Technical Design Document

TI.COM Data Scraping

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1 Introduction

TI.COM Data scraping project is designed to get input data from excel, check the availability of each part and store the result into a desired format in the same excel file.

2 Purpose of this document

This is a Technical Design Document that explains the technical aspects of the robot designed and developed using UiPath in detail. This will give an overview of the design of the bot and can be used by developers or other stakeholders to understand the prerequisites and requirements to execute the bot successfully.

3 Scope

The scope of this document includes:

- Environment Specification
- System Requirements
- Prerequisites
- UiPath Enterprise
- File Folder Structure
- Robot Design
- Issues and Risks

The scope of this document does not include:

- Availability of Systems
- System Changes
- Changes to Input Files or Data Format
- Process Changes

Note – this is a Technical Design Document which only covers the technical aspects. Please refer to the Business Requirements Document for any other information about business processes

4 System Requirements

The Developer System (specifications below) was used to develop this Technical Design Document. It is important to note that the system the robot is migrated to should also have similar specifications to

ensure a proper functioning of the robot.

The system specifications for **TI.COM Data Scraping** process:

Operating System	Microsoft Windows 10 Pro
Processor	Intel(R) Core(TM) i5-6300U CPU @ 2.40GHz 2.50 GHz
RAM	8.00 GB
Hard Disk	NA
Components	NA

5 Prerequisites

The prerequisites for the robot to successfully run are as follows:

a. The following applications are installed in the system:
   - UiPath 2021.10.5
   - Microsoft Excel – Vwesion 2202 (Build 14931.20132)
   - Google Chrome - Version 99.0.4844.84 (Official Build) (64-bit)

b. Robot has access to all required applications

c. Files are located in the system following the File Structure indicated below (Section 7).

6 UiPath Enterprise

UiPath version 2021.10.5 is the software used for developing the Technical Design Document.

7 File/Folder Structure

- **Temporary Folder:**

  Path at which all the temporary files are stored.

- **Input Folder:**

  Path at which all the input files are stored.

- **Output Folder:**

  Path at which all the output files are stored.

- **Code Repository**

  Path at UiPath process workflows are be stored.

- **Config File Path**

  Path at config files are be stored.

File/Folder	File/Folder Location
Temporary Folder	NA

Input Folder	\Input
Output Folder	\Input
Code Repository	NA
Config File Path	NA

8 Bot Design

8.1 Main.xaml

Location: \Main.xaml

Variables used

Timeout_Value	Int	Time to wait if Part name/Inventory not found
Web_Link	String	Website Link
Input_Sheet_Name	String	Excel Sheet name from where data to be read
Output_Sheet_Name	String	Excel Sheet name from where data to be written
Input_Excel_File_Path	String	File path of the Input excel file
Output_Excel_File_Path	String	File path of the Output excel file
FirstValue	String	Stores 1st part inventory
PartNameFirst	String	Stores 1st part name
PartNumber	String	Stores 2nd to Nth part inventory
Result	String	Stores 2nd to Nth part name
DT_Built	DataTable	Data table to store the extracted data
DT_Input	DataTable	Data table to hold the input part numbers & status
Browser1	Browser	Used to Close the Opened Browser
ExceptionVar	String	Stores Exception Value & used in conditions to make decisions


Flowchart
Start
Multiple Assign - Config
Configure I/P O/P File Path, Sheets Names to fetch & save, Web Link & Timeout value here.
Double-click to view
Build Data Table
Double-click to view
Excel Input
Double-click to view
TryCatch- Open TI.COM
Double-click to view
Excel Output
Double-click to view
Close TI.COM

ONLY Modify the activity “Multiple Assign – Config”, do not edit other activities.

Build Datatable Activity is done to store the Extracted results.

Excel Input Activity is used to get the input part names.

Open TI.com Activity uses Chrome browser to open the website input part numbers, get part names & inventory.

Excel Output Activity is used to store the output.

Close TI.COM is used to close the opened browser.

8.2 Input format

	A	B
1	**Part ID**	**Status**
2	SN74LV4066APW	
3	TLV2451CDBVR	
4	SN74LV4066APWR	
5	OPA4170AIPWR	
6	SN65HVD251DR	
7	LMV331QDBVRQ1	
8	TPS22954DSQR	

Parts to search for should be under Column A – Below Header “Part ID”

Column B – Header “Status” should be Empty, if Header “Status” under Column B is set as Completed that particular part will not be searched.

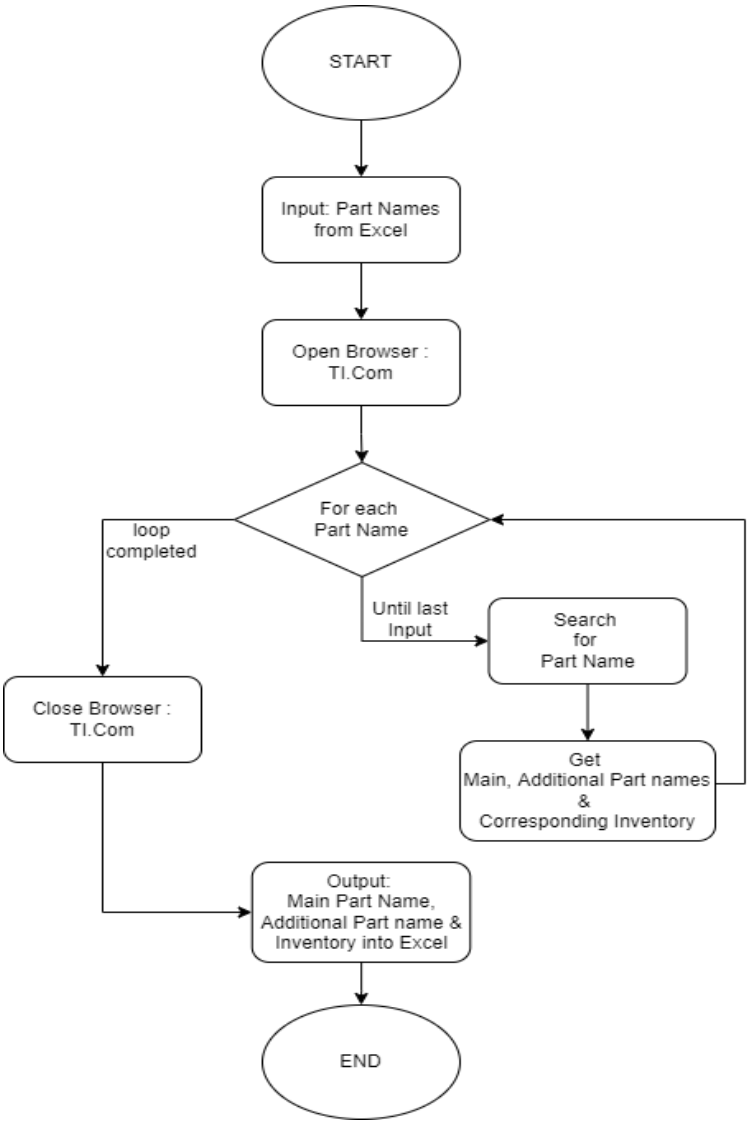
8.3 Exception Handling

1. All Blank/Empty values in Input sheet will be omitted.

2.After completion of each part name, Status will be updated as “Completed”. If bot stops half way, re-running the Program will result in the continuation of Bot from where it stopped in last run.

INPUT			OUTPUT		
Part ID	**Status**		**Part Name**	**Part Name (Additional package)**	**Inventory**
zzz	Complited		TLV2451CDBVR	TLV2451CDBVR	NA
SN74lv4066apw	Complited		TLV2451CDBVR	TLV2451CDBVT	NA
			yyy	NA	NA
			SN74LV4066APWR	SN74LV4066APWR	1,853
TLV2451CDBVR			SN74LV4066APWR	SN74LV4066APW	37,080
yyy			SN74LV4066APWR	SN74LV4066APWT	25,230
SN74LV4066APWR			OPA4170AIPWR	OPA4170AIPWR	NA
			OPA4170AIPWR	OPA4170AIPW	NA
			SN65HVD251DR	SN65HVD251DR	NA
OPA4170AIPWR			SN65HVD251DR	SN65HVD251D	NA
SN65HVD251DR			LMV331QDBVRQ1	LMV331QDBVRQ1	NA
			TPS22954DSQR	TPS22954DSQR	NA
LMV331QDBVRQ1			fgh	NA	NA

9 Flowchart & Workflows



Name	Invoked Workflow	Invoked In
\Main.xaml	-	-

10 Dependencies

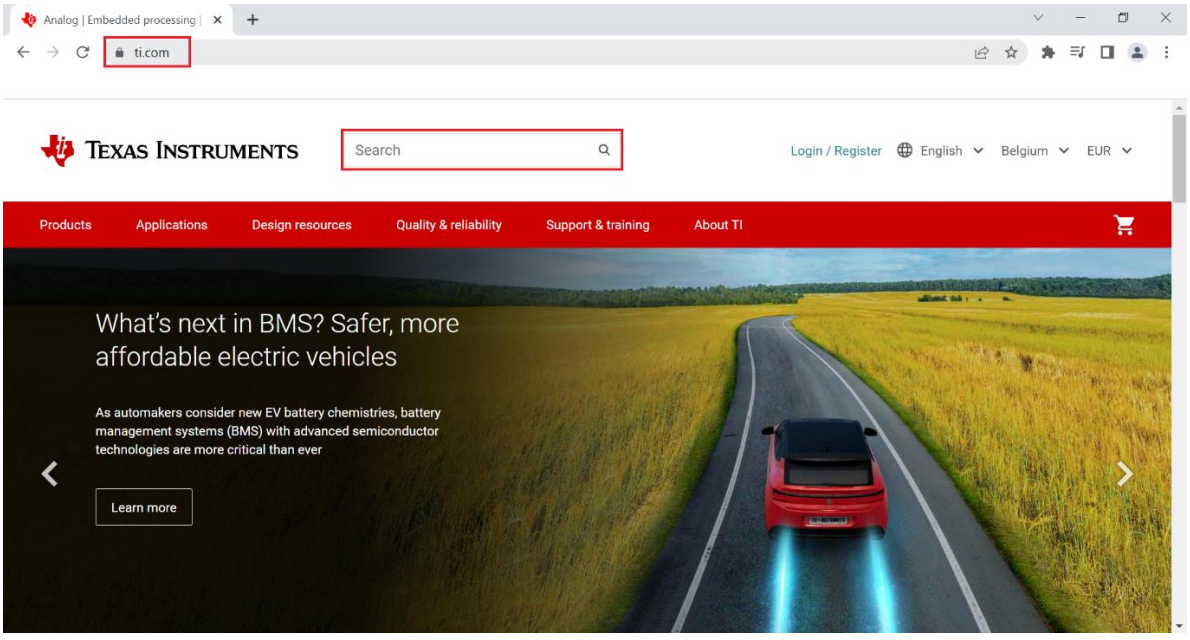
- UiPath.Excel.Activities: 2.11.4
- UiPath.Mail.Activities: 1.12.3
- UiPath.System.Activities: 21.10.4
- UiPath.UIAutomation.Activities: 21.10.5

11 Process Description

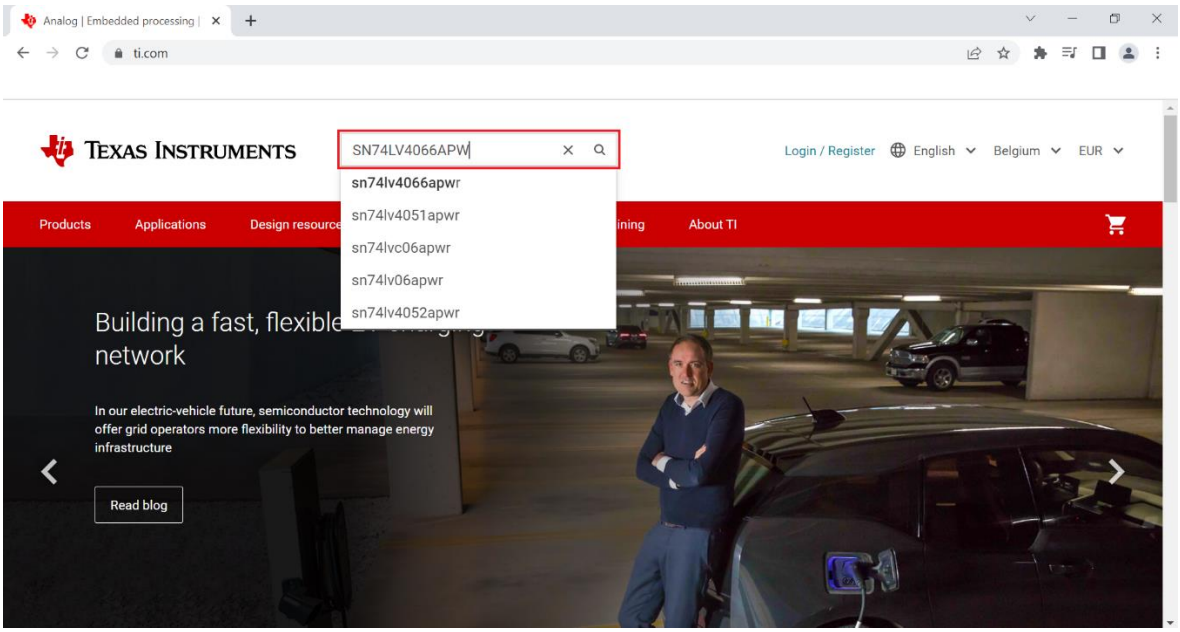
1. Bot to read Excel for Input & save it in DataTable.

	A	B
1	**Part ID**	**Status**
2	SN74lv4066apw	
3	TLV2451CDBVR	
4	SN74LV4066APWR	
5	OPA4170AIPWR	
6	SN65HVD251DR	
7	LMV331QDBVRQ1	
8	TPS22954DSQR	

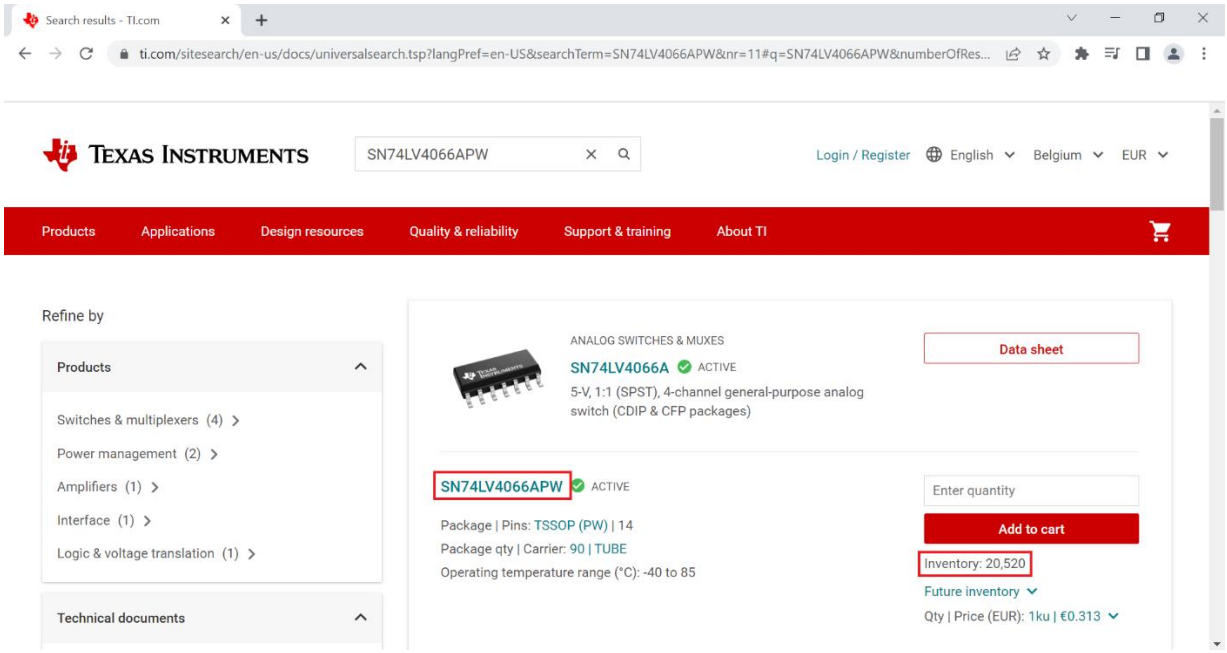
2. Open TI.COM in Chrome browser.



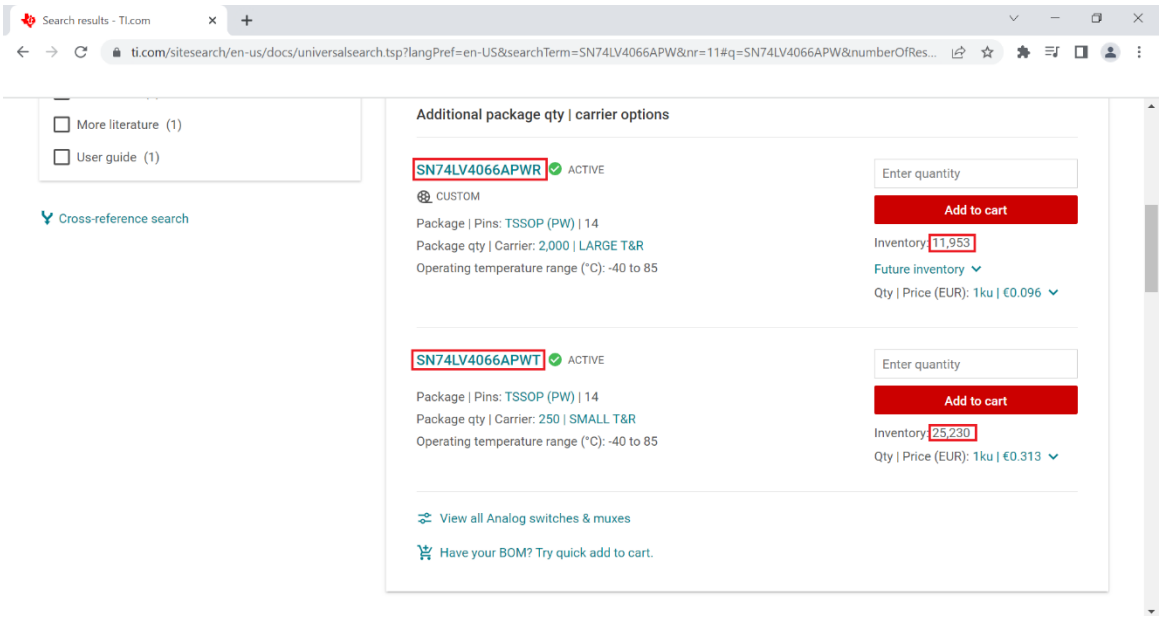
3.Enter Part names in search bar (loop beg).



4.Fetch Main Part name & Inventory.



5. Fetch Secondary Part name & Inventory.



6. Add Extracted data to a Data row(loop end).

7. Save Extracted data to Excel.

	A	B	C
1	**Part Name**	**Part Name (Additional package)**	**Inventory**
2	SN74LV4066APW	SN74LV4066APW	20,520
3	SN74LV4066APW	SN74LV4066APWR	NA
4	SN74LV4066APW	SN74LV4066APWT	25,230
5	TLV2451CDBVR	TLV2451CDBVR	NA
6	TLV2451CDBVR	TLV2451CDBVT	NA
7	OPA4170AIPWR	OPA4170AIPWR	NA
8	OPA4170AIPWR	OPA4170AIPW	NA
9	SN65HVD251DR	SN65HVD251DR	NA
10	SN65HVD251DR	SN65HVD251D	NA
11	LMV331QDBVRQ1	LMV331QDBVRQ1	NA
12	TPS22954DSQR	TPS22954DSQR	NA

8.Close Browser.

12 Issues and Risks

Below are the issues and risks identified during development and testing

Issues:

1.Webpage may not load complitly due to issues in website**, Retry later** in such scenarios.

Risks:

1.Web Automations are based on UI Elements, any changes in the website will result in the failure of execution.