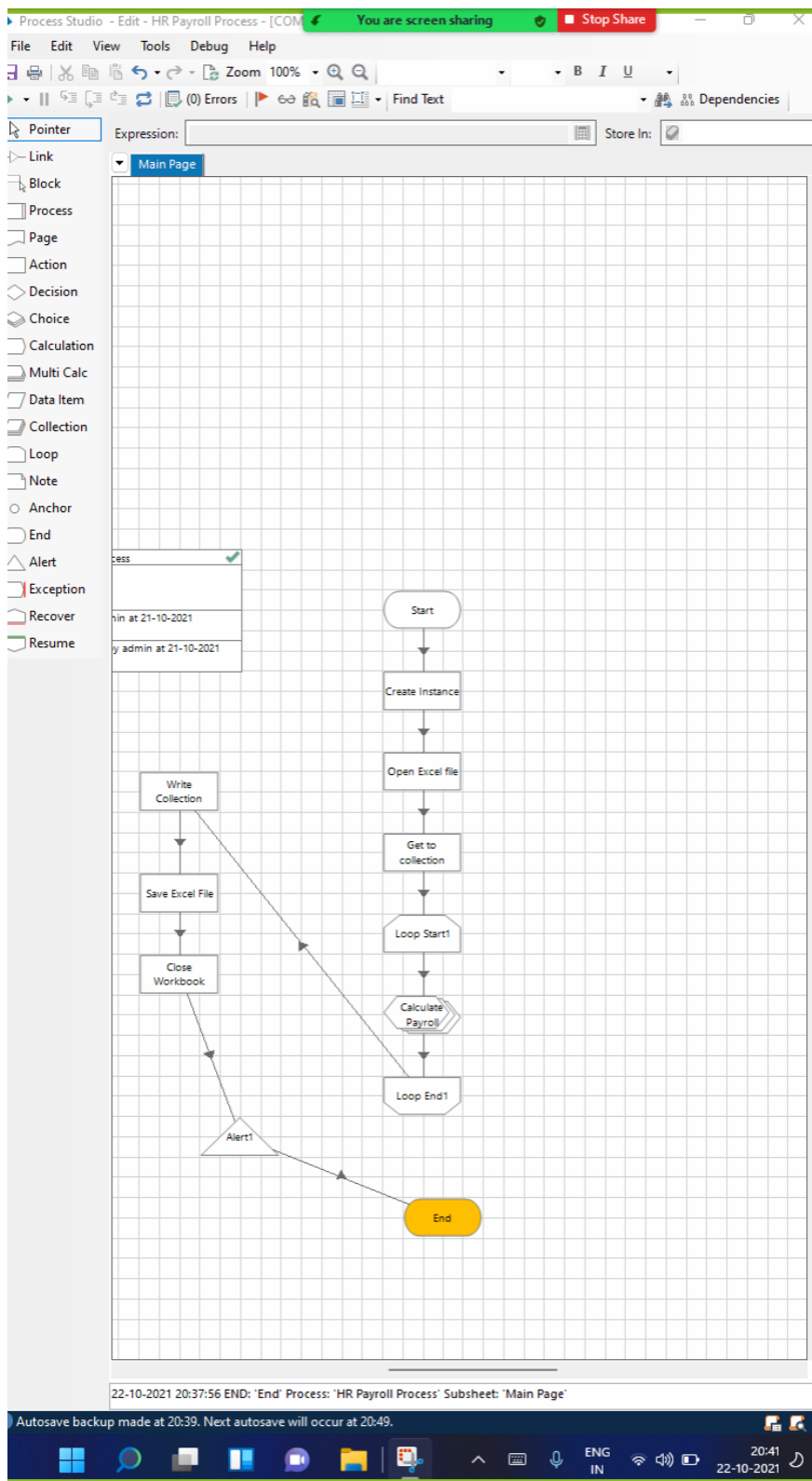
ii. Drag “Workbook Name” data item into the Workbook Name Value column.

7. Create Action Stage as “Close workbook” (Business Object = MS Excel VBO; Action = Close Current Workbook).

a. Click on the Inputs tab

b. Drag “handle” data item into handle Value column

c. Do connections as follows.



d. Input Excel file data

Acvity 3: Testing the Process Object from Object Studio

Click on the Main Page, click on the Green play buon to run the 'Excel Process' Process object. It shows COMPLETED when there is no error or no failure in the object.

Click on the Main Page, click on the Reset buon to reset the cache for rerun the process object as fresh

INPUT FILE HERE:

File Home Insert Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles Cells Editing

Calibri 11 A+ A- Wrap Text General Conditional Formatting Format as Table Cell Styles Insert Delete Format AutoSum Fill Sort & Filter Clear

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	EMP NAME	SALARY R/	SALARY R/	SALARY R/	TOTAL SAL	ATTEND P	ATTEND P	ATTEND W	ATTEND P	GROSS BA	GROSS DA	GROSS HR	INCENTIVE	TOTAL GR	ESI AMO	PF AMO	TDS	PT	TOTAL DE	NET SALARY
2	Rishabh	27,000	2700	8910	38610	12	2	4	18	15677.42	1567.742	5173.548	1800	24218.71	181.6403	2069.419	100	500	2851.06	21367.65
3	surya	15,000	1500	4950	21450	20	3	5	28	13548.39	1354.839	4470.968	1500	20874.19	156.5565	1788.387	50	600	2594.944	18279.25
4	Saurabh	22,000	2200	7260	31460	26	0	2	28	19870.97	1987.097	6557.419	875	29290.48	219.6786	2622.968	120	700	3662.646	25627.84
5	Adithya	34,200	3400	11220	48620	26	0	5	31	34000	3400	11220	452	49072	368.04	4488	25	800	5681.04	43390.96
6	Vinay	16,000	1600	5280	22880	15	4	3	22	11354.84	1135.484	3747.097	1299	17536.42	131.5231	1498.839	75	900	2605.362	14931.06

5. CONCLUSION

The discussion of the effects of HR Automation perceived by the employees regarding both individual as well as organizational perspective, presented in this Study is far from comprehensive. HR automation influences people, organizations, and societies in innumerable other ways. Perhaps we can identify some unique effects that Information Technology has on the way we live, learn, work, and play. Nevertheless, the variables studied in this research are sufficient to recognize that the changes caused by HR automation introduce a variety of new issues for individuals and Organizations and radically alter the importance of certain preexisting cultures and practices. Each technology is likely to affect multiple groups of people, whether directly or indirectly. Moreover, the effects of any given technology are rarely only beneficial or only detrimental; they typically create a complex web of consequences that may be both positive and negative. This study and the entire research reveal that evolution of HR process automation is not happening in a vacuum. Information technology has developed into an integral part of modern Organizations, becoming interrelated with numerous aspects of the work environment. Further advances in information technology will inevitably reverberate in the culture of individuals, as well as organizations. In the same manner, changes in the individual and organizational work pattern will create new demands that will encourage the development of new technologies. In order to understand the overall perception of the employees with respect to the benefits that an employee perceives at individual level, various tests were attempted. From the results it is clear that, employees perceive HR process automation is beneficial for an organization as well as themselves. Employees believe that HR automation will help in increase of access of information within the organization. This will further enhance the clarity of work as adequate and necessary information dissipation. They agree that there is a timely availability of information to carry on the work process due to automation. Individuals agree that HR automation has helped in the timely credit of their salary or income and hence made the whole system of salary administration simple. From the study it can be observed that employees perceive HR automation gives employees more autonomy at work. In order to understand the employee perception on the organizational benefits in HR automation within organizations, the same tests were attempted. From the results

it is clear that, HR automation will increase the quality of HR delivery. It is also clear from the study that employees perceive, Automating HR processes encourages better and virtual feedback. They believe, automating HR processes will help in building the concept of egalitarianism. A sense of togetherness within the organization. This will improve relations and further enhance the organizational culture. People also perceive that HR process automation will make people more virtual. The major findings also include the fact that employees believe Automating HR processes will not delay the decision making time. Also, they disagreed to the fact that Automating HR processes does not affect employee interaction in an organization. The proposed can get detailed information about mobility of employee by adjusting network. This Application will help to automate payroll system of an organization. Multiple authorized users will be able to login and logout from a web browser. Login checks (username, password) are controlled by administrator. Administrator will have total control to completely customize the payroll system. Head of the department will be able to authenticate new employees, update existing employees pay, view reports while the operator may calculate pay and can only view reports. The system is user friendly. Whenever there is an error in entering data, it immediately shows an error.

➤ **SCOPE:**

Recurring Payroll Services:

- Gross pay calculation (basic salary, wage supplements, occasional payments, cost reimbursements)
- Calculation of payroll related taxes and contributions.
- Recording and processing of garnishments and other deductions.
- Preparation of payroll slips and other outputs broken down by employees or by cost centers for managerial and operational use.
- Data recording and processing in connection with voluntary pension and health insurance funds, reporting to the pension funds.
- Recording of wage and labor-related data (registration of personnel information,

holiday and sick leave balances).

- Providing data and information for posting into the General Ledger.
- Data reports and certificates related to payroll processing (to the tax and social security authorities, the Statistical Office, etc.).

- Full range of Social Insurance management
- Tasks related to new comers and departing employees
- Annual services connected to payroll processing and social security administration
- Preparation and submission of tax declarations
 - Payroll disbursement services:
 - Movement of all payments, calculated during the pay processing cycle (net salary, tax, social security, etc.).
 - Specified data reports for the Client's accounting.
 - Other services upon separate written request including:
 - Cafeteria management.
 - Tax advisory.
 - Labor management.
 - HR consultancy

6. FUTURE ENHANCEMENTS

This salary management program can be further enhanced by a budget program in future. In budget program every team leader will have support to manage and utilize specific amount of money in an efficient way with this amount he will manage everything like college expenditures etc. The prototype automated payroll system is complete in itself and ready to be implemented but changes and growth in requirements will be a reality on every software project so there is need to timely update them. The same applies to this payroll system. There is always room for improvement, and the software we created can also be improved. This is especially because we had to create it within a limited time. With more time, the software can be improved to include security and different types of users. This would be the first step in making the software network-enabled, and eventually web-enabled. This was our original alert thought to programming the software, and we had chosen Blue Prism. In addition, the software can also be improved in terms of the calculations it can do, and more flexibility in the rates used in calculations per employee.

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