Robotic Process Automation(RPA)

Has 3 components:

UiPath Studio - For development/Workflow designer

Orchestrator - Environment to deploy/Robot management platform

Robot - Agent which execute instructions

1. UiPath Connect - environment where our individual users and partners (business, technology and community) can showcase their RPA achievements earned in the UiPath Ecosystem.
2. UiPath Marketplace - collaborative platform for companies and individuals to innovate, contribute and discover a full suite of reusable automation components, APIs and services that accelerate the Automation First movement.
3. UiPath Community Forum
4. UiPath Academy

RPA robots are able to capture data, run applications, trigger responses, take decisions based on predefined rules and communicate with other systems. RPA primarily targets processes which are highly manual, repetitive, rule-based, with low exceptions rate and standard electronic readable input.

RPA can/is

1. Mimics human actions
2. Quick to implement and powerful to scale
3. Without making mistake and taking rest
4. Operates any application
5. Reads and processes data in structured form

UiPath Studio: Helps in designing automation workflow quickly and visually with built in recorder and drag-drop activities and best practice templates. Need basic programming knowledge.

UiPath Orchestrator: Lets you control, manage and monitor the robots. It is also the place where libraries, reusable components, assets and processes used by the robots are stored. Orchestrator is a server application accessed via browser, through which the robotic workforce is controlled, managed and monitored

Robot - Executes the workflows and instructions sent locally or via Orchestrator. There are two types of robots:

• Attended – is triggered by user events, and operates alongside a human, on the same workstation

• Unattended - run unattended in virtual environments and can automate any number of processes

UiPath look for ‘project.json’ file while opening a local project.

Business Process - It is set of interrelated or interacting activities transform inputs into outputs.

Components of Process :-

Inputs - Data consumed by proces.

Business Flow - Sequence of subprocesses or activities undertaken in the process

Source application - application or system used to perform the subprocess or activities of the process

Outputs - result generated by process

Procedure compliments a process and describe the way it is carried out. Procedure :

- Who is responsible to for each part of the process

- When each part of the process need to be carried out

- how to handle exceptions

- specifications applicable for each part of process

Criterian to determine automation potential:

1. Process fitness
2. Rule Based - Decision can be made on business logic with low exception rate or exception as well can be included as part of business logic.
3. Automatable/Repetitive Process - Process that need to stay manual or non-repetitive due to high rate of exception or factors that can not be integared as part of business logic are not a good automation candidate.
4. Standard Input - Input in process should be either electronic or readable using a technology which can be associated with RPA like OCR(Optical Character Recognition).
5. Stable - Process should be same for a certain period of time and no change are expected.
6. Automation complexity
7. Number of screens
8. Types of applications
9. Business logic scenarios
10. Types and number of inputs

Stages in RPA implementation

1. Prepare RPA - Process defined, prioritized and implementation is planned.
2. Solution Design - Each process to be automated is documented “as is” and “to be”.
3. Build RPA - Process automated, workflow tested and UAT prepared.
4. Test RPA - UAT performed.
5. Stabilize RPA - Go-live is prepared and process is moved to production.
6. Constant improvement - Process automation performance is assessed.

Roles in RPA implementation:

Solution architect

Business analyst

Implementation/Project manager

RPA developers

Infrastructure & Security Admin

Process owner

RPA support

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Automation First : **A Robot for Every Person**, **Open and Free Collaboration and Robots Learn Skills**

**Variables** - are containers which can hold multiple data entries of same data type. Variables are configured through their properties.

Main properties are:

1. Name - is its unique ID
2. Type - Defines what kind of data can be stored in the variable. Type is declared while creating variable. Ex: generic value, text, number, data table, time and date etc.
3. Default value
4. Scope

**Creating Variables** - from variable panel, from designer panel, from properties panel

**Arguments** - Arguments are very similar to variables – they store data dynamically, they have the same data types and they support the same methods. The difference is that they **pass data between workflows**, and they have an additional property for this – the direction from/to which the data is passed. The direction can be In, Out and In/Out.

Arguments are used to pass data from a project to another.  Variables pass data between activities, while arguments pass data between automations. As a result, they enable you to reuse certain projects time and again.