STANLEY BUILD-A-THON

TOPIC: EXCEL AUTOMATION

TEAM NAME: TEAM ELITE

TEAM MEMBERS:

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CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate humans actions interacting with digital systems and software. Just like people, software robots can do things like understand what's on a screen, complete the right keystrokes, navigate systems, identify and extract data, and perform a wide range of defined actions. But software robots can do it faster and more consistently than people. In the race to outpace digital transformation, robotic process automation (RPA) is often heralded as a quick and easy way to streamline critical processes, often extending the life of legacy systems. While RPA is valuable to furthering the overall path to digital transformation, it is best used as a short-term fix. To eliminate tactical band-aids and costly disruption, organizations need to focus on a long-term intelligent automation strategy.

1.2 PURPOSE

Microsoft Excel became one of the world's most popular business applications because it helps professionals efficiently organize, analyze, and present information. Blue Prism, a platform providing a digital workforce that can perform any task of an operation staff member working on their PC. 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. With Blue Prism, a powerful robotic process automation (RPA) tool, you can be even more productive with Excel. Blue Prism comes with an Excel VBO file that you

can leverage to quickly start automating key Excel processes.

With RPA, you can achieve all the goodness that results from Excel without the associated manual or mental labor. Imagine the thrill of error-free output in half the time, every time.

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING PROBLEM

How could something like the venerable software Excel—perhaps the all-time champion in storing, organizing, and manipulating data—become even more efficient and productive than it already is? Excel is easy to use, accessible, and highly popular. Nonetheless, it is not always user-friendly and can at times prove to be very time-consuming and hard to integrate with other applications. For example, the established way to automate tasks in Excel requires training for you to become proficient in Visual Basic for Excel Macros. Today's working environment is multi-application focused, with data constantly being transferred between applications. Migrating and integrating data into platforms can, therefore, become troublesome, even when you work with applications that can import and export files. This happens because information can get mixed up or lost in the process, forcing you to waste precious time by repeating the steps each time you sync the data.

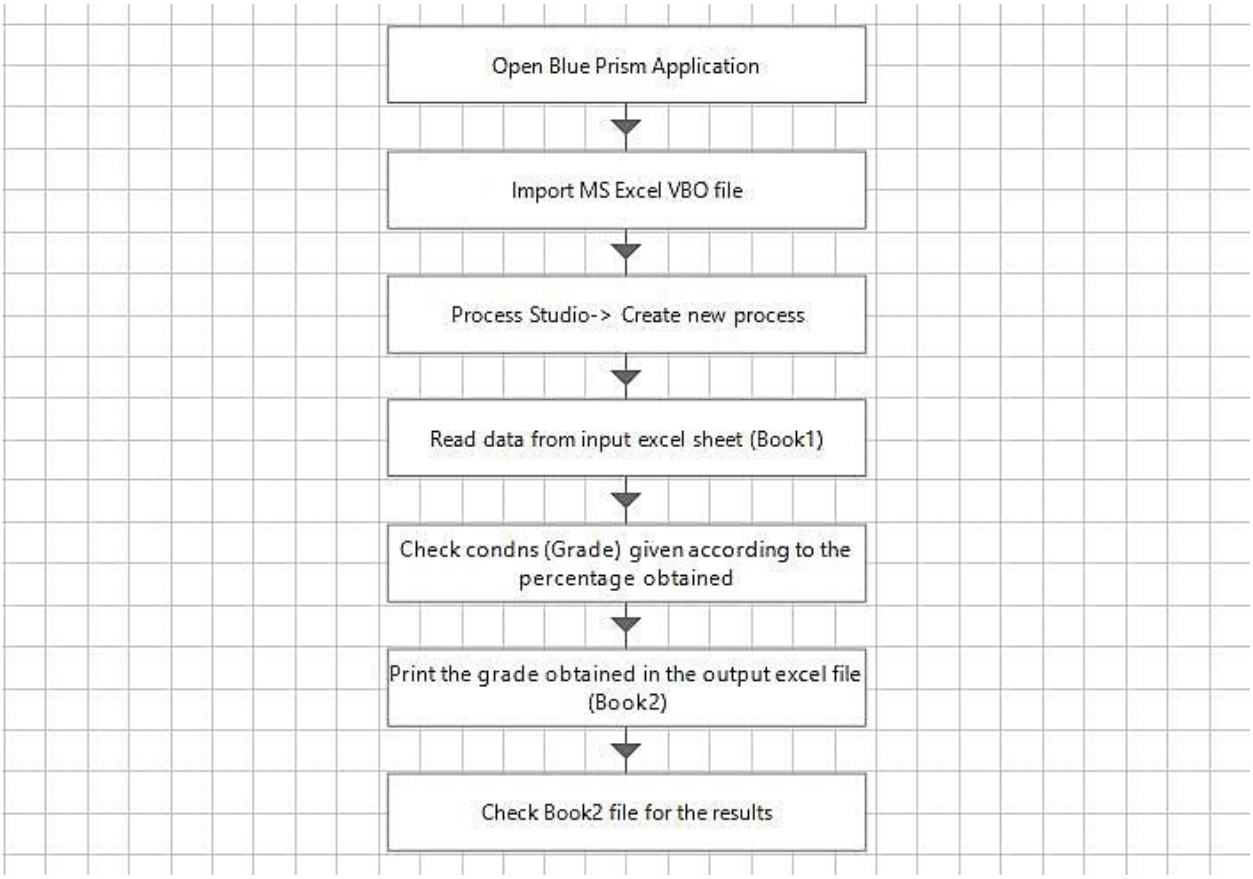
2.2 PROPOSED SOLUTION

With Automation, Excel automation has become very simple, it reduces manual errors; eliminates repetitive and time-consuming work. Moreover, it is ten times faster than other tools and does not require a screen. Automation executes at the backend without any software. It is a flexible tool which works with any spreadsheet format with different header styles and positions of columns. Even for many repetitive tasks like Data retrieval, extraction, migration, Import and Export, etc. automation is required to avoid this repetitiveness in any activities.

CHAPTER 3

THEORITICAL ANALYSIS

3.1 BLOCK DIAGRAM



Block Diagram of Excel Automation

3.2 HARDWARE/SOFTWARE DESIGNING

Hardware Required:

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.

Minimum System Requirements To run Office Excel 2013, your computer needs to meet the following minimum hardware requirements.

Pre-requirements for Blue Prism:

The following are the prerequisites for the Blue Prism. It is the only software which?

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

CHAPTER 4

EXPERIMENTAL INVESTIGATIONS

Use Case: Excel Automation (RPA)

Solution: Given the percentages obtained by Students, bot takes the data from one Excel sheet and gives us the result in the form of Grades in another empty Excel sheet.

We are primarily using Blue Prism for automating repetitive Excel tasks and preparing reports. This involves downloading reports and data from websites, followed by data massaging. Most of the automation is within Excel.

Automation Anywhere is an RPA tool that is used to Automate any repeated simple/complex tasks with ease. Automation Anywhere is not perfect but it is still the best tool available in today's market.

The primary aim of our Project is to use bots to extract information from one Excel sheet, then transferring the data into another sheet, using loop checks percentages of all the students and allocates grades to each one of them. Using this we can avoid manual work and errors can be reduced.

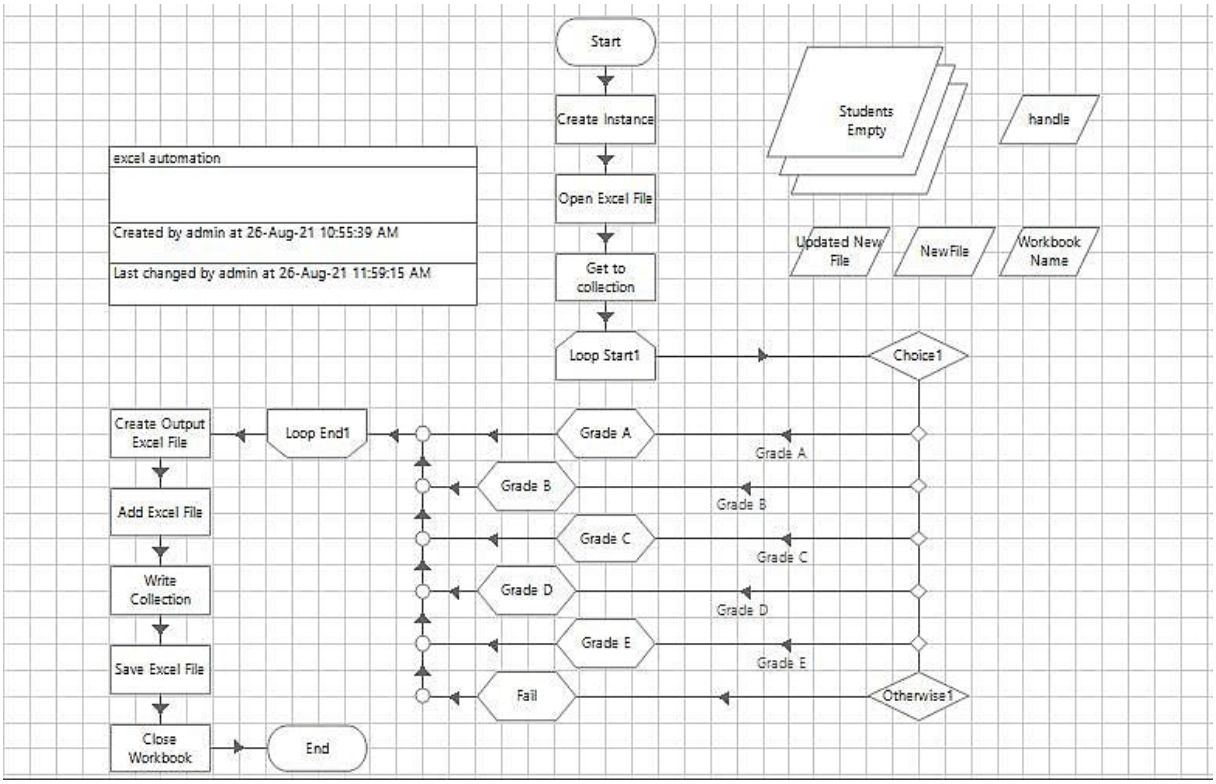
Through the software, we have been able to reduce the time that we spend on manual, repetitive tasks so that we can focus on activities that add value to the business or to our partners and customers. The most important things are saving time, increasing control, and increasing automation.

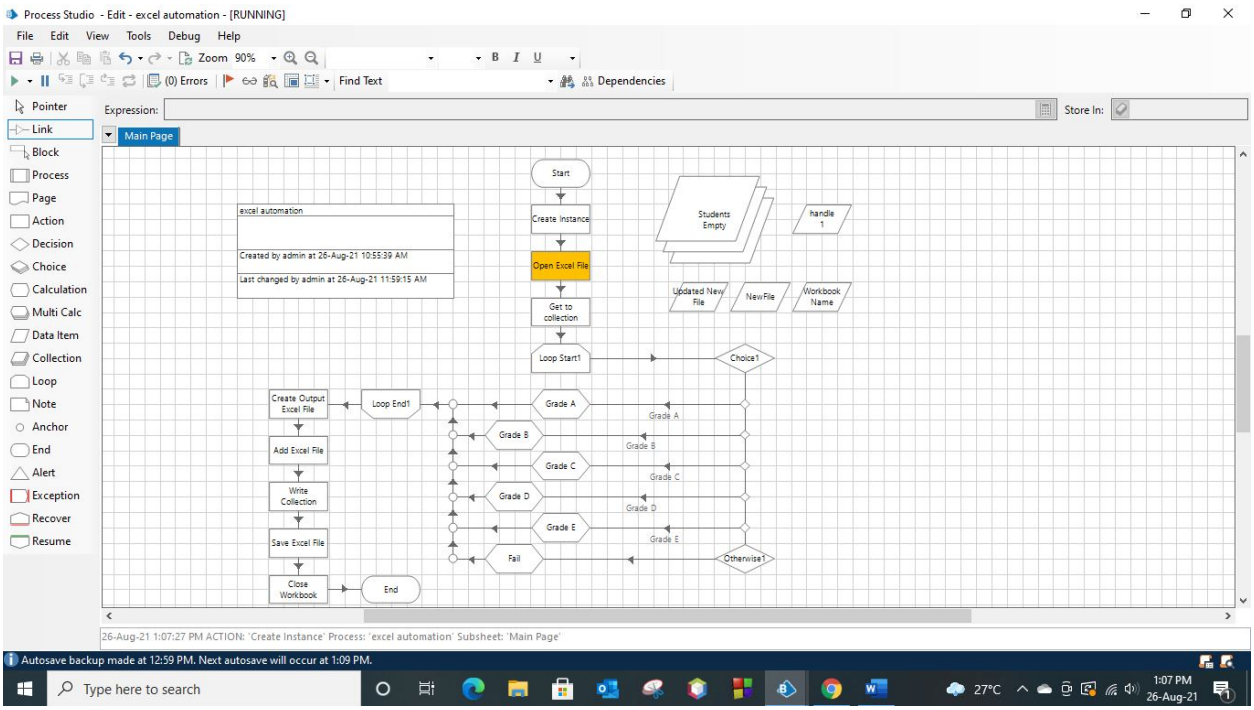
We should manually pass the data in several steps with import and export of data to and from excel which is not efficient.

We can also eliminate the unreliable transfer of data via excel and the potential for human error is greatly reduced by automated processes.

CHAPTER 5

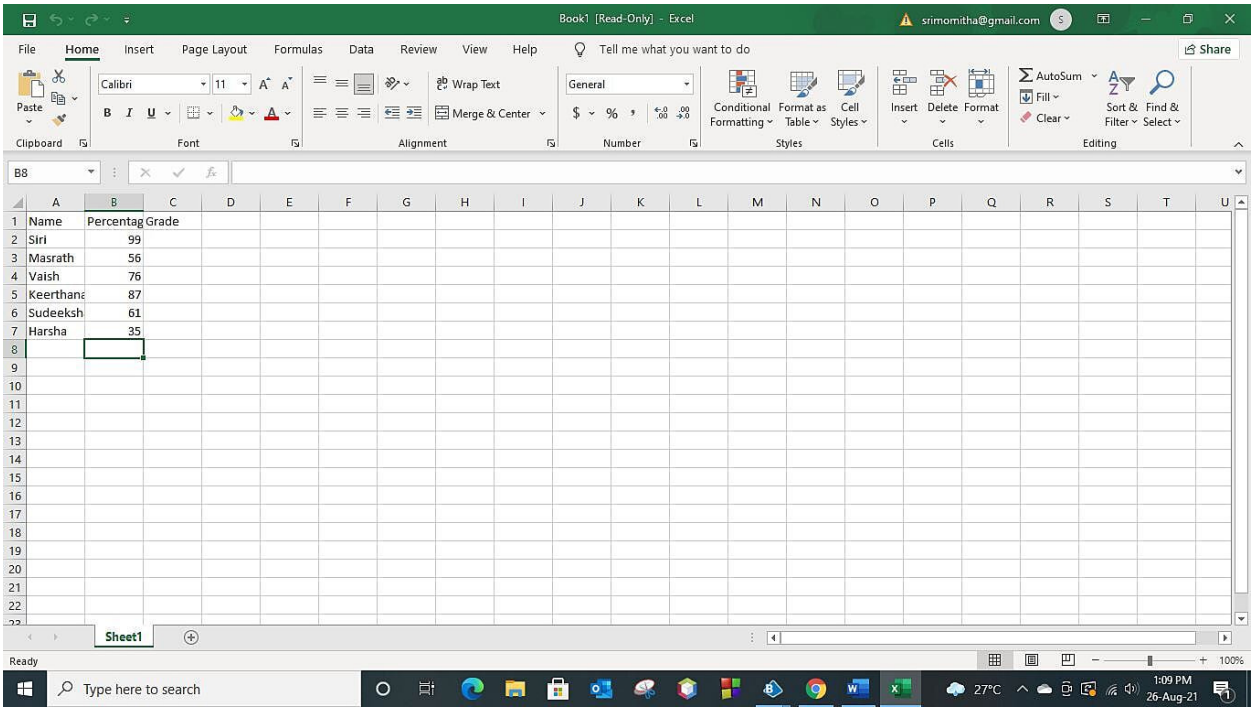
FLOWCHART



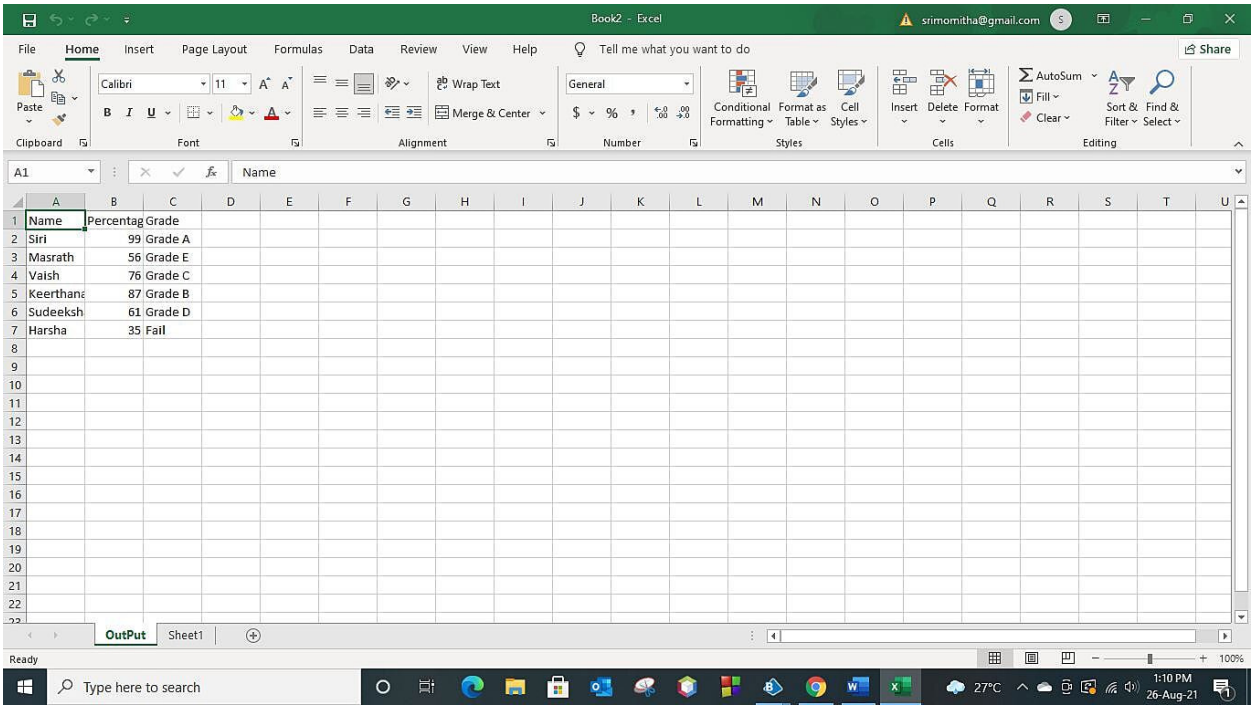


CHAPTER 6

RESULT



Input MS Excel file (Book 1)



Output MS Excel file (Book 2)

CHAPTER 7

ADVANTAGES & DISADVANTAGES

Advantages:

1. Free yourself for higher-value tasks: Save considerable time, and use it more profitable by working on activities and tasks that generate more value.
2. Increase productivity and efficiency: Robots make zero mistakes while working 24/7. They outperform employees when it comes to repetitive, boring tasks.
3. Ensure accuracy and speed: Manual labor is inevitably error prone and now you can easily avoid it. Generate grades directly according to the percentages given. Thus, error occurrence can be avoided.
4. Automate without programming: Automate the most sophisticated tasks with no coding.
5. Maintains Consistency: Always executes the tasks in exactly the same way.

Disadvantages:

1. You need to know the usage of Blue Prism RPA in order to train a bot.
2. Other people who need to use your VBA programs must have their own copies of Excel. It would be nice if you could press a button that transforms your Excel/VBA application into a stand-alone program, but that isn’t possible (and probably never will be).
3. If you don’t use good comments in your code, you’ll struggle to understand your own work if you have to revisit it weeks or months later.
4. One of the important drawbacks of Automation Anywhere is that it needs to be able to show the automated process as a single flowchart. After complete deployment of the bot, such as a Task Bot, to see an overview of the complete

process and the steps in the job is difficult.

5. Output maybe incomplete or may not be properly labelled, increasing possibility of misidentifying output.
6. Output scattered in many different worksheets or all over one worksheet, which you must take responsibility for arranging in a sensible way.

CHAPTER 8

APPLICATIONS

There are several applications of Excel Automation, such as:

1. Lecturers can use this project in order to calculate the percentages and allocate grades accordingly.
2. Big MNC companies and Businesses which use Excel VBO to store their data can use Excel automation for easy calculations.
3. Small and mid-sized organizations make use of MS Excel VBO for carrying out their accounting activities.
4. No manual work due to which typing or calculation errors can be minimized.
5. Data from one sheet is copied into another automatically.
6. This product can be used for several times.
7. Number of calculations does not matter as the loop continues for each data entered.
8. Hospitals and other clinics use Excel VBO to keep track patient appointments, bills, scheduling Doctors and organizing other information.
9. Arithmetic Calculations are done automatically.

CHAPTER 9

CONCLUSION

Excel automation is one of the clean and very useful features that helps in reporting, as well as other Excel-related operations. Having the option of using Excel as a database helps with performing logic. If we have an excel sheet to update into a particular application we can use Robotic Process Automation tool and automate the process. The product has saved us a lot of time by reducing manual tasks like entering data into Excel sheets. We could download data, perform Excel manipulation and generate reports. VBA can be used comfortably with RPA because it is faster and we can get more results within a short period of time.

Our primary use case is for interaction with mainframe applications along with web links and Excel spreadsheets. The bot interacts with the Excel spreadsheet, captures the task, go to the mainframe application, and pastes it with searching details of the task if it matches different details. It populates in the Excel spreadsheet if it is matched or not matched. There are numerous logics used in it. AA bots do the verifications and give an output in the Excel spreadsheet which becomes an input for the agents on the production floor.

Excel automation has proven to be advantageous for day to day business activities. The knowledge of Microsoft Excel VBO has become essential for small business establishments to carry out their day to day business and reap the best results from their business.

CHAPTER 10
FUTURE SCOPE

Excel functionalities, the macro interface can be improved in the next release of RPA platform Automation Anywhere. Functionalities such as maneuvering on the excel worksheets, increased capability to manipulate formulae, and other Excel functionalities will give Automation Anywhere and edge in the RPA platform category since most financial applications use a lot of Excel and macro sheets for their calculations and postings. This will not only help the developer in saving time to develop simple keystrokes but also make the final bot much more stable and robust.

Unfortunately, developing with Blue Prism takes more time than developing with UiPath or other platforms, because each action requires multiple actions. If you need to open an Excel file and collect the data from it, UiPath can do it with two or three clicks, like drag and drop the Excel application scope. With Blue Prism, you need to open the workbook, then open an instance, then get the sheet and then close that instance. It takes more time to develop things in Blue Prism. The dashboards are not excellent, they could be improved enabling more information. This could be improved in the future.

VBA is a moving target. As you know, Microsoft is continually upgrading Excel. Even though Microsoft puts great effort into compatibility between versions, you may discover that the VBA code you've written doesn't work properly with older versions or with a future version of Excel. Potential problems with analysis involving missing data. These can be insidious, in that the unwary user is unlikely to realize that anything is wrong. This can be improved by reading or writing the data into the spreadsheet appropriately. Lack of flexibility in analysis that can be done due to its expectations regarding the arrangement of data. This results in the need to cut or copy or sort and otherwise rearrange the data sheet in various ways increasing the likelihood of errors.

CHAPTER 11

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