

Karnatak Law Society's
GOGTE INSTITUTE OF TECHNOLOGY
Udyambag Belagavi -590008
Karnataka, India.



A Course Project Report on
SALES REPORT GENERATION

Submitted for
"Robotics Process Automation"

Submitted by

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Certificate

This is to certify that the Course Project work titled **“Sales Report Generation”** carried out by **Abhishek, Irfan, and Qadir**, bearing USNs **2GI21CS005, 2GI22CS401, 2GI21CS117** for **Robotics Process Automation** course is submitted in partial fulfilment of the requirements for 6th semester B.E. in **COMPUTER SCIENCE AND ENGINEERING**, Visvesvaraya Technological University, Belagavi. It is certified that all corrections/ suggestions indicated have been incorporated in the report. The course project report has been approved as it satisfies the academic requirements prescribed for the said degree.

Date: 22/06/2024

Signature of Guide

Place: Belagavi

Dept. of CSE

KLS Gogte Institute of Technology, Belagavi

GOGTE INSTITUTE OF TECHNOLOGY

Udyambag Belagavi -590008

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Semester: VI

Course: Artificial Intelligence and Machine Learning

Rubrics for evaluation of Course Project

S. No	Project Component	Max. Marks	Marks Earned		
			2GI21CS005	2GI22CS401	2GI21CS117
			Abhishek	Irfan	Qadir
1	Relevance of the project and its objectives	01			
2	Tools/Framework used	01			
3	Methodology / Design	02			
4	Implementation and Results	03			
5	Project Report	03			
	Total	10			

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1. ABSTRACT

In today's competitive business environment, efficient management of sales data is crucial for informed decision-making and strategic planning. Traditional methods of sales data entry, storage, and report generation are often manual, time-consuming, and prone to errors. Robotic Process Automation (RPA) offers a robust solution by automating these repetitive tasks, thereby enhancing efficiency, accuracy, and productivity. This project explores the application of RPA using UiPath Studio to automate the end-to-end process of sales data management.

The project provides two primary functionalities:

1. **Sales Data Entry and Storage:** This functionality allows users to enter sales data through a user-friendly interface. The entered data is then stored in an Excel file and subsequently converted into a CSV file. This ensures that the sales data is stored in a format that is easy to process and analyse.
2. **Sales Report Generation:** Users can generate sales reports based on specific criteria such as salesperson names or date ranges. The system filters the stored sales data according to the specified criteria and generates a comprehensive report. This report is then saved in a user-specified format, such as Excel or CSV, and made available for further analysis.

Additionally, the project includes a feature to convert Word documents into PDF format, providing enhanced versatility and utility for document management. This feature allows users to easily convert and store sales-related documents in a secure and widely accepted format

2. INTRODUCTION

Efficient management of sales data is pivotal for the success and growth of any business. Sales data, which includes information about transactions, customer interactions, and sales performance, serves as a crucial input for strategic decision-making and operational planning. Traditionally, businesses have relied on manual methods to record, store, and analyze sales data. However, these methods are often cumbersome, time-consuming, and susceptible to human error, leading to inefficiencies and inaccuracies.

Robotic Process Automation (RPA) presents a transformative solution to these challenges. By automating repetitive and rule-based tasks, RPA enables businesses to enhance operational efficiency, reduce errors, and free up human resources for more strategic activities. UiPath Studio, a leading RPA tool, offers a comprehensive platform for developing and deploying automation solutions tailored to various business processes.

This project focuses on the application of RPA using UiPath Studio to streamline the management of sales data. The primary objectives of the project are:

6. **Automate Sales Data Entry and Storage:** The project provides an interface for users to enter sales data, which is then stored systematically in an Excel file. This data is subsequently converted into a CSV file for ease of processing and compatibility with various data analysis tools.
6. **Automate Sales Report Generation:** Users can generate sales reports based on specific criteria such as the salesperson's name or a date range. The system processes these criteria, filters the sales data accordingly, and generates a comprehensive report in the desired format (Excel or CSV).
6. **Support Word to PDF Conversion:** The project includes a feature that allows users to convert Word documents into PDF format, ensuring that sales-related documents are securely stored in a widely accepted format

3. Tools used

In this project, several tools and technologies are utilized to achieve the automation of sales data management, report generation, and document conversion. The primary tool is UiPath Studio, a leading RPA platform, supported by various activities and integrations. Below is a detailed description of the tools used:

1. UiPath Studio

UiPath Studio is the core development environment where all the automation workflows are created and managed. It provides a user-friendly interface with drag-and-drop functionality, making it accessible even to those with minimal programming experience.

- **Activity Library:** A comprehensive library of pre-built activities that can be used to perform a wide range of tasks such as reading/writing files, interacting with user interfaces, and integrating with other applications.
- **Drag-and-Drop Interface:** Simplifies the process of designing automation workflows.
- **Error Handling and Debugging:** Tools to handle exceptions and debug workflows, ensuring robustness and reliability.

2. UiPath Excel Activities

UiPath offers a set of activities specifically designed for interacting with Excel files. These activities are crucial for managing sales data entry and storage.

- **Excel Application Scope:** Used to open and work with Excel files within a defined scope.
- **Read Range:** Reads data from an Excel sheet into a DataTable.
- **Write Range:** Writes data from a DataTable to an Excel sheet.
- **Append Range:** Appends data to the existing content in an Excel sheet.
- **Write CSV:** Converts Excel data to a CSV file.

3. UiPath Word Activities

UiPath provides activities to automate tasks related to Word documents, essential for the document conversion feature.

- **Word Application Scope:** Opens and works with Word documents within a defined scope.
- **Read Text:** Reads text from a Word document.
- **Export to PDF:** Converts a Word document to PDF format.

4. UiPath File Activities

File management is integral to this project, and UiPath's file activities facilitate various file operations.

- **Move File:** Moves files from one location to another, used for saving the converted PDF files.
- **Delete File:** Deletes files, if necessary, to clean up temporary files.

5. UiPath Dialog Activities

These activities are used to capture user input and provide interactive elements within the automation workflows.

- **Input Dialog:** Prompts the user for input, such as sales data and report criteria.
- **Message Box:** Displays messages to the user, useful for notifications and confirmations.

6. Data Manipulation Activities

To handle and manipulate data within the workflows, UiPath provides a range of activities.

- **Assign:** Assigns values to variables, useful for data processing and transformation.
- **Filter Data Table:** Filters rows in a Data Table based on specified criteria, used for generating reports.
- **For Each Row:** Iterates through each row in a Data Table, useful for processing data.

UiPath Orchestrator (Optional)

For more advanced deployment and management of automation workflows, UiPath Orchestrator can be used. This tool provides centralized control and monitoring of automated processes.

- **Scheduling:** Schedule automation workflows to run at specific times.
- **Monitoring:** Monitor the status and performance of running workflows.
- **Queue Management:** Manage work queues for processing large volumes of transactions.

8. Microsoft Office (Excel and Word)

While UiPath provides the activities to interact with Office applications, having Microsoft Office installed is necessary for the automation to work with Excel and Word files.

- **Excel:** Used for storing and managing sales data.
- **Word:** Used for document conversion to PDF.

9. CSV File Format

CSV (Comma-Separated Values) is used for data storage and transfer, providing a simple and widely compatible format for sales data and reports.

4. Project Overview

Project Overview

The project consists of the following key processes:

- 5. Sales Data Entry and Storage**
- 5. Sales Report Generation**
- 5. Word to PDF Conversion**

Each process is detailed below, outlining the steps involved and the automation logic implemented in UiPath Studio.

1. Sales Data Entry and Storage

Steps:

1.1 User Input for Sales Data:

- **Activity Used: Input Dialog**
- **Details:**
 - An input dialog box is presented to the user to capture sales data such as the salesperson's name, sales amount, date of sale, and any other relevant details.
 - This data is stored in variables for further processing.

1.2 Storing Data in Excel:

- **Activity Used: Excel Application Scope, Write Range**
- **Details:**
 - The sales data collected from the user is appended to an existing Excel file or creates a new file if it doesn't exist.
 - Ensure data is appended in the next empty row to maintain a continuous log of sales.

1.3 Converting Excel to CSV:

- **Activity Used: Excel Application Scope, Write CSV**

- **Details:**
 - Once the data is stored, the Excel file is read and then converted into a CSV file.
 - This conversion ensures compatibility with various data processing tools and system

2. Sales Report Generation

Steps:

2.1 User Request for Report:

- **Activity Used: Input Dialog**
- **Details:**
 - The user is prompted to specify the criteria for the sales report, such as the salesperson's name or a date range.
 - This input is stored in variables for use in filtering the sales data.

2.2 Generating the Report:

- **Activity Used: Excel Application Scope, Read Range, Filter Data Table**
- **Details:**
 - The sales data is read from the Excel file.
 - The data is filtered based on the criteria provided by the user to generate the report.

2.3 Saving and Presenting the Report:

- **Activity Used: Write Range, Write CSV**
- **Details:**
 - The filtered data, which constitutes the sales report, is saved in a new Excel file or CSV file.
 - The report file is then presented or made available to the user.

6. Word to PDF Conversion

Steps:

3.1 User Input for Word File:

- **Activity Used: File Dialog**

- **Details:**
 - The user is prompted to provide the path to the Word document that needs to be converted to PDF.
 - This file path is stored in a variable for use in the conversion process.

3.2 Converting Word to PDF:

- **Activity Used: Word Application Scope, Export to PDF**

- **Details:**
 - The selected Word document is opened and converted to PDF format using UiPath's Word activities.

3.3 Saving the PDF:

- **Activity Used: Move File**
- **Details:**
 - The converted PDF file is saved at a specified location, which can be predetermined or provided by the user.

5. Project Snapshot

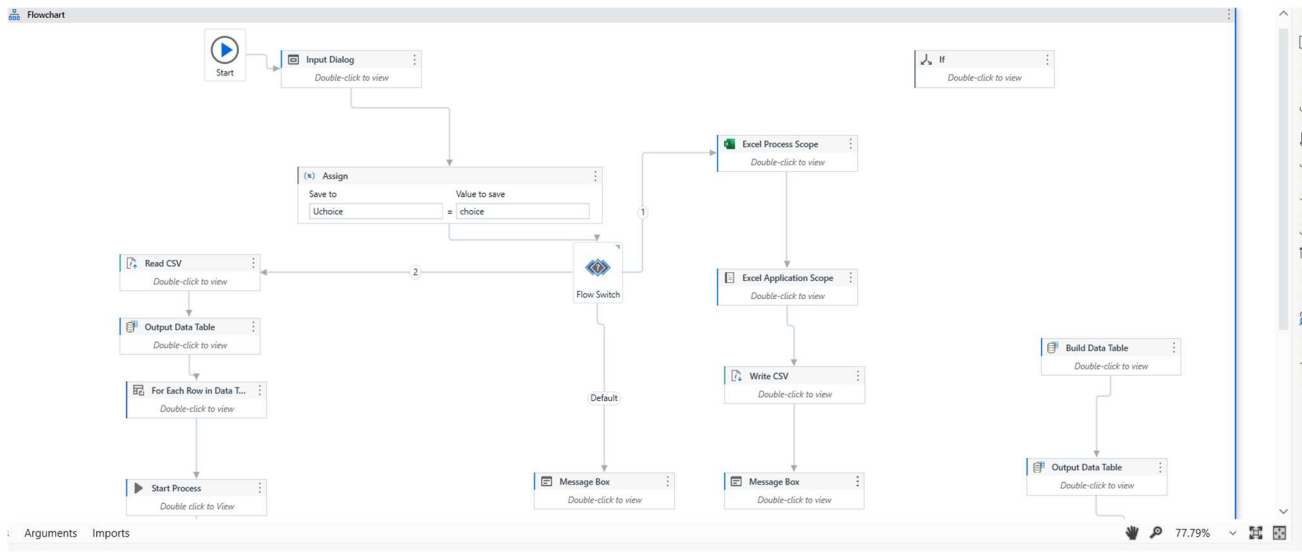


Fig 1. Workflow

ENTER YOUR CHOICE

1. ENTER YOUR MONTHLY SALE (Only representatives can select)

2. Generate Report(Only Manager)

Ok

Fig 2. User Prompt Dialog Box

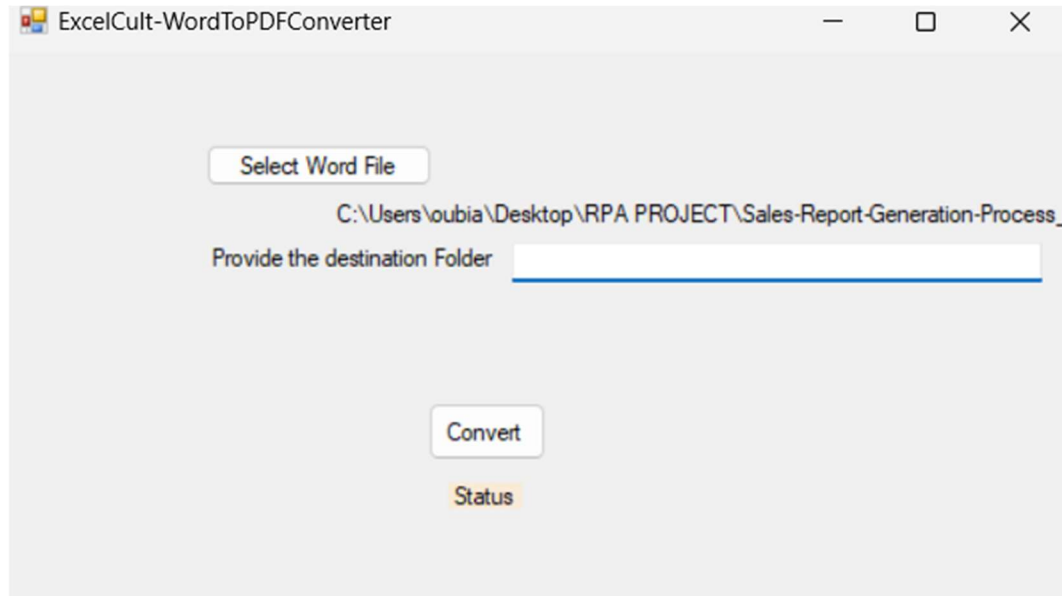


Fig 3. Word To converter Application

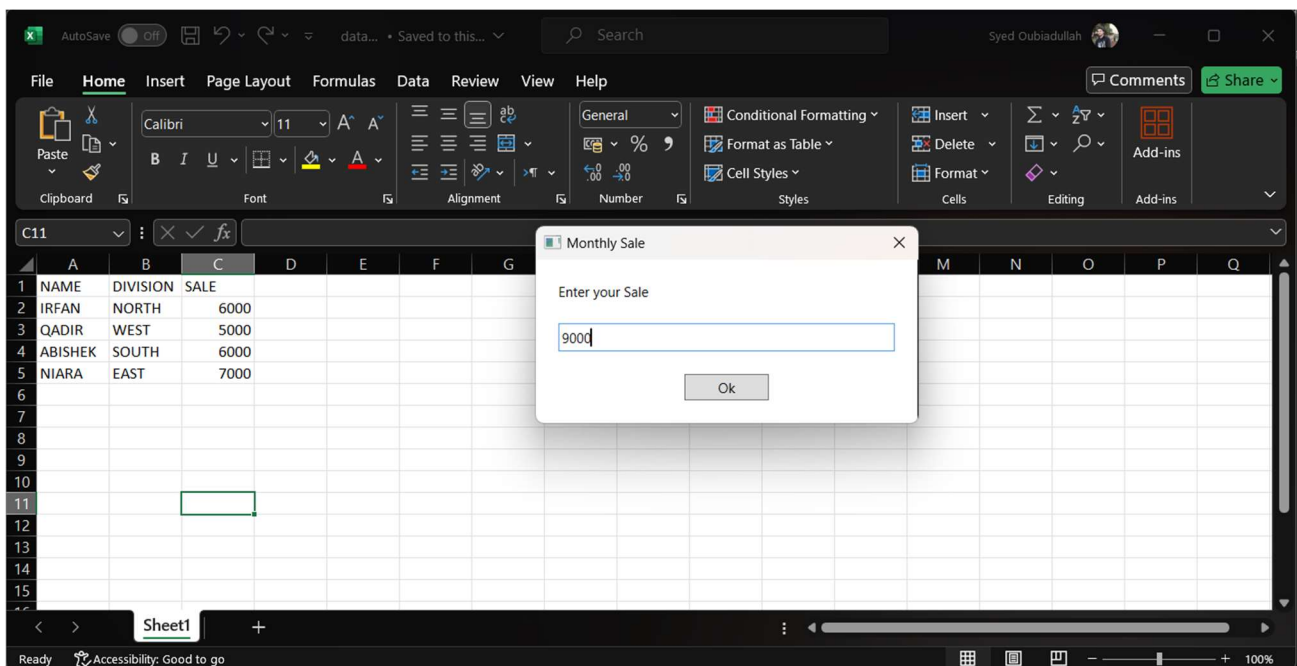


Fig 4. Sale Entry

Employee Sales Report

Name: <Name>

Division: <Division>

Sale: <Sale>

This report shows you, essentially, how busy you are throughout the month. Data will provide a breakdown of the number of sales made for the specific division etc. that were processed in the corresponding business days.

This will provide you with the information necessary to make any staff-related decisions.

The number of sales, for example, may not necessarily reflect how busy the staff gets during rush hour (since it is possible to have few transactions, but a high number of items sold), and vice-versa. If fewer items are being sold but there are a large number of transactions being processed, more employees will be needed to staff the POS Stations.

Additional Settings

N/A

Fig 5. Master Template





Name	Date modified	Type	Size
 ABISHEK	22-06-2024 09:16 PM	Microsoft Word D...	20 KB
 IRFAN	22-06-2024 09:15 PM	Microsoft Word D...	20 KB
 NIARA	22-06-2024 09:16 PM	Microsoft Word D...	20 KB
 QADIR	22-06-2024 09:15 PM	Microsoft Word D...	20 KB

Fig 6. Generated Files

6. Conclusion

The implementation of Robotic Process Automation (RPA) using UiPath Studio for the management of sales data represents a significant advancement in streamlining business processes. This project has successfully demonstrated how automation can enhance efficiency, accuracy, and productivity in the context of sales data entry, storage, report generation, and document conversion.

Future Enhancements

While the current implementation addresses key aspects of sales data management, there are several potential enhancements that could further improve the solution:

- **Integration with CRM Systems:** Direct integration with Customer Relationship Management (CRM) systems could streamline data import and export processes, providing real-time updates and further reducing manual intervention.
- **Automated Notifications:** Implementing email notifications for report generation and document conversions can keep stakeholders informed and reduce the need for manual follow-ups.
- **Advanced Data Analytics:** Incorporating advanced data analytics features can provide deeper insights into sales performance, enabling more sophisticated analysis and reporting.
- **Expanded File Formats:** Supporting additional file formats for document conversion and report generation could enhance the flexibility and usability of the solution.

In conclusion, the project has successfully leveraged UiPath Studio to automate and streamline the process of sales data management, report generation, and document conversion. The automation not only enhances efficiency and accuracy but also provides flexibility and scalability to meet evolving business needs. By implementing such RPA solutions, businesses can significantly improve their operational workflows, reduce costs, and ensure that sales data is managed effectively and securely. The potential for future enhancements ensures that the solution can continue to evolve and deliver value over time, making it a robust investment for any organization looking to optimize its sales data management processes.

7. References

1. Uipath studio: <https://uipath.com>
2. Uipath Acadmy: <https://uipathacadmy.com>