RPA Specialization

Course 6: UiPath Orchestrator and Capstone Projects

Capstone Project-Invoice Entry

Contents

1. Introduction

You learned different automation skills throughout all the courses in the RPA Specialization. Now, it's time to test your skills through this project which uses different automation techniques. This document contains all the information required to build this project. Go through all the sections of this document to understand the requirements of the project.

2. Project Background

You are expected to build a project for automating the invoice entry process in an organization. An invoice is a document generated by the seller upon receipt of a purchase order from the buyer. It contains details about the product or service, the price, quantity, value, product status, parties' names, billing addresses, and terms & conditions.

The organization receives invoices in its email as attachments. It wants to automate downloading and reading the invoices and uploading the invoice data into an ERP application. In the end, a report should be generated in an Excel file containing invoice numbers, the number of processed items, and timestamps.

3. Problem Statement

Build a project in UiPath Studio that extracts data from invoices and uploads it to the ERP application and generates a report in Excel.

- Download PDF attachments of invoices from Outlook email and store the attachments in the project folder.
- Extract data from the invoices and upload the data to the ERP application.
- Generate a report in an excel file that contains invoice numbers, the number of processed items, and timestamps.

4. Expected Project Output

The project's final output should be an excel file containing invoice numbers, the number of processed items, and timestamps. This file should be generated after the data from all the invoices is uploaded to the ERP application.

5. Environment Prerequisites

Before beginning this project, you must ensure that your system environment is equipped with the prerequisites necessary to create and execute the project successfully. There are three types of prerequisites for this project:

1. System Applications/Software
2. UiPath Studio Packages
3. Initial data files

5.1 System Applications/Software

Ensure that the applications/software listed in the table below are installed in your system.

| Applications/Software	Use
UiPath Studio Academic Alliance Version 2021.10	Create automation using available project activities.
Microsoft Excel	Store data and create reports.
Microsoft Outlook	Send an email to the project owner.
ERP Application – Invoice Entry Demo.exe	Upload data from invoice files.

5.2 UiPath Studio Packages

Ensure that the packages listed in the table below are installed in your Studio.

Package Name	Version
UiPath.Excel.Activities	2.11.4
UiPath.System.Activities	22.4.1
UiPath.UiAutomation.Activities	21.10.5
UiPath.Mail.Activities	1.12.3
UiPath.PDF.Activities	3.6.0

5.3 Initial Data Files

Ensure that you have a few invoices as email attachments. The data that you will enter in the ERP application should be taken from these invoices. You can find a few sample invoices along with this course. Please download the files and save these on your computer. Send these files as separate email attachments to your configured outlook email address. You should ensure that the emails are unread before initiating project execution and the subject of the email should contain term 'Invoice'. The overview of an invoice file is given in section 6.
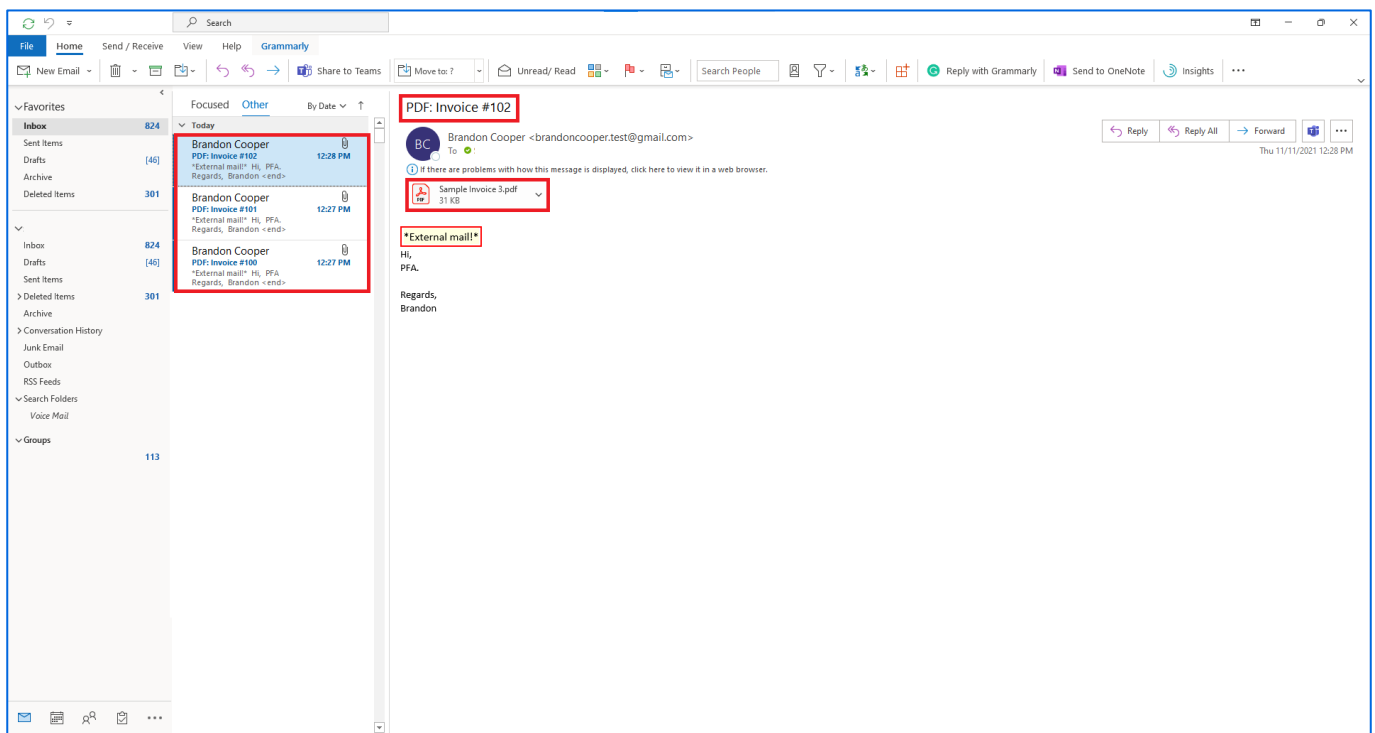

6. Process Overview

The points listed below give you a chronological overview of the actions that the robot will perform upon execution of the project:

1. START.
2. Read the outlook emails.
3. When reading emails, identify whether there is an unread email.
   - i. If there is an unread email, and the email subject does not contain the word "Invoice", again read the outlook emails to look for the next unread email with the subject "Invoice".

    ii.   If the email subject contains the word "Invoice", change the status of the email to read and check whether it contains the PDF attachment of the invoice file.

    iii.   If the email does not contain the PDF attachment of the invoice file, again read the outlook emails to look for the next unread email.

    iv.   If the email contains the invoice file attachment, download it, store it in the project folder, and re-read the outlook emails to look for the next email.

4. If there is no unread email, check the project folder to look for invoice files for processing.

    i.   If there are no invoice files in the project folder, stop executing.

    ii.   If there are invoice files in the project folder, open the ERP application.

5. Extract data from an invoice file and upload the data to the application.

6. Check whether an excel report file exists.

    i.   If the excel report file does not exist, create an excel report. The report should contain the invoice number, number of processed items, and the time stamp.

    ii.   If the excel report file exists, update the invoice number, number of processed items, and the time stamp in a new row.

7. Delete the processed invoice file and again look for the next invoice file in the folder.

8. If the folder contains any invoice file, repeat from step 5.

9. If the folder does not contain any invoice file, close the ERP application and stop executing.

10. STOP.

The process overview is visually represented in the flowchart below:
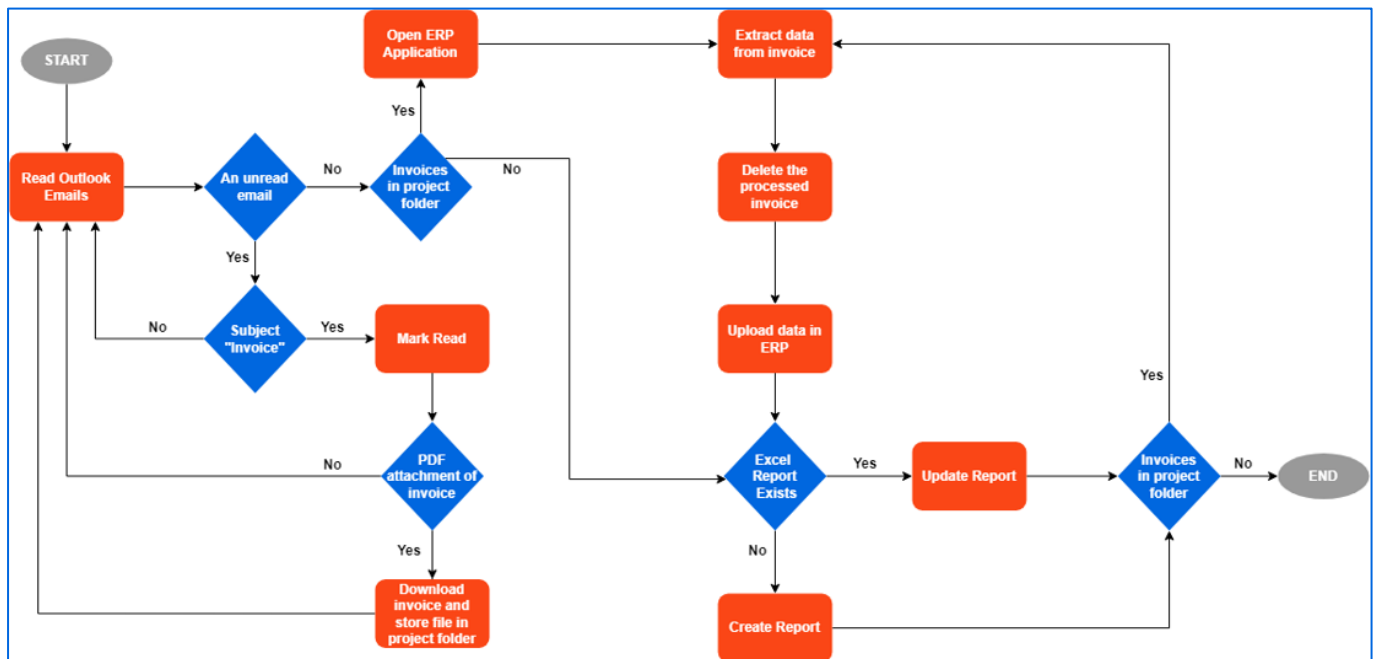
7. Invoice Overview

As you can see in the screenshot of an invoice (Figure 2), it contains all the items you need to fill in the ERP application. It contains details about the seller and the buyer. It also has a table containing the details of the purchased items and the Subtotal, GST, and Total.

S.No.	Fields to extract from Invoice	Values from Sample Invoice
1	Company Name	J.K. Computers
2	Company Address	2481 Felosa Drive
3	Company City	Llano
4	Company State	Texas
5	Company Pin Code	78643
6	Company Contact No	+17319696651
7	Company Tin	14122226789
8	Customer Name	Mirtha M. Reeve
9	Customer Address	2099 John Calvin Drive
10	Customer City	St Augustine
11	Customer State	Florida
12	Customer Pin Code	60606
13	Customer Tin	14125436789
14	Customer Contact No	708-820-3518
15	Invoice Number	100
16	Invoice Date	Jan 20, 2021
17	Item No	01,02,03,04
18	Description	AX-1000 Digi Mouse Wireless, HI116XC16 16GB RAM, AX-1000 Digi Mouse Wired, LXG2111 HDA Monitor Wired
19	Quantity	1,1,1,1
20	Price	7400, 5300, 5300, 1000
21	Subtotal	19000
22	GST	1520
23	Total	20520

① J.K. Computers — Company Name

② 2481 Felosa Drive — Company Address
③ & ④ Llano, Texas — Company City and State
⑤ Pin Code 78643 — Company Pin Code
⑥ +17319696651 — Company Contact No
⑦ TIN: 14122226789 — Company Tin

Bill to:
M/s:
⑧ Mirtha M. Reeve — Customer Name
⑨ 2099 John Calvin Drive — Customer Address
⑩ & ⑪ St Augustine, Florida — Customer City and State
⑫ Pin Code 60606, — Customer Pin Code
United State of America
⑬ TIN: 14125436789 — Customer Tin
⑭ Contact 708-820-3518 — Customer Contact No
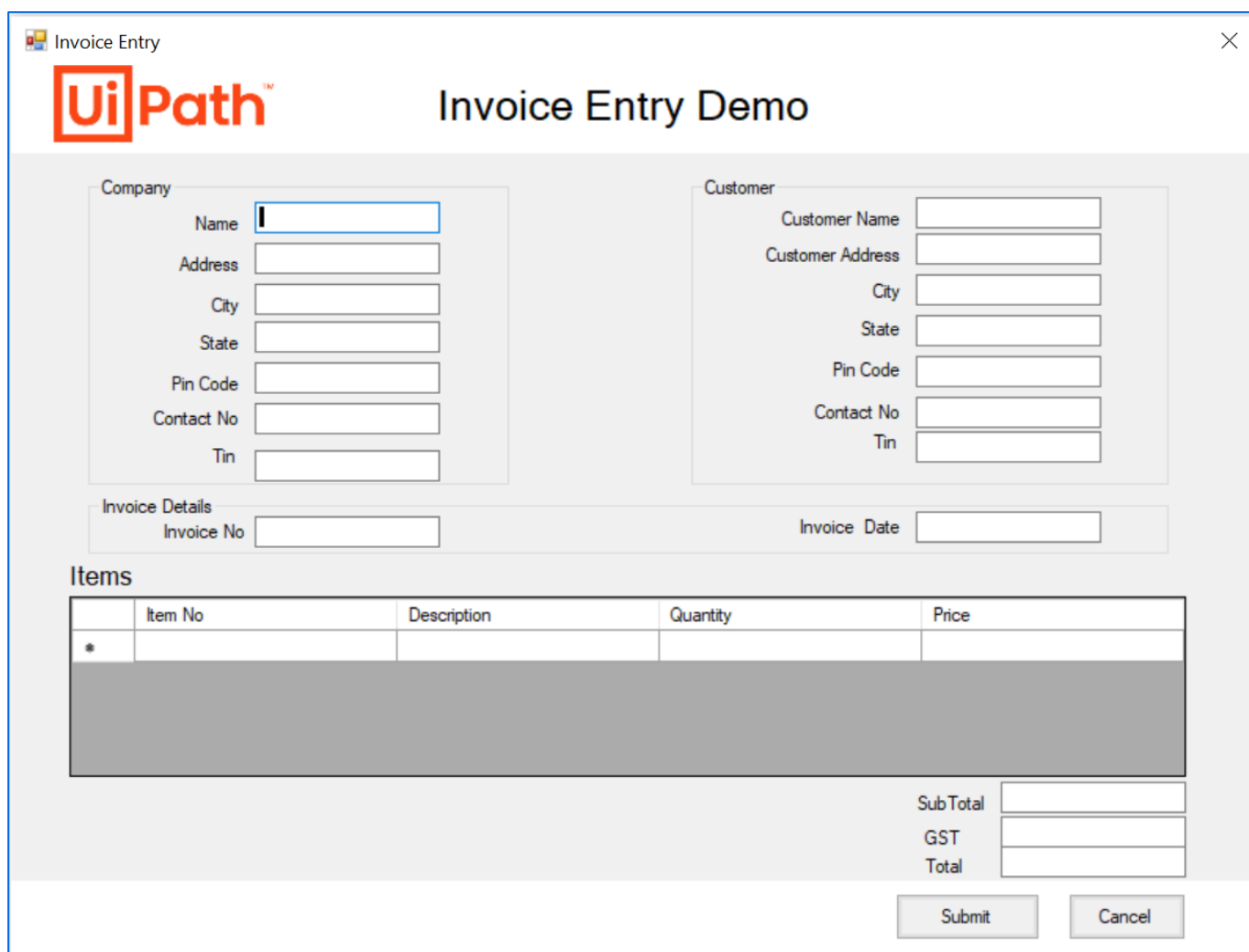
INVOICE

Invoice Number ⑮ Invoice # 100
Invoice Date ⑯ Invoice Date: Jan 20, 2021
Due Date: Feb 10, 2021

⑰ Item No   ⑱ Description   ⑲ Quantity   ⑳ Price

ID	DESCRIPTION	QTY	PRICE	TOTAL
01.	AX-1000 Digi Mouse Wireless	1.	7400.	7400.
02.	HI116XC16 16GB RAM	1.	5300.	5300.
03.	AX-1000 Digi Mouse Wired	1.	5300.	5300.
04.	LXG2111 HDA Monitor Wired	1.	1000.	1000.

	Sub Total	㉑	19000.00
	GST 8%	㉒	1520.00
	Total	㉓	20520.00

8. ERP Overview

You should have the ERP application on your computer to upload invoice data. You can find this software along with this course. Please download the 'InvoiceEntry.exe' file and save it on your computer. After downloading, please double click the .exe file to run the application as it does not require installation or elevated system privileges.

As you can see on the application interface (Figure 3), there are four sections where the data needs to be filled.

In the Company section, the details of the seller should be filled. It contains seven fields: name, address, city, state, pin code, contact number, and tin.

In the Customer section, the details of the buyer should be filled. It contains seven fields: customer name, address, city, state, pin code, contact number, and tin.

In the Invoice Details section, the invoice number and invoice date should be filled.

In the Items section, item number, description, quantity, and price should be filled. Finally, the subtotal, GST, and Total fields should be filled. Once data are inserted in all the fields, the Submit button should be clicked to confirm and upload the data entry.