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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.

# 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 |
| Master Project Name | Social Media Manager |
| Robot Type | FOR |
| Orchestrator used? | No |
| Scalable | Yes |
| UiPath version used | 2025.0.157 |

# Runtime guide

## Architectural structure of the Master Project

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

## 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 | ***n/a*** |
| Prerequisites to run | ***UiPath Studio/Robot installed, valid Instagram credentials, Excel application installed, stable internet connection, and an excel with stored credentials.*** |
| Input Data | ***Instagram login credentials (username and password), automation process does not require additional data files.*** |
| Expected output | ***Excel file containing all Instagram posts with columns for Post Link and Number of Likes.*** |
| How to start the automated process | ***The process can be started manually in UIPath Studio*** |
| Reporting  (queues reporting, Kibana or another platform) | ***n/a*** |
| How is Orchestrator used? | ***n/a*** |
| Password policies  (mention any specific compliance requests) | ***n/a*** |
| Stored credentials  (Never use hardcoded credentials in the workflow!) | ***n/a*** |
| List of queues names  (Naming convention: ProcessName\_QueueName) | *n/a* |
| Schedule Details | ***n/a*** |
| Multiple Resolutions Supported?  (in case of image automation / Citrix and VDI) | ***No (the automation is designed for desktop resolution).*** |
| Recommended Resolution | ***n/a*** |

## Project name

|  |  |
| --- | --- |
| ITEM NAME | DESCRIPTION  *Fill in each section - empty fields are not allowed. If the section does not apply to your automation then mark as n/a.* |
| Environment used for development  (name, location, configuration details etc) | ***Laptop with UIPath Studio installed*** |
| Environment prerequisites  (OS details, libraries, required apps) | ***Windows 11, Excel, Chrome*** |
| Repository for project  (where is the developed project stored) | ***ZIP*** |
| Configuration method  (assets, excel file, Json file) | ***n/a*** |
| List of reused components | ***n/a*** |
|
| List of new reusable components | ***n/a*** |

Add tables for as many projects as you need and fill them in.

## Project(s) workflows

Workflows specific to: Specify Project Name from section above

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

|  |  |  |
| --- | --- | --- |
| Workflow Name |  | Description |
| MAIN\_WORKFLOW |  | *invokes all the other workflows* |
| LOGIN\_WORKFLOW |  | *Handles the login to Instagram using credentials* |
| POST\_WORKFLOW |  | *Makes a post on the account* |
| EXPORT\_POSTS\_WORKFLOW |  | *Extracts all Instagram posts, gathers post links and like counts, exports to Excel.* |
| LOGOUT\_WORKFLOW |  | *Safely logs out from Instagram.* |

## Packages

Include the list of packages and high-level description for each of them, to explain their purpose

|  |  |
| --- | --- |
| Package Name | Description |
| *Main\_Package* | ***Contains all UI Testing*** |

## Architectural structure of the Master Project

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

# Other Details

### Future Improvements

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

***Example:***

*• Enhance data export: Add support for exporting more detailed metrics like comments, shares, and hashtags used in posts.*

*• Support for multiple accounts: Allow the automation to manage multiple Instagram accounts in one run.*

### Other Remarks

Please mention here any other points that you consider relevant for the automation process.

***Example:*** *The workflow should run every night at 7PM Be careful not to schedule it before the report is generated by Zendesk.*

The Zendesk generated data is always 1 day old.

# 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.