

Project Report
On
HR Payroll Excel Automation

Submitted By

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1. Introduction

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. According to a study which examines the perception of employees regarding HR process automation in terms of both individual as well as organizational level, implementing such automated tools for HR processes will create a friction between the current and newly formulated practices. 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. 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.
2. **Robotic Process Automation (RPA)** is a type of automation technology currently transforming the way businesses operate.
3. Excel automation streamlines your use of the application by automatically performing tasks.

2. Literature Survey

2.1 Existing System

In order to maintain their design, pay slips and other related information to project development, which includes client requirements, storage department is immense. The lack of consistency in pay slips maintenance leads to both loss of work as well as money and time with the automation of payroll management system, the manual storage dependency is minimized to a large extent. Present day organizations, especially large companies house employees in large number

In order to maintain their design, pay slips and other related information to project development, which include customer requirements, storage department is immense. The lack of consistency in pay slips maintenance leads to both loss of work as well as money and time. With the total automation of payroll Management System, the manual storage dependency is minimized to a large extent. Present day organizations, especially large companies house employees in large numbers. The main disadvantage of this system is that majority of work is done by hand. The whole procedure involving delivery of an employees pay is very tedious, time consuming and frequent verification is required so as to avoid the risk of human error. The Managers doesn't know the Employee's current location. There is a possibility of data loss during the message transfer from one mobile terminal to another mobile terminal. And also, in existing system the employee behavior is not calculated so that organizational growth may be less, to overcome this problem we can implement the proposed system.

2.2 Proposed System

In our Proposed System we will be using Blue Prism tool along with Process Studio and MS Excel VBO (Visual Basic for Applications) where we create a

digital worker which will help HR

Department in reducing their work load and make their work easier in completing the Payroll Process of the employees.

The proposed system is a desktop-based system. The base of the proposed system is a database, which stores all the information pertinent to personnel, allowances, deductions, taxes and net pay. The payroll system will stay up to date with pay checks and tax fillings. This includes calculating allowances, taxes and other deductions, printing individual pay slips and deduction vouchers.

3. Theoretical Analysis

3.1 Software & Hardware 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

1. The following are the installation requirements for Blue Prism –
2. Windows 10 (Preferred) OS, 64 bit
3. Blue prism installation Software, 64 bit
4. Blue Prism License File
5. SQL Server Express Edition, 64

3.2 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.

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

3.3 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 [macOS](#).

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.

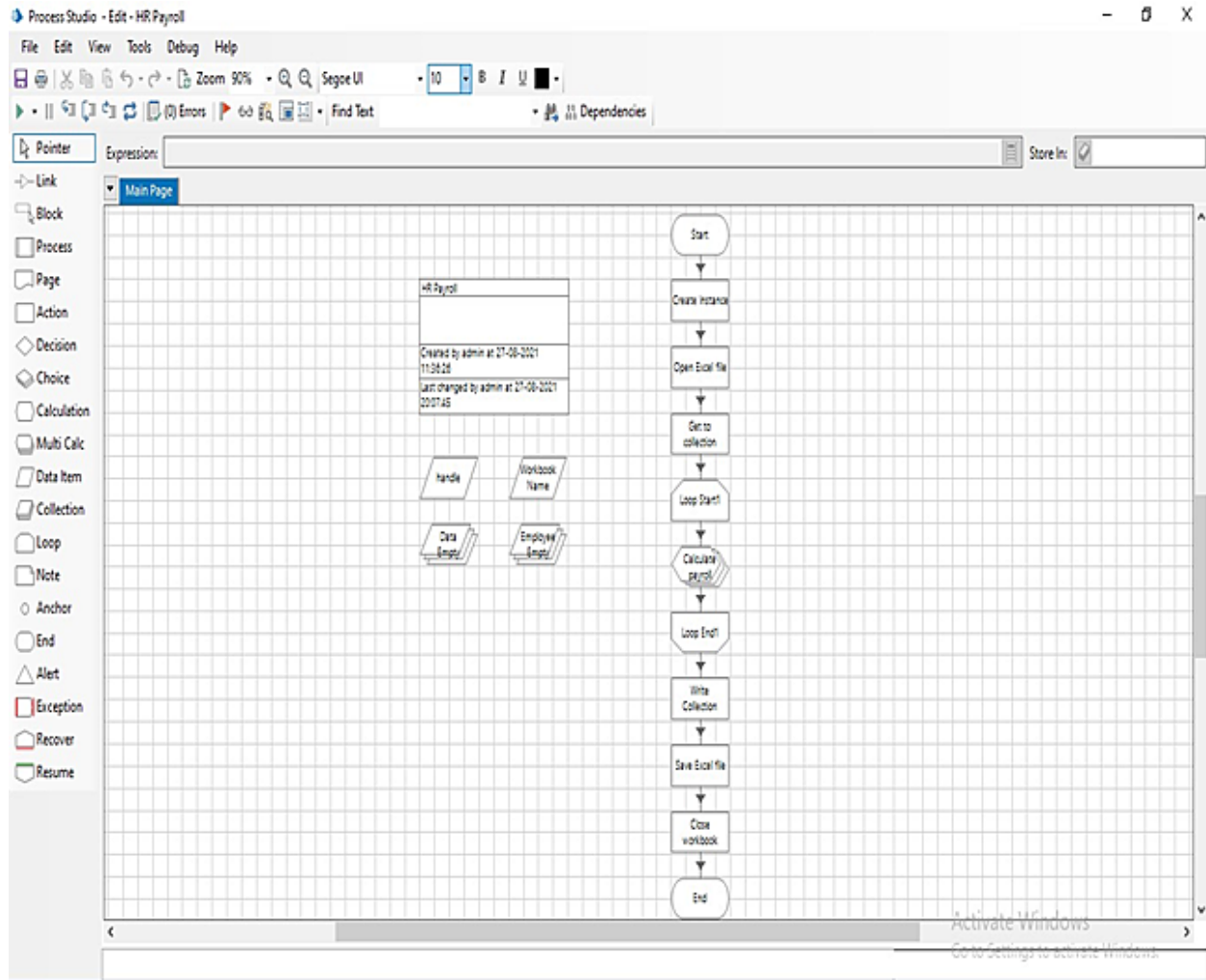
The following is the Hardware required to complete this project:

1. Internet connection to download and activate
2. Administration access to install and run Blue Prism
3. Minimum 10GB free disk space
4. Windows 8.1 or 10 (64-bit version only) OR Cloud: Get started free, *Cloud account required.
5. Minimum System Requirements To run Office Excel 2013, your computer need to meet

The following minimum hardware requirements:

6. 500 megahertz (MHz)
7. 256 megabytes (MB) RAM
8. 1.5 gigabytes (GB) available space
9. 1024x768 or higher resolution monitor

4. Flow Charts



Action Properties

Name:

Description:

Business Object:

Action:

Inputs Outputs Conditions

Name	Data Type	Store In
Workbook Name	Text	<input checked="" type="checkbox"/> Workbook Name

Group: ☐ Page ☒ Data Type ☐ View All Items

- Binaries
- Collections
- Dates
- DateTimes
- Flags
- Images
- Numbers
- Passwords
- Text
- Times
- TimeSpans

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

Warning threshold: Number of minutes: (0 to disable)

OK Cancel

Action Properties

Name:

Description:

Business Object:

Action:

Inputs Outputs Conditions

Name	Data Type	Value
handle	Number	[handle]
Workbook Name	Text	[Workbook Name]
Worksheet Name	Text	"Sheet1"
Fetch Data With Method	Text	

Group: ☐ Page ☒ Data Type ☐ View All Items

- Binaries
- Collections
- Dates
- DateTimes
- Flags
- Images
- Numbers
- Passwords
- Text
- Times
- TimeSpans

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

Warning threshold: Number of minutes: (0 to disable)

OK Cancel

Collection Properties

Name:

Description:

Fields	Initial Values	Current Values
Name	Type	Description
EMP ID	Number	Employee ID
EMP NAME	Text	Name of employee
SAL RATE BASIC	Number	Basic salary rate
SAL RATE DA	Number	Salary for DA
SAL RATE HRA	Number	Salary for HRA
TOTAL SALARY	Number	Total salary rate for employee
ATTEND P	Number	Attendance for pay employee
ATTEND PL	Number	Attend pay leave
ATTEND W/O	Number	Attend weekly off
ATTEND PD	Number	Attend pay days
GROSS BASIC	Number	Gross earned basic salary
GROSS DA	Number	Gross earned DA
GROSS HRA	Number	Gross earned HRA
INCENTIVE	Number	Incentive offer to employee
ESI AMOUNT	Number	Deduction of ESI
PF AMOUNT	Number	Deduction of PF
TDS	Number	Deduction of TDS
PT	Number	Deduction of PT
TOTAL DED	Number	Total ded of employee
TOTAL GROSS	Number	Total gross of employee

☒ Reset to Initial Value whenever this page runs
 ☒ Hide from other pages in the process
 ☐ Single Row

Activate Windows
 Go to Settings to activate Windows.

Loop Properties

Name:

Description:

Collection:

Stage logging:

Warning threshold: Number of minutes (0 to disable)

Multiple Calculation Properties

Name:

Description:

Expression	Store In
[Employee.SAL RATE BASIC]*0.1	Employee.SAL RATE DA
[Employee.SAL RATE BASIC]*[Employee.SAL RATE DA]/0.3	Employee.SAL RATE HRA
[Employee.SAL RATE BASIC]*[Employee.SAL RATE DA]*[Employee.SAL RATE HRA]	Employee.TOTAL SALARY
[Employee.ATTEND PT]*[Employee.ATTEND PL]*[Employee.ATTEND VO]	Employee.ATTEND PD
[Employee.SAL RATE BASIC]*[Employee.ATTEND PD]/31	Employee.GROSS BASIC
[Employee.SAL RATE DA]*[Employee.ATTEND PD]/31	Employee.GROSS DA
[Employee.SAL RATE HRA]*[Employee.ATTEND PD]/31	Employee.GROSS HRA
[Employee.GROSS BASIC]*[Employee.GROSS DA]*[Employee.GROSS HRA]*[Employee.INCENTIVE]	Employee.TOTAL GROSS
[Employee.TOTAL GROSS]*0.0075	Employee.ESI AMOUNT
[Employee.GROSS BASIC]*[Employee.GROSS DA]/0.12	Employee.PF AMOUNT
[Employee.ESI AMOUNT]*[Employee.PF AMOUNT]*[Employee.TDS]*[Employee.PT]	Employee.TOTAL DED
[Employee.TOTAL GROSS]-[Employee.TOTAL DED]	Employee.TOTAL GROSS

Move Up Move Down Add Remove

Stage logging:

Warning threshold: Number of minutes (0 to disable)

Activate Windows
Go to Settings to activate Windows.

Action Properties

Name: Write Collection

Description:

Business ObjectMS Excel VBO

ActionWrite Collection

InputsOutputsConditions

Name	Data Type	Value
handle	Number	[handle]
Workbook Name	Text	[Workbook Name]
Collection	Collection	[Employee]
Worksheet Name	Text	"Sheet2"
Cell Reference	Text	"A1"
Include Column Names	Flag	True

Stage logging:Errors only

☐ Don't log parameters on this stage

Warning threshold:System Default

Number of minutes5

(0 to disable)

OK

Cancel

Group:

☐ Page
 ☒ Data Type

☐ View All Items

Binaries

Collections

Dates

DateTimes

Flags

Images

Numbers

Passwords

Text

Times

TimeSpans

Action Properties

Name: Save Excel file

Description:

Business ObjectMS Excel VBO

ActionSave Workbook

InputsOutputsConditions

Name	Data Type	Value
handle	Number	[handle]
Workbook Name	Text	[workbook Name]

Stage logging:Errors only

☐ Don't log parameters on this stage

Warning threshold:System Default

Number of minutes5

(0 to disable)

OK

Cancel

Group:

☐ Page
 ☒ Data Type

☐ View All Items

Binaries

Collections

Dates

DateTimes

Flags

Images

Numbers

Passwords

Text

Times

TimeSpans

Action Properties

Name: Close workbook

Description:

Business Object: MS Excel VBO

Action: Close Current Workbook

Inputs Outputs Conditions

Name	Data Type	Value
handle	Number	[handle]

Group:

☐ Page ☒ Data Type

☐ View All Items

- Binaries
- Collections
- Dates
- DateTimes
- Flags
- Images
- Numbers
- Passwords
- Text
- Times
- TimeSpans

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

Warning threshold: System Default Number of minutes 5 (0 to disable)

OK Cancel

5. Input Screens

File Home Insert Page Layout Formulas Data Review View Power Pivot Tell me what you want to do...

Clipboard Font Alignment Number Styles Cells Editing

R7

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	EMP ID	EMP NAME	SAL RATE BASIC	SAL RATE DA	SAL RATE HRA	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF AMC
1	1010	Gautam	27,000				12	2	4					1800		
2	1020	Pradeep	15,000				20	3	5					1500		
3	1030	Ravi	22,000				26	0	2					875		
4	1040	Vinay	34,000				26	0	5					475		
5	1050	Suraj	16,000				15	4	3					1299		
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hpayroll - Excel (Product Activation Failed)

	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF AMOUNT	TDS	PT	TOTAL DED	TOTAL GROSS	
2		12	2	4					1800			100	500			
3		20	3	5					1500			50	600			
4		26	0	2					875			120	700			
5		26	0	5					475			25	800			
6		15	4	3					1299			75	900			
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6. Output Screens

hpayroll - Excel (Product Activation Failed)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	EMP ID	EMP NAME	SAL RATE BASIC	SAL RATE DA	SAL RATE HRA	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT PF
2	1010	Gautam	27000	2700	8910	38610	12	2	4	18	15677.41935	1567.741935	5173.548387	1800	181.6403226
3	1020	Pradeep	15000	1500	4950	21450	20	3	5	28	11354.83871	1135.483871	4470.967742	1500	156.5564516
4	1030	Ravi	22000	2200	7260	31460	26	0	2	28	19870.96774	1987.096774	6557.419355	875	219.678629
5	1040	Vinay	34000	3400	11220	48620	26	0	5	31	34000	3400	11220	475	368.2125
6	1050	Suraj	16000	1600	5280	22880	15	4	3	22	11354.83871	1135.483871	3747.096774	1299	131.5231452
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Activate Windows
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	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	SAL RATE HRA	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF AMOUNT	TDS	PT	TOTAL DED	TOTAL GROSS
2	8910	38610	12	2	4	18	15677.41935	1567.741935	5173.548387	1800	181.6403226	2069.419355	100	500	2851.05968	21367.65
3	4950	21450	20	3	5	28	13548.3871	1354.83871	4470.967742	1500	156.5564516	1788.387097	50	600	2594.94355	18279.25
4	7260	31460	26	0	2	28	19870.96774	1987.096774	6557.419355	875	219.678629	2622.967742	120	700	3662.64637	25627.8375
5	11220	48620	26	0	5	31	34000	3400	11220	475	368.2125	4488	25	800	5681.2125	43413.7875
6	5280	22880	15	4	3	22	11354.83871	1135.483871	3747.096774	1299	131.5231452	1498.83871	75	900	2605.36185	14931.0575
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7. 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.

8. Future Scope

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 a 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 webenabled. This was our original afterthought 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.

9. Bibliography and References

1. Beadles II, Aston N, Lowery CM, Johns K. The impact of human resource information Systems: An exploratory study in the public sector. Communications of the IIMA. 2005; 5(4):6.
2. Broderick R, Boudreau JW. Human resource management, information technology, and the competitive edge. The Executive. 1992; 6(2):7-17.
3. Fernandez-Sánchez JA, de Juana-Espinosa S, Valdés Conca, j. use of HRIS in recruitment process. <https://ijmter.com/papers/volume-3/issue-2/automated-payrolls-system.pdf>