

Outlines of UiPath program lists for the GeBIZ automation:

Credential Login.xaml:

- Sub sequence to auto credential login to GeBIZ and navigate to Opportunities page when newly start or re-login is needed.
- User need to setup Window Credential in his machine.

Extraction for TodayOpenOverview.xaml:

- Sub sequence for user to extract Today's Open Opportunities Overview to a spreadsheet for further sorting.
- The output file: Extraction_for_KeywordOpenOverview.xlsx

Extraction for KeywordOpenOverview.xaml:

- Sub sequence to extract Opened Opportunities Overview to spreadsheet from keyword that could generate multiple pages of results.
- The output file: Extraction_for_KeywordOpenOverview.xlsx

Extraction for KeywordCloseOverview.xaml:

- Sub sequence to extract Closed projects Overview from a keyword of interest to glance their Closed Date, Awarded Date/Agency and the Value done.
- The output file: Extraction_for_KeywordCloseOverview.xlsx

MainV4.xaml:

- The main program – see below:
- The Input file: setup.xlsx
- The output files: ProjectDetail.xlsx and ItemsToRespond.xlsx

Programming Outlines for UiPath MainV4.xaml:

- Main sequence to scrape/extract the project details from an Overview searched by a keyword.
- User can enter a keyword or keywords list onto the KeyWords column in a setup file named setup.xlsx for program to fetch and run each keyword one at a time or leave the keyword blanked in the setup file to run the current Overview setup.
- User also can opt to either run all the searched project results found from an Overview in sequence by entering "0" (the default) in the UserIndex column or selectively run any found projects by entering its index number or numbers list. E.g. in the example below, the program will run keyword "maintenance" then followed by "Lift" in top-down sequence. For maintenance, only the 3rd and 11th result will be run. For Lift, all the search results starting from 1st result will be run.

KeyWords	UserIndexs	UserDefaultDownloadPath	skipMsgbox	printOneVersionOnly	VersionCountLimit
maintenance	3	C:\Users\lee_m\Downloads\Firefox	FALSE	TRUE	5
	11				
Lift	0				

- Other user options also available"

UserDefaultDownloadPath: - For user to set according to his PC's config.

skipMsgbox – Option to bypass the status info MessageBox pop-out during the 1st run.

printOneVersionOnly – Option to download all attached corrigendum documents from all corrigendum versions(limited by VersionCountLimit) or download one from the latest version only.

VersionCountLimit – As corrigendum versions could be >20. User can limit the maximum versions to extract from the latest version. (Allowable Max is 10)

- The program will apply dynamic selector method to navigate to the targeted project index which could be located in the first or other page of an Overview.

- All the data scraping and table extraction will utilize the modern activities.

- Apply dual ForEach loops – one for Keyword list and one for project indexes list – to loop run each keyword and the projects associated in one keyword.

- The program will try to scrape all data based on pre-define headers (kept in the setup file) which contains all the available labels (> 60) found in GeBIZ despite not all labels are used in one project.

- Those unused labels will not appear in the project's detail page but program will still need to detect their existence with the time out limit optimized to 1 sec.

- Target with Anchor searching method is used to scan for the available labels (see below) in black (always exist) and red(not always exist). Those in green will be scanned only if the existence of their

main label is detected. Some labels need to apply 2 anchors to dual with similar target pattern.

Labels added by program:

Key-Word	OpenProjIndex	SearchDate	DL_FolderName
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Labels found in Project's details page:

Project	TenderQuoNo	RefNo	Agency	PublishedDate	ClosingDate	Remark	PCMType	PCMMethod	PCMCategory	Contact1	email1	Tel1	Fax1	Address1
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ClosingUpdated	OfferValidityDuration	TwoEnvBidding	TenderQuoType	WTO-GPA-FTA	PCMNature	PeriodContractStartDate
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PeriodContractEndDate	ReqtForProposal	ReqtForInforReqtCri	SubmissionDetails	PaymentTerms	TenderQuoBoxNo	GRASupplyWorkHead
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TwoContact_exist	Contact2	email2	Tel2	Fax2	Address2
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AWARD_AGY_exist	AWARDING_AGENCY	AContact	AEmail	ATel	AFax	AAddress
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SITE_BRIEFING_exist	Attendance	BDate	BTime	BVenue	BRemark	BContact	BEmail	BTel	BFax	BAddress
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MNL_COLLECT	DocFee	PaymentMode	CollectionDetails	PaymentRemarks
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Corrigendum_exist	CorrDate1	CorrMsg1	CorrDate2	CorrMsg2	CorrMsg22	CorrDate22
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- Labels for tables found in Item To Respond:

For tables with both Standard and Items:

Key-Word	OpenProjIndex	SearchDate	IconNo	ItemNo	Title	Unit	ReqdQty	Remarks	SN	Location	DeliveryDate	Quantity	DeliveryTerms
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For table with Part Number: below labels are in addition to the above labels.

PartNo	NSN	MinShelfLife	PartSN	MPN	CageCode	CageName	DeliveryInfo
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- Use Table Extraction method to scrap the tabulated data in ItemToRespond. Need to use 2 separated headers and 3 different datatables and then merge 2 datatables to segregate 3 different formats found in various projects. Different combinations of table formats might appear even on the same project index.

- Scraping of corrigendum versions is limited to 10(despite some may have >20 versions) and download only the latest corrigendum documents as it is deemed most relevant. Nevertheless, there is also an option in the program to enable the downloading of all the corrigendum versions, if needed.

- All the downloaded documents from each project will be moved during runtime to an auto created

folder named by the keyword and postfixed by the project index under the default UiPath path.

- To prevent timeout due to large file downloading, program will prompt and wait for user's action to check the download folder status before clicking ok to proceed.
- Use While loop and dynamic selector to handler multiple Corrigendum versions scraping and multiple downloading pages and need to install new package (Scroll Activity) to scroll window down in case the download Icon is invisible.
- Scraped and extracted data will be written to 2 different xlsx files (ProjectDetail.xlsx & ItemToRespond.xlsx) respectively. One keyword will occupy one sheet named by the keyword.
- The first 3 columns will be inserted with info of keyword name, project index number, date/time of scraping respectively by the program.
- These 2 xlsx files will be auto created if not exist. Newly scraped data from the same keyword will be appended but can be identified by the project index column (OpenProjIndex) and the search date column (Search Date).
- It would take about 2mins to complete the data scraping and extraction for one project index + about 0.5 mins for the overheads.