ROBOTIC PROCESS AUTOMATION
USING BLUE PRISM

PROJECT REPORT

ON

EXCEL AUTOMATION

by

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1.INTRODUCTION

1.1 Overview

Excel automation generally involves building code to interact with Excel and automatically perform tasks. This contains a comprehensive list of the best coding tools and software for Excel automation. Some tools can be used to automate Excel without any coding knowledge. In this project, we built a process which automatically assigns grades to students according to their percentages, that works over Microsoft excel using Blue Prism, a powerful robotic process automation (RPA) tool.

1.2 Purpose

Excel automation facilitates your use of the application by automatically performing tasks like formatting cells, updating values, and running macros. Microsoft excel spreadsheets are used by all in every business and industry to organize and analyze the data. But it takes a lot of time for updating or reformatting. With the help of RPA we can automatically execute the same steps we would like to perform when working with spreadsheets, such as formatting cells or updating values. Using this we can considerably reduce the time required to complete an entire Excel process, while also eliminating errors. This process is efficient and even reduces the operational cost.
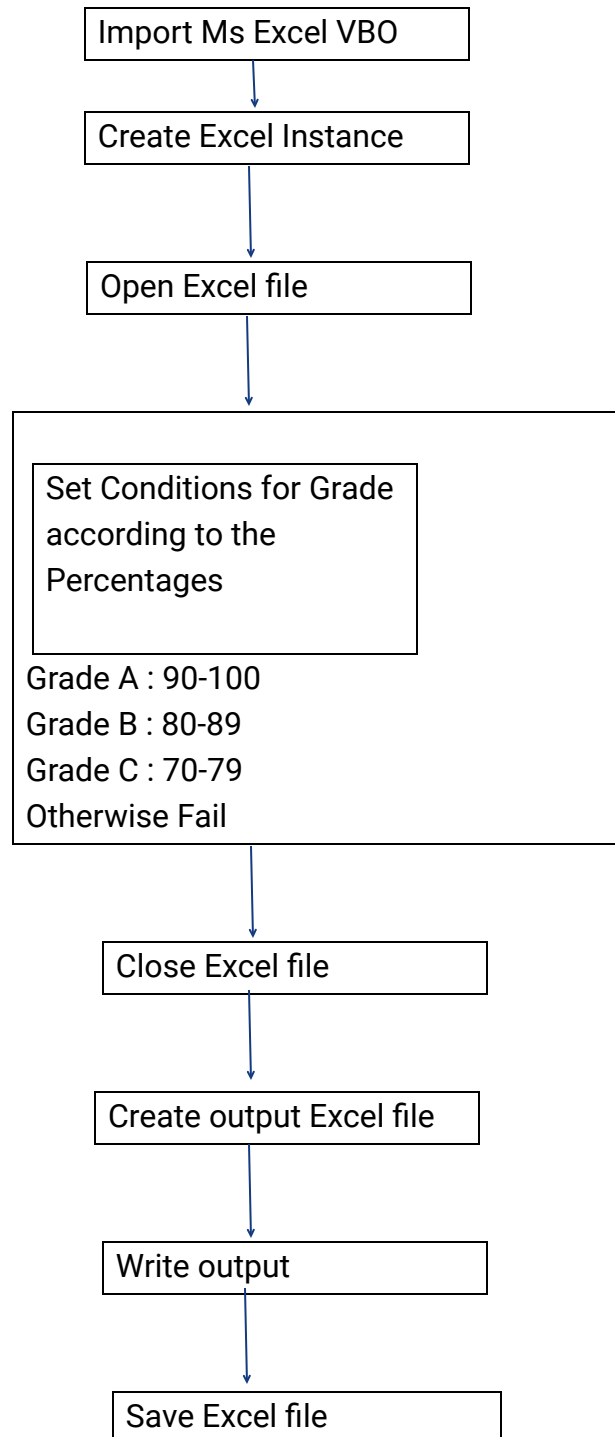
2. LITERATURE SURVEY

2.1 Existing problem

Excel is a powerful, efficient and user-friendly application for data storing, calculating, organizing, and report generation purposes. No doubt that this application has become very popular from small-scale industry to corporate organizations as there is a continuous need to access, analyze, retrieve, calculate, manipulate and report real-time data . However, sometimes integrating excel with other applications becomes tedious. Even for many repetitive tasks like Data retrieval, extraction, migration, Import and Export, etc. automation is required to avoid this repetitiveness in any activities.

2.2 Proposed Solution

With Blue Prism Excel Automation, manipulating Excel data becomes hassle and error-free. It saves valuable time and relieves your employees from boring, repetitive tasks and the unnecessary burden of having to learn extensive coding. Therefore, integration with other applications is done both smoothly and safely. Blue Prism Excel Automation brings you countless automation possibilities, no matter how small or elaborate the task is.

3. THEORITICAL ANALYSIS

3.1 Block Diagram

Import Ms Excel VBO

Create Excel Instance

Open Excel file

Set Conditions for Grade according to the Percentages

Grade A : 90-100
Grade B : 80-89
Grade C : 70-79
Otherwise Fail

Close Excel file

Create output Excel file

Write output

Save Excel file

3.2 Hardware/Software designing

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
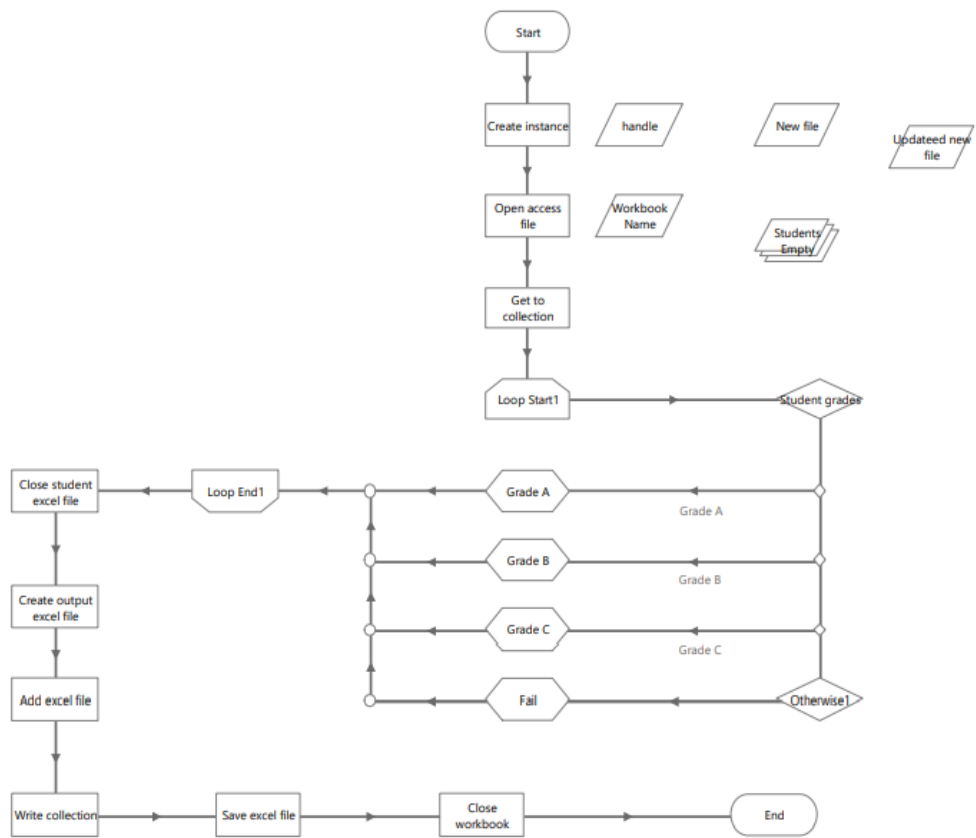- Windows 8.1 or 10 (64-bit version only) OR Cloud: Get started free, *Cloud account required.
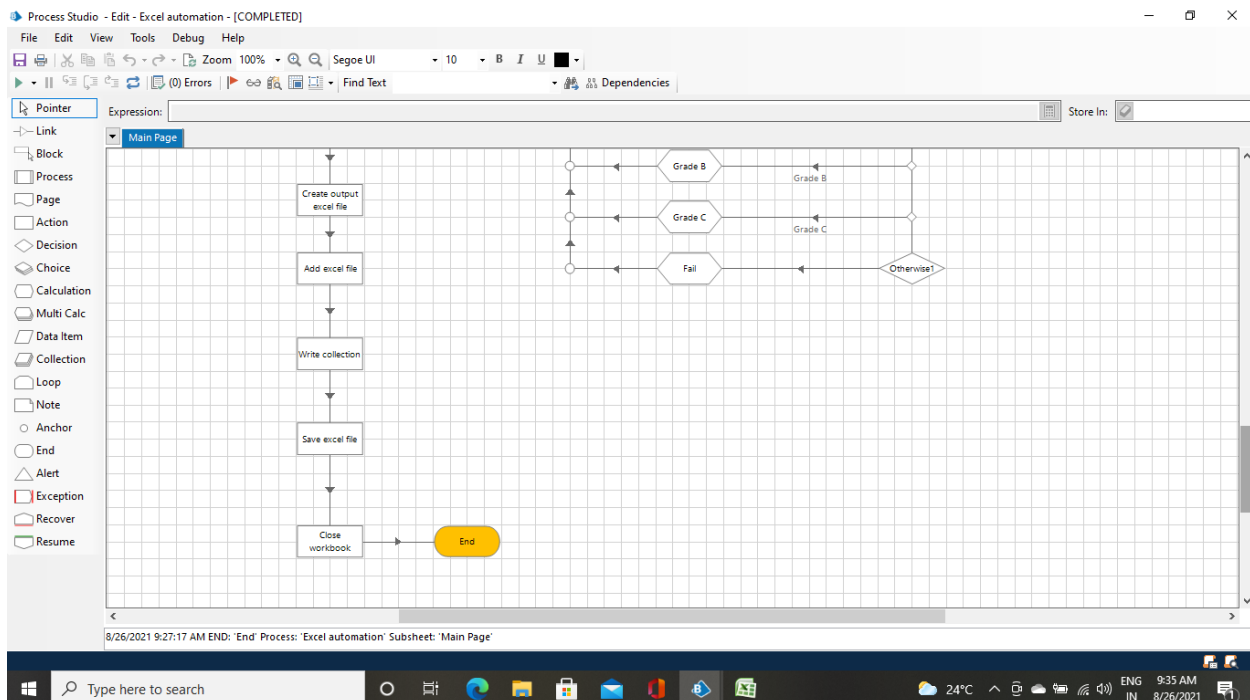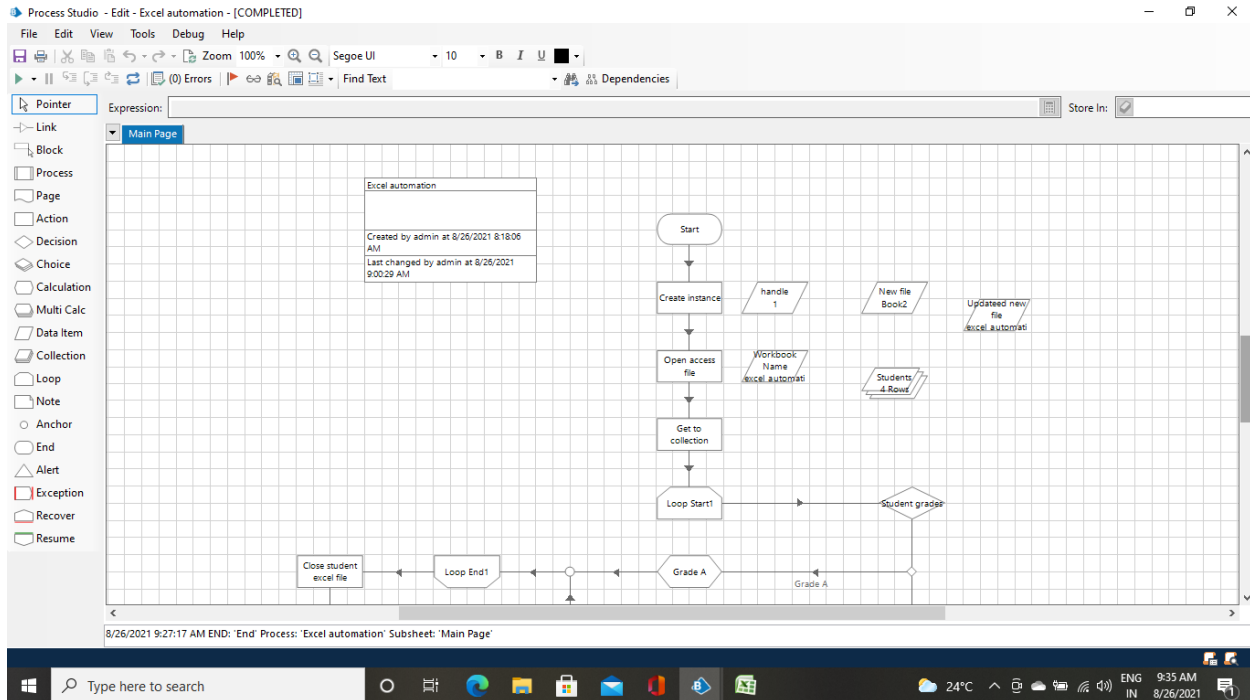
Software Requirements:
- Blue Prism

4. EXPERIMENTAL INVESTIGATIONS

   While working on the project we came to know that we could automate sophisticated tasks with no coding. Automation of excel avoids manual labor and saves a considerable amount of time and as robots make zero mistakes there is an increase in productivity. Excel automation can be done not only by Blue Prism but also by using different software such as UiPath.

5. FLOWCHART

```
                                    ┌─────────┐
                                    │  Start  │
                                    └─────────┘
                                         │
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                              └─────────────────┘ ╱────────╱    ╱────────╱      ╱    file      ╱
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                              ┌─────────────────┐   ╱──────────╱
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                              ┌─────────────────┐              ◇ Student grades ◇
                              │  Loop Start1    ├───────────►
                              └─────────────────┘
```

A flowchart showing the program logic with decision branches for Grade A, Grade B, Grade C, and Fail (Otherwise1), looping back through Loop End1 to Close student excel file, Create output excel file, Add excel file, Write collection, Save excel file, Close workbook, and End.

6. RESULT

Process after execution

Input Excel sheet

Excel Sheet after execution of the process

7. ADVANTAGES & DISADVANTAGES

Advantages

● The Biggest Advantage is higher productivity due to accelerated production rates.
● Needless wastage of time is avoided by automating the tasks that are repetitive and time-consuming.
● Another important advantage to consider is that manual errors can be avoided.
● An element of flexibility has been added due to this as no fixed working hours are needed for software. An automated process can be put into motion and can go on working, disregarding the time element.

Disadvantages

● A slight mistake might result in the mistake getting endlessly repeated, until its detection and rectification.
● Another concern is that the process needs a high level of testing and quality control to ensure that it is absolutely free of errors.

8. APPLICATIONS

● Reading and writing data.
● Data extraction and migration.
● Sorting data and deleting duplicate rows.
● Comparing columns.
● Integrating with other applications and databases.
● Retrieving and creating workbooks.
● Running analysis reports.
● Filling in forms with data from Excel spreadsheets.

9. CONCLUSION

Excel is a very flexible tool to perform analyses. So by automating it we can make the tasks easier. It also enable us to ease data entry and at the same time improve data quality by minimizing the risk of wrong entries. Automation is not an easy process but if done in the right way we get benefited a lot.

10. FUTURE SCOPE

The scope of automation is boundless. With the extension of Artificial Intelligence to automated systems, there is nothing that would not be accomplished. Indeed, they will be able to out-perform humans in most the facets that can be thought of. Additionally, it may be extended to tasks that are beyond human capabilities.

11. BIBILOGRAPHY

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