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Final Project - Team 3

**Solution Design   
Document**



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# Purpose



Outlines the major components of the Master Project (the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation) taking into account all the business restrictions (scheduling, peaks, future increases in volume etc.). The focus of the Solution Architect will be on:

* Robustness;
* Scalability;
* Efficiency;
* Replicability;
* Reusability of component

The information herein is targeted primarily at the developers that will initially implement the solution and subsequently at the support developers in case of change requests.

# Document History

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Version | Role | Name | Organization/ Department | Function | Comments |
|  | 1.0 | Author |  |  | Developer | Initial Draft |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# Automated process details

Details filled in need to reflect the actual information for the Master Project released for production. The following table will be populated:

|  |  |
| --- | --- |
| Item | Description |
| Project Name | FinalProjectTeam3 |
| Robot Type | Attended |
| Orchestrator used? | Yes |
| Scalable | No |
| UiPath version used | Studio 2022.10 |

# Runtime guide

## Architectural structure of the Master Project

Display the interaction between components (package / robots, Orchestrator queues, and running order) in a diagram

Graphical user interface

Description automatically generated with medium confidence

## Master Project Runtime Details

Outlines the details of the automated process by filling in the table below.

|  |  |
| --- | --- |
| ITEM NAME | DESCRIPTION  *Fill in each bolded section - empty fields are not allowed. If the section does not apply to your automation then mark as n/a.* |
| Production environment details | Machine Name: “desktop-gunflp4\toha”  Machine Name:” DESKTOP-TEQUDDP\le” |
| Prerequisites to run | Internet connection, Microsoft Edge installed, Installing the UiPath Extension for Microsoft Edge, Microsoft Excel installed, Microsoft Outlook installed and the mail is signed in, and SMSS Installed with a valid server connection, Asset values and queues are preset |
| Input Data | Mails that contains certain value in the subject and in the body |
| Expected output | Database tables for the invoices details for each vendors/ Database table for the Vendors and processing details/ PDF for each invoice for each vendor/ compressed folder for each vendor containing all of its PDF files/ Sent email to the admin with each compressed folder |
| How to start the automated process | Run the Dispatcher Main.xaml file |
| How is Orchestrator used? | Queues to save the data like the vendors list and the invoices list each on separate queues/ Assets to save credentials and to save the contact Mail addresses |
| Password policies (mention any specific compliance requests) | Acme Credentials |
|  |  |
|  |  |
| List of queues names | ACME\_Vendors and ACME\_Invoices |
| Schedule Details | N/A |
| Multiple Resolutions Supported?  (in case of image automation / Citrix and VDI) | NO |
| Recommended Resolution | N/A |
| Scalable | ***Yes*** |
| Environment used for development  (name, location, configuration details etc) | N/A |
| Environment prerequisites  (OS details, libraries, required apps) | Windows 10, SQL Server Management Studio, Microsoft Excel, Microsoft outlook, edge, necessary add ins for uipath in edge installed |
| Repository for project  (where is the developed project stored) | Locally |
| Configuration method  (assets, excel file, Json file) | Excel file |
| List of reused components | Acme\_Login Workflow |
|

## Project(s) workflows

For the workflow files defined below please specify the input and output parameters.

|  |  |  |
| --- | --- | --- |
| Workflow file | Arguments | Description |
| Performer | | |
| Main | in\_OrchestratorQueueName  in\_OrchestratorQueueFolder |  |
| ACME\_ScrapInvoices | In\_TaxID  Out\_Invoices  in\_config  In\_Sender |  |
| AddToDatabase | in\_config  In\_vendor  in\_DT\_Invoices |  |
| UploadQueueItems | in\_config  in\_DT\_Invoices |  |
| GetTransactionItems(INVOICES) | in\_VendorsTransactionItem  in\_config  in\_VendorName  in\_TaxID  in\_Address  in\_City  in\_Country |  |
| ACME\_Close | in\_config |  |
| ACME\_Login | in\_config |  |
| CloseAllApplications | in\_config |  |
| Count Items | in\_Config |  |
| DatabaseUpdate | In\_vendor  In\_Status  In\_StartTime |  |
| GetTransactionData | in\_TransactionNumber  in\_Config  out\_TransactionItem  out\_TransactionField1  out\_TransactionField2  out\_TransactionID  io\_dt\_TransactionData  out\_VendorName  out\_TaxID  out\_Address  out\_City  out\_Country |  |
| InitAllApplications | in\_Config |  |
| InitAllSettings | in\_ConfigFile  in\_ConfigSheets  out\_Config |  |
| KillAllProcesses | in\_config |  |
| Process | in\_TransactionItem  in\_Config  In\_MailMsgs  in\_VendorName  in\_TaxID  in\_Address  in\_City  in\_Country |  |
| RetryCurrentTransaction | in\_Config  io\_RetryNumber  io\_TransactionNumber  in\_SystemException  in\_QueueRetry |  |
| SetTransactionStatus | in\_BusinessException  in\_TransactionField1  in\_TransactionField2  in\_TransactionID  in\_SystemException  in\_Config  in\_TransactionItem  io\_RetryNumber  io\_TransactionNumber  io\_ConsecutiveSystemExceptions |  |
| TakeScreenshot | in\_Folder  io\_FilePath |  |
| Update with exception | In\_Vendor  In\_Msg  In\_EndTime |  |
| Outlook\_GetMailMessages | in\_subject  Out\_MailMsgs  in\_config |  |
| Outlook\_Response | In\_config  Out\_Reply  In\_MailMsgs  in\_sender  in\_TransactionItem  In\_Vendor |  |
| GetTransactionDataTestCase |  |  |
| InitAllApplicationsTestCase |  |  |
| InitAllSettingsTestCase |  |  |
| MainTestCase |  |  |
| ProcessTestCase |  |  |
| WorkflowTestCaseTemplate |  |  |
| Dispatcher | | |
| Main | in\_OrchestratorQueueName  in\_OrchestratorQueueFolder |  |
| ACME\_ClickResetData | in\_config |  |
| ACME\_Close | in\_config |  |
| ACME\_Login | in\_config |  |
| ACME\_ResetData | in\_config |  |
| ACME\_Vendors | in\_config  Out\_DT\_Vendors |  |
| AddToDatabase | in\_config  in\_DT\_Vendors |  |
| CloseAllApplications | in\_config |  |
| GetTransactionData | in\_TransactionNumber  in\_Config  out\_TransactionItem  out\_TransactionField1  out\_TransactionField2  out\_TransactionID  io\_dt\_TransactionData |  |
| InitAllApplications | in\_Config |  |
| InitAllSettings | in\_ConfigFile  in\_ConfigSheets  out\_Config |  |
| KillAllProcesses | in\_config |  |
| Process | in\_TransactionItem  in\_Config |  |
| RetryCurrentTransaction | in\_Config  io\_RetryNumber  io\_TransactionNumber  in\_SystemException  in\_QueueRetry |  |
| SetTransactionStatus | in\_BusinessException  in\_TransactionField1  in\_TransactionField2  in\_TransactionID  in\_SystemException  in\_Config  in\_TransactionItem  io\_RetryNumber  io\_TransactionNumber  io\_ConsecutiveSystemExceptions |  |
| TakeScreenshot | in\_Folder  io\_FilePath |  |
| UploadQueueItems | in\_config  in\_DT\_Vendors |  |
| GetTransactionDataTestCase |  |  |
| InitAllApplicationsTestCase |  |  |
| InitAllSettingsTestCase |  |  |
| MainTestCase |  |  |
| ProcessTestCase |  |  |
| WorkflowTestCaseTemplate |  |  |

# Other Details

### Future Improvements

Fill in any improvements that need to be considered for the future:

*• Optimize the processing algorithm*

*• Enhance the execution time*

# Glossary

The main terms used in the Solution Architecture Document are defined below:

**Master project** - the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation. There is a 1 to 1 connection between the Master Project and the Process to be automated (As presented in the PDD).

**Project** - an UiPath Studio project containing one or multiple workflow files. A project can be converted to a package and run independently, covering a particular scope within the master project. Or multiple projects can be converted into one package depending on the aims and restrictions of the automation. The project is used when defining the development and support phase of the automation.

**Package** - the output of compiling one or multiple projects. A package can be deployed on the robot machine and be executed by the robot service. Only one package can be executed at a given time by a robot. The package is used when defining the running phase of the automation.

Workflow - a component of the package, the workflow encapsulates a part of the project logic. The workflow can be of type: sequence, flowchart or state machine. A workflow is saved as an .xaml file inside the project folder. A workflow file can be invoked from another workflow and by default there is an initial workflow file that will run when executing the package.

**Activity** - an action that the robot executes.

**Sequence** - a workflow where activities are executed one after another, in a sequential order

**Flowchart** - a workflow where activities are connected by arrows and the logic of the workflow can be easily followed in a visual manner. The flowchart can also be exported as an image from UiPath studio.

**State machine** - a more advanced way of organizing a workflow, similar to a flowchart.

**BOR** - Back office robot

**FOR** – Front office robot

**Orchestrator** – Enterprise architecture server platform supporting: release management, centralized logging, reporting, auditing and monitoring tools, remote control, centralized scheduling, queue/robot workload management, assets management.