PORTFOLIO

ROBOTIC PROCESS AUTOMATION

PARTH DAVE

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1. Blue prims project on creating Multiple facebook account (PDD)

2 Ui Path : Project on creating chat bot for UHN to minimize the contact betw9een patient and nurses in covid time (automation for good)

3 Ui path : SAP work order automation (semi attended bot) -PCC

RPA TOOLS

Signavio for BPMN

Celonis for BPMN

Disco for Process Mining

MS VISO FOR VSM / GAP ANALYSIS

UI Path for Quick automation

Blue PRISM

THE PROCESS DESIGN OF RPA BOT TO AUTOMATE FACEBOOK LOGIN OPERATION

By, PARTH DAVE

PROCESS DESIGN DOCUMENT

Table of content

Author :Parth Dave

1.0 Introduction

The process design document describes the business process choose for automating using Blue prism (RPA) technology

The document describes the sequence of steps performed as part of the process, the conditions and rules of the process prior to automation. This design document serves as a base documentation for developers to collect details required for robotic automation for the same business process.

2.0 Objective

The process has been designed for RPA capability demonstration conducted for self-education purpose only.

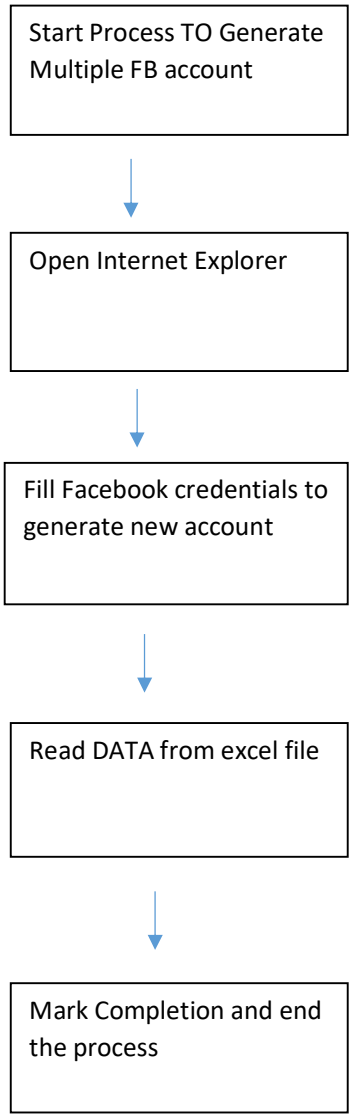
The major objective of this process automation is linked to the project case (attached in annexure) and it is mainly intended to demonstrate

- Work Queue in Blue Prism
- Exception Handling scenario
- Loop concept
- Wait stages and decision Gates

3.0 Process Overview

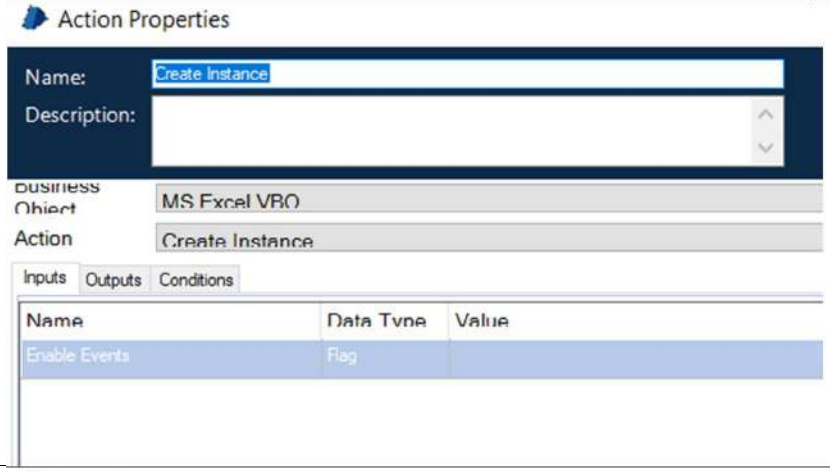
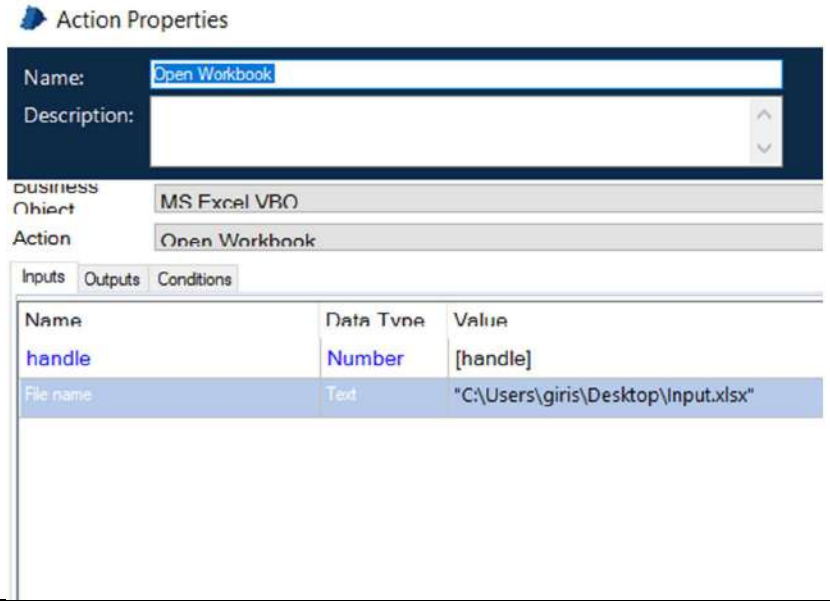
AS IS PROCESS DETAILS	
Process	Blue PRISM bot to create Multiple FACEBOOK account
Function	Demonstrate the capability of doing mundane task with bot
Software	Blue Prism 6.2
Server connected	MY SQL 2014
Process schedule	N.A
Average Handling time /case	15 seconds
#Fte support required	1
Input data	Input.XLSX
Output data	Screenshot*

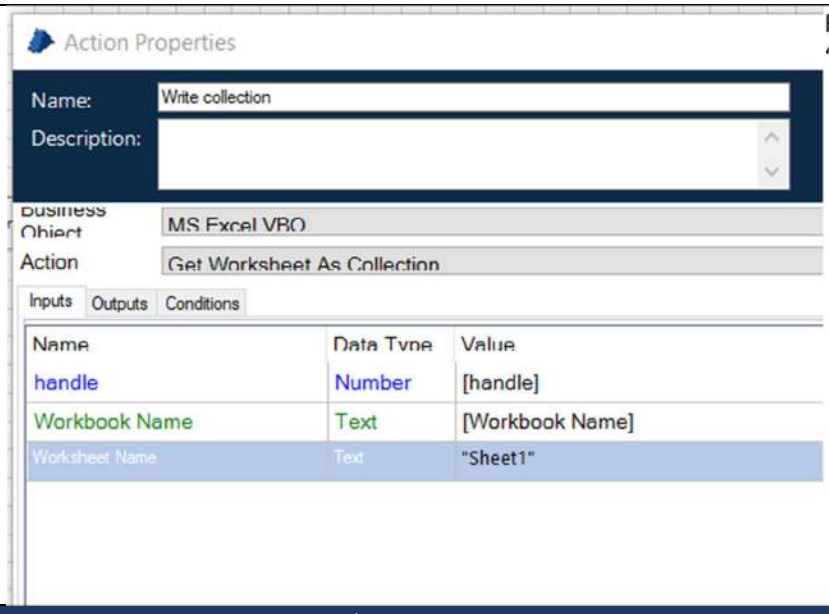
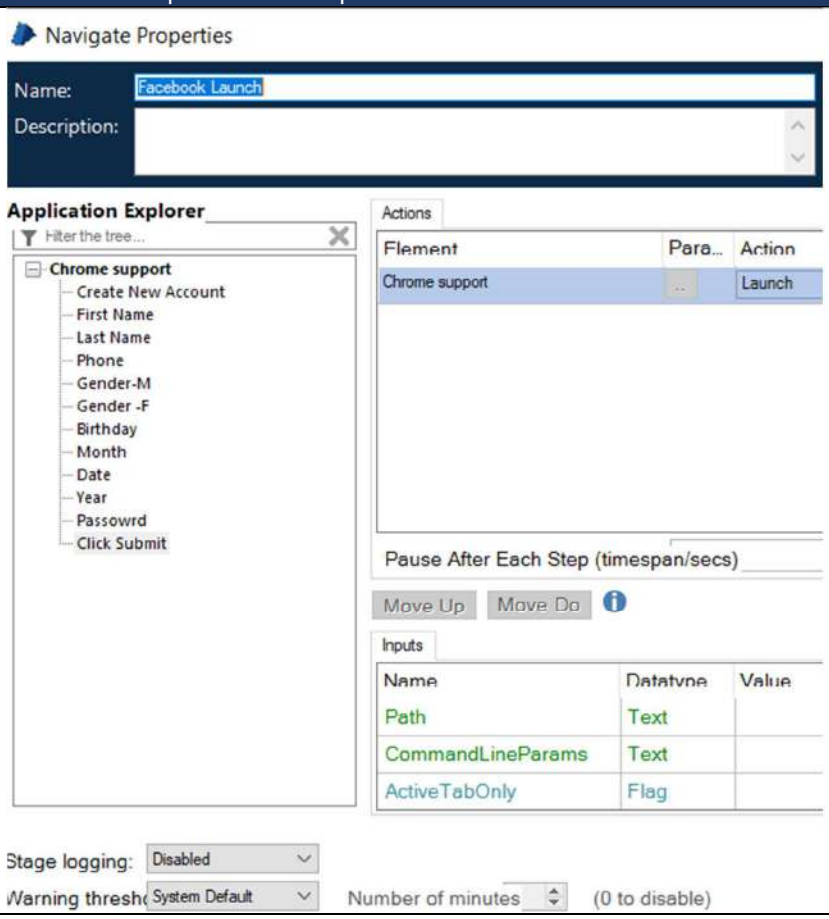
High Level Process Diagram

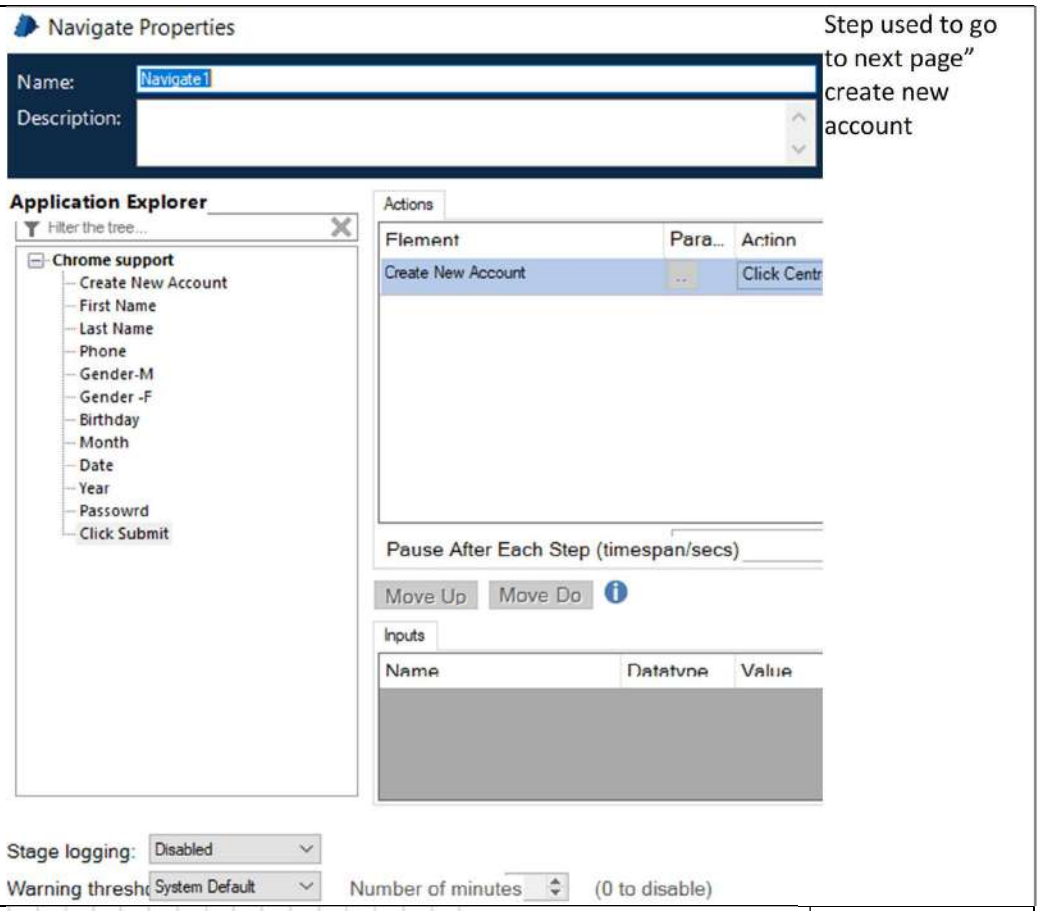
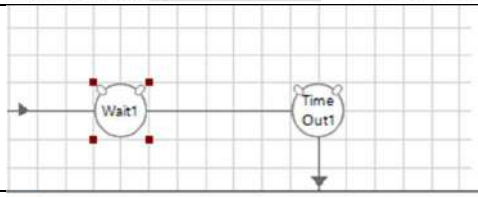
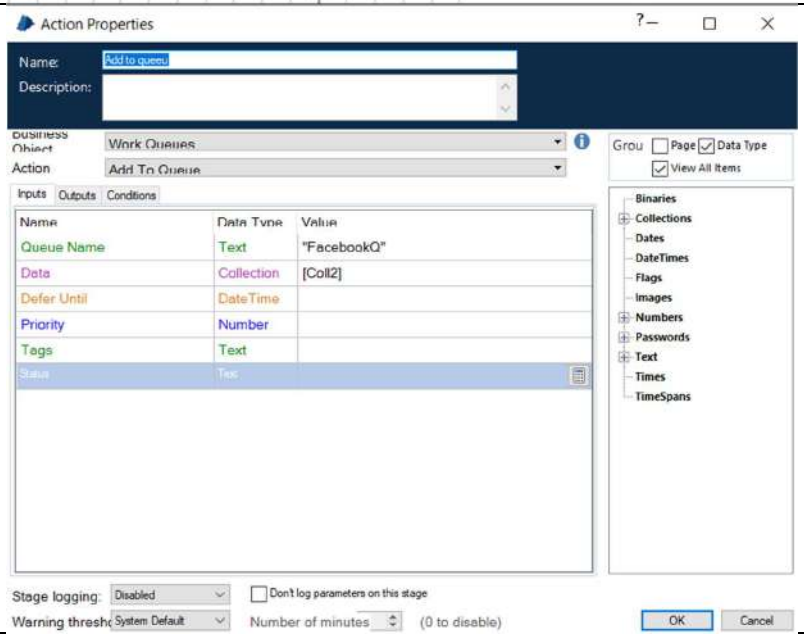


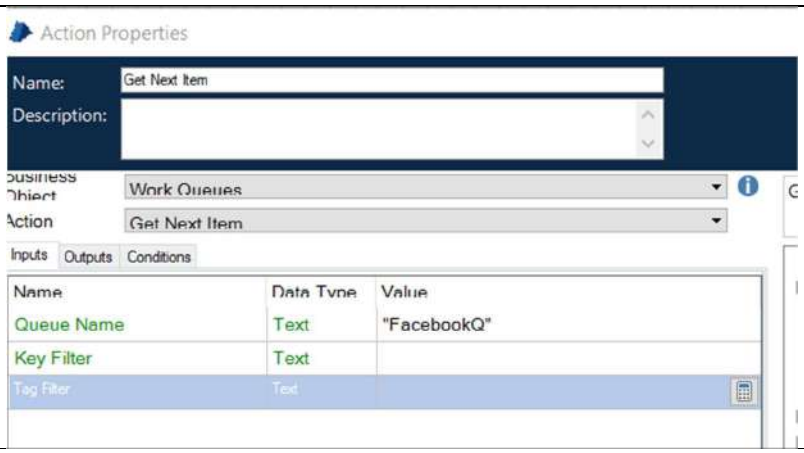
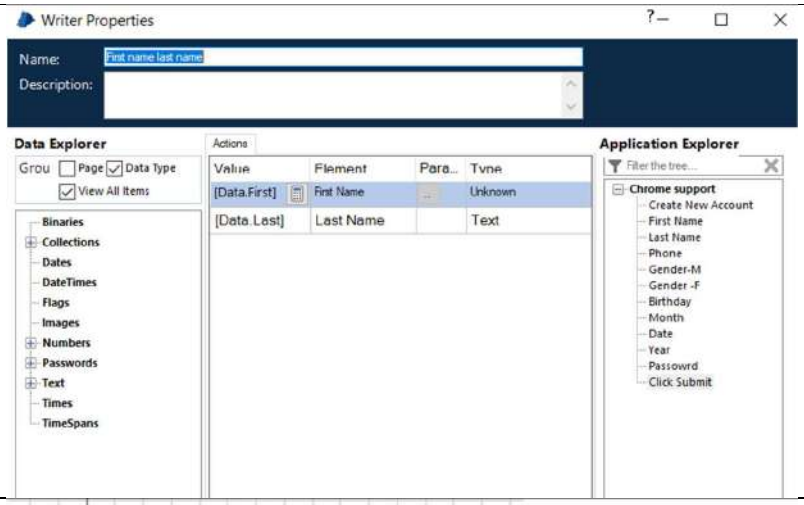
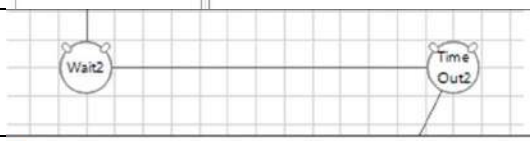
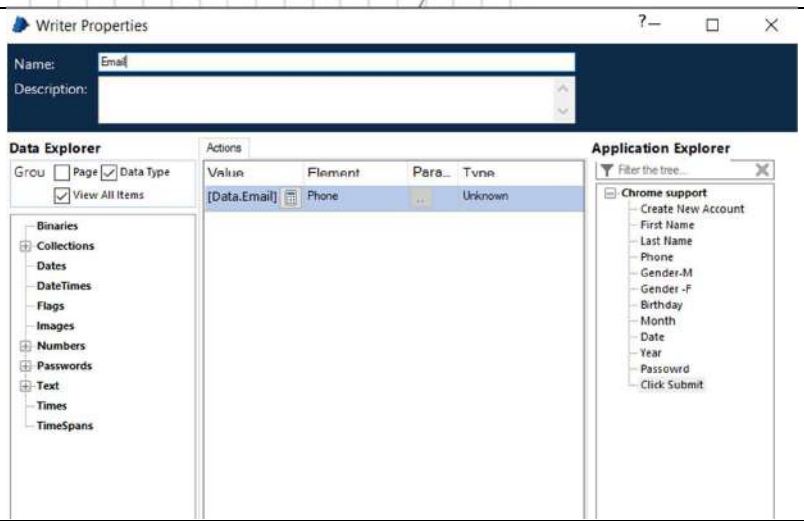
Author :Parth Dave

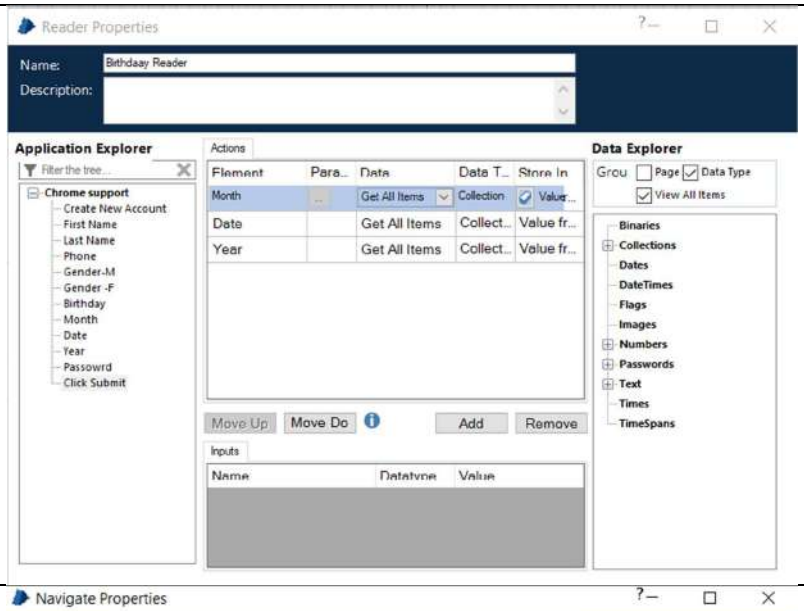
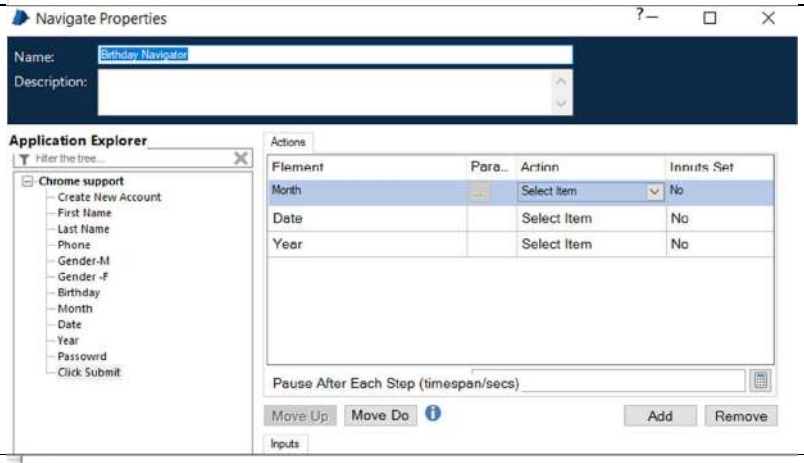
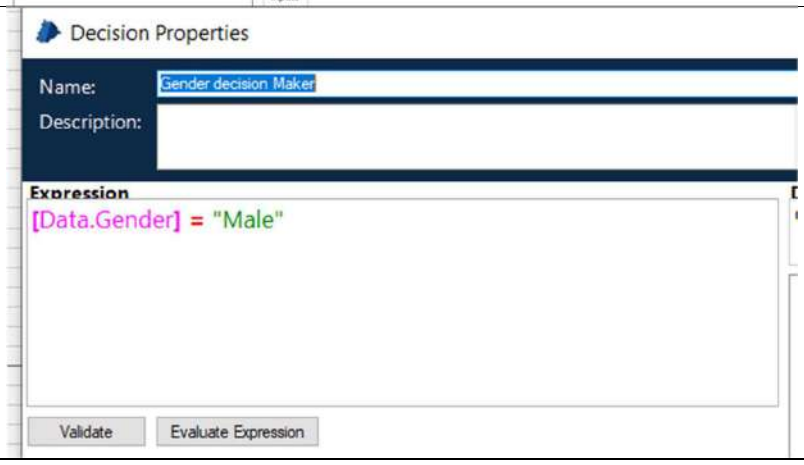
5.0 Detailed Process Step and configuration

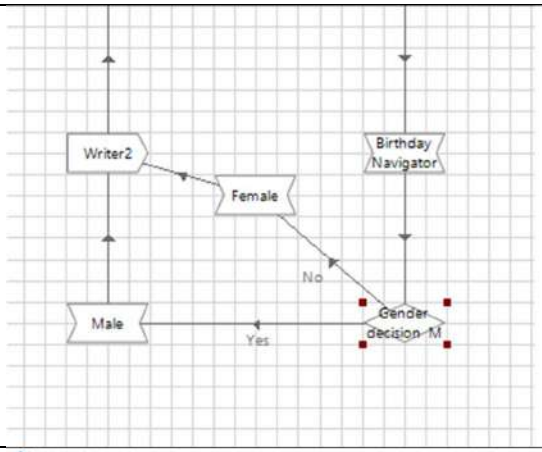
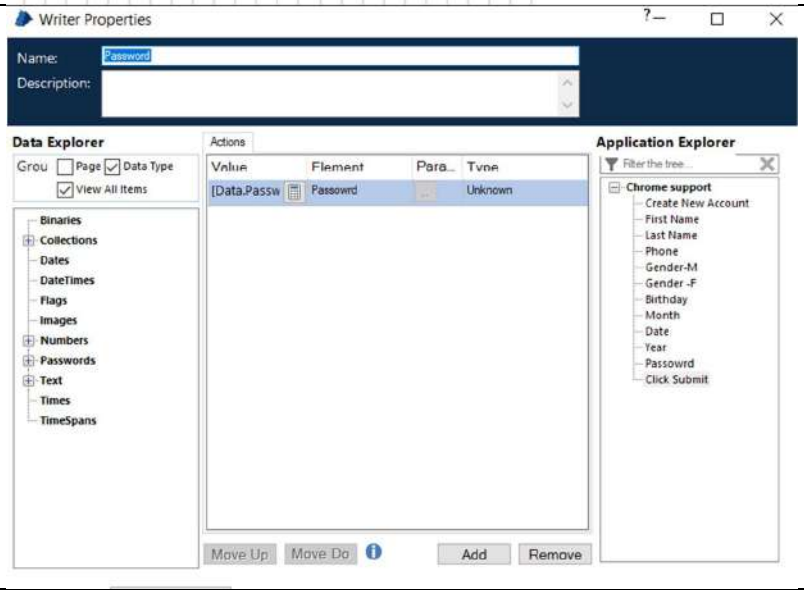
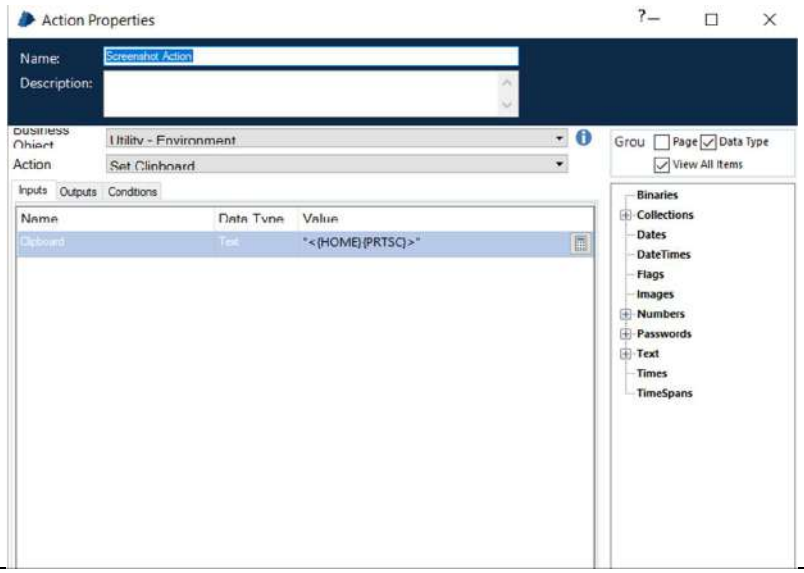
Step	Step action and description	Screenshot	Remark
1.1	Create Instance for excel work book		
1.2	Open Work book		

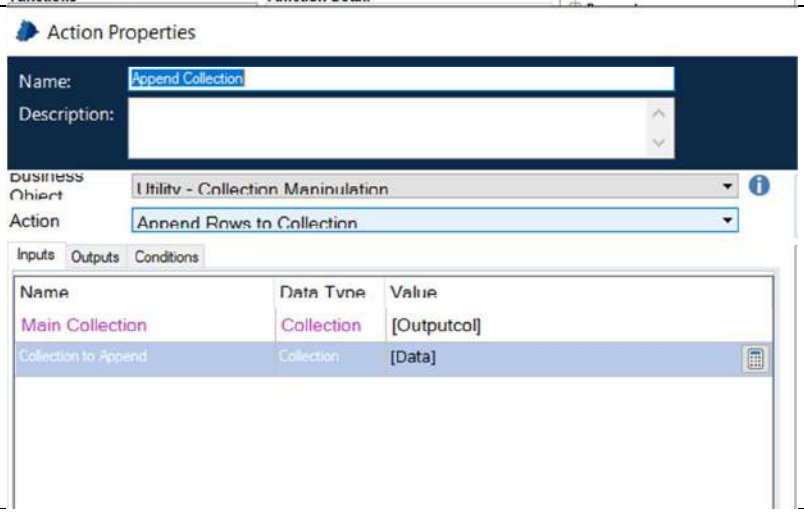
1.3	Write Collection		Result stored in "Coll2"
		Open Internet Explorer	
2.1	Facebook Launch		

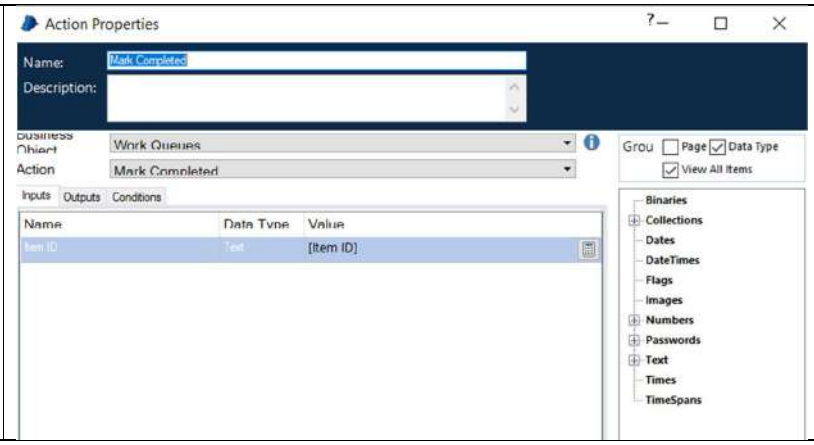
2.2	Navigate to next page		Step used to go to next page" create new account
2.3	Wait and time out		To pause the process
2.4	Add to queue		FacebookQ is generated via control

2.5	Get Next Item		All data will be stored in collection called "Data"
Automation of Data from Excel to Web browser			
3.1	First name and last name		
3.2	Wait stage		Wait stage is verify right data is used
3.3	Email		

3.4	Birthday Reader		Birthday reader step will extract all the data from FB birthday buttons
3.5	Birthday Navigator		
3.6 .1	Gender step		Decision step to select male / female. If the input data is male it follow yes step , if input data is female it follows “No” logic

3.6.2	Male / Female decision Maker		
3.7	Password		
3.8	Screenshot step		This step is not working as VBO for screenshot is missing. Tried to demonstrate use of Hotkey to take screenshot

3.9	ITEM ID EXSIT		If item exist it will proceed to next step else it will end the program
3.10	Null decision Breaker		If the data item captured is Null , it will end the program
3.11	Append Collection		To activate this , get VBO – Collection Manipulation and select action Append rows to collection

3.12	Mark Completion		As screenshot step is not working , an ancillary steps is added to trigger next data item

6.0 Exception Handling

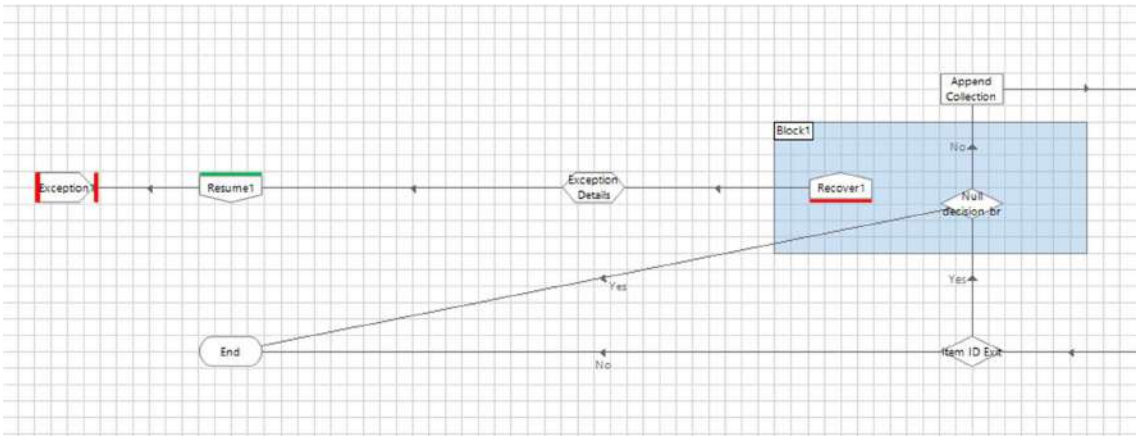


Fig : Exception handling used to catch unhandled exception

Area	Known	Unknown
Function /Utility	Previosuly encountered. A scenario is defined with cear action and work around for each case	New situation never encountered before – it should not really happen. It can be caused by external factors

Based on above criteria the table below should reflect all exception identifiable in the process and map the expected action, the bot needs to take for each exception.

EX	Exception Name	Step	Action Taken
1	Null data not captured	3.10	Block is created to recover sand store data in calc function. The program will keep on resume and end after exception

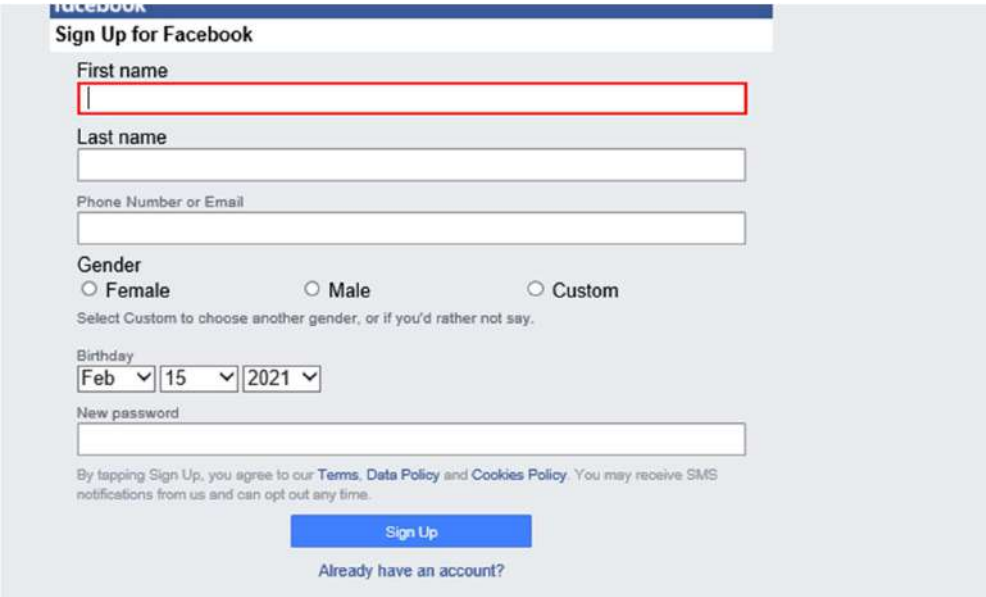
7.0 Application Modeller, Work Queue and testing screenshot

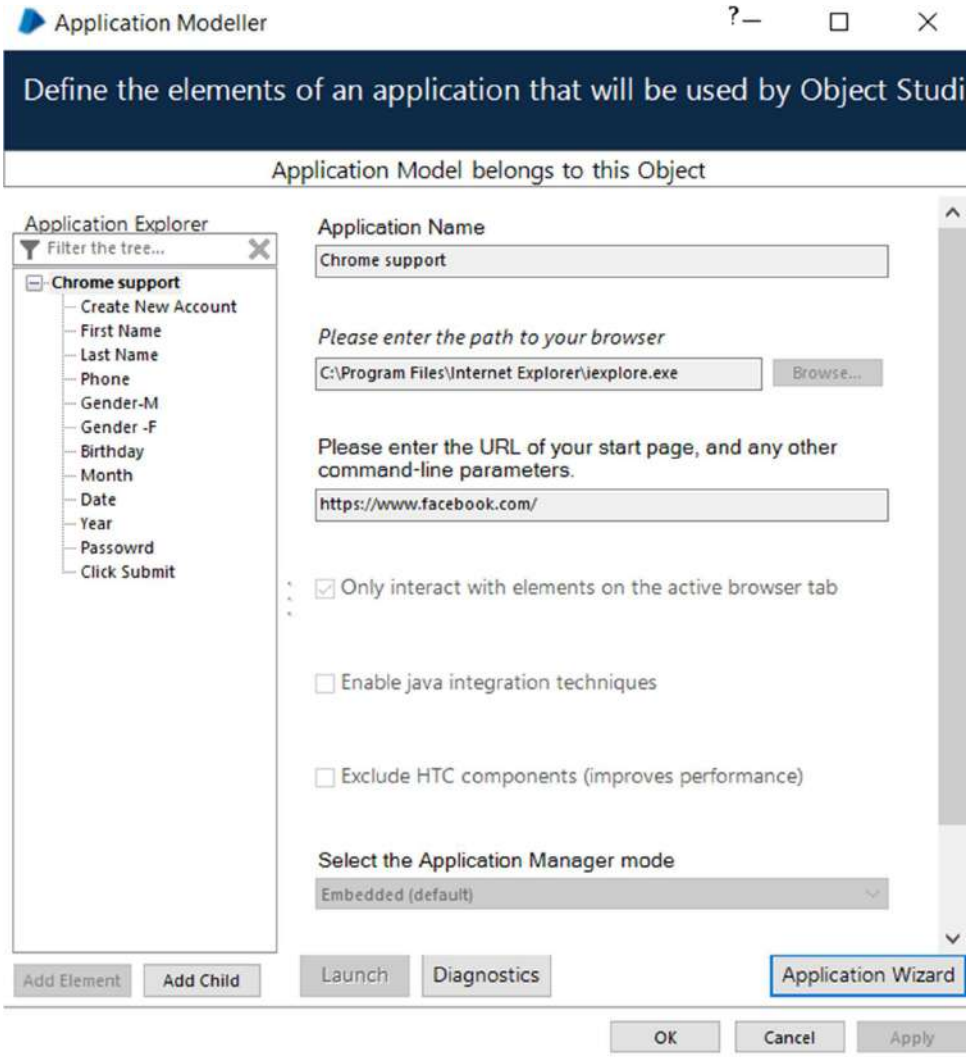
7.1 Application Modeller

First and foremost step taken to create the bot was to create a robust application modeller. Application modeller was created in Object studio of Blue prism.

Application modeller name “Chrome Support” was created and each of the element were spied and captured

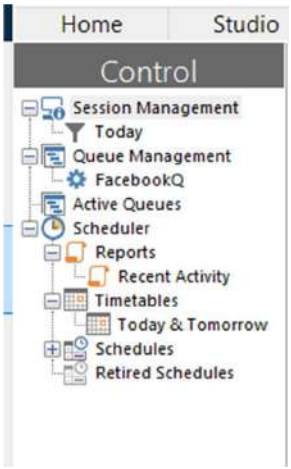
Capturing and highlighting the First Name



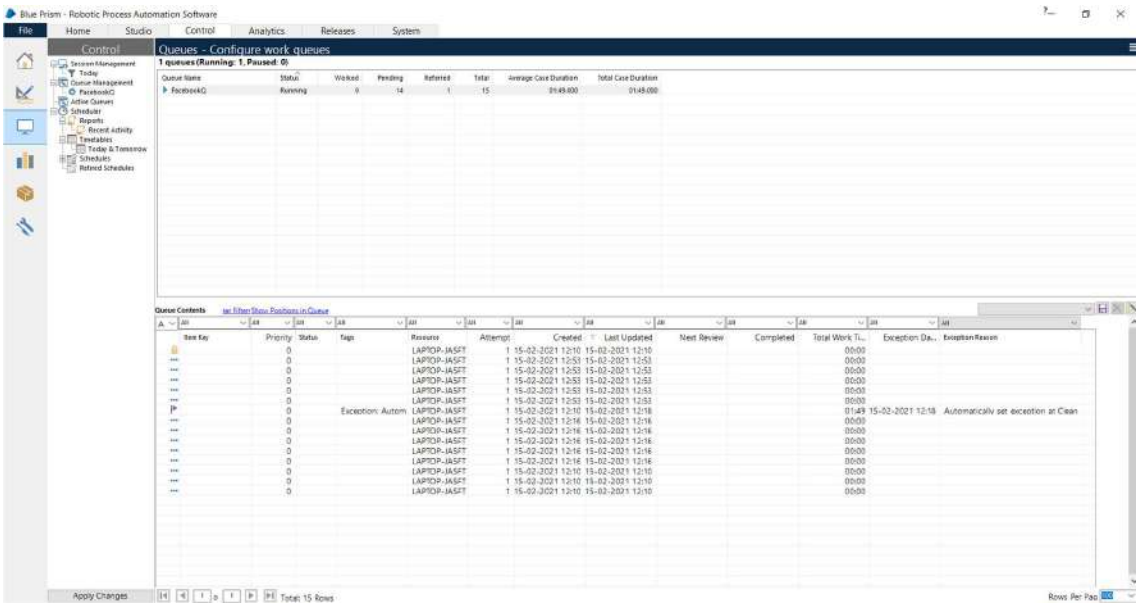


7.2 Work Queue

Work queue function was use to process RPA bots.



Work queue named “FacebookQ” was created



Screenshot taken to capture locked item so multiple bots operation can be avoided.

8.0 Project Life cycle

RPA life cycle revolves around 5 stages

1. Discovery phase
2. Solution design phase
3. Development phase
4. UAT
5. Deployment phase
6. Execute bots

As this procject was strictly for personal and educational purpose, RPA life cycle stages were not taken into consideration. Although final design of bot came after many stages of development and Trial and error.

Trial #1 Navigate function check

First trial was done to see if Navigate function is enough to create bot along with Application Modeller. For initial phase only First Name and Last name were spied and executed.

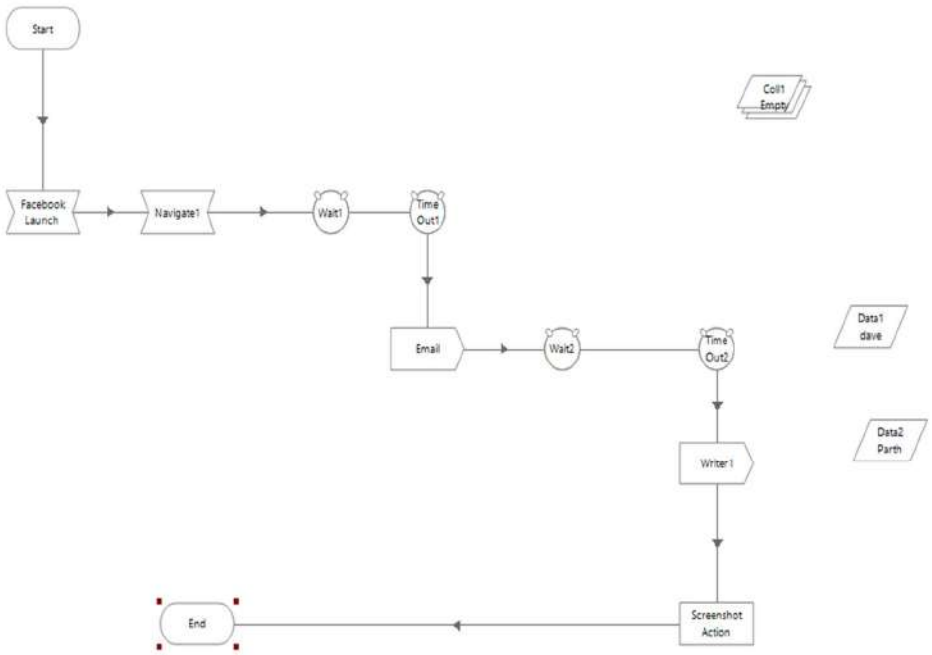
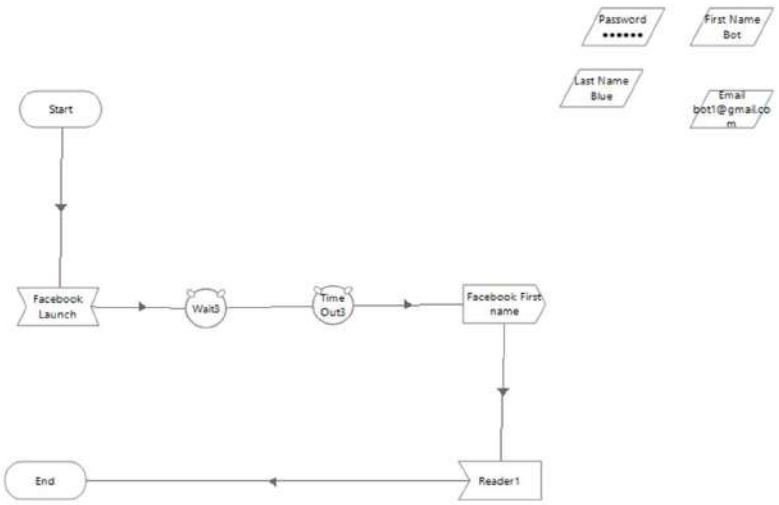


Fig : Trial 1 design

Trial #2 Password check

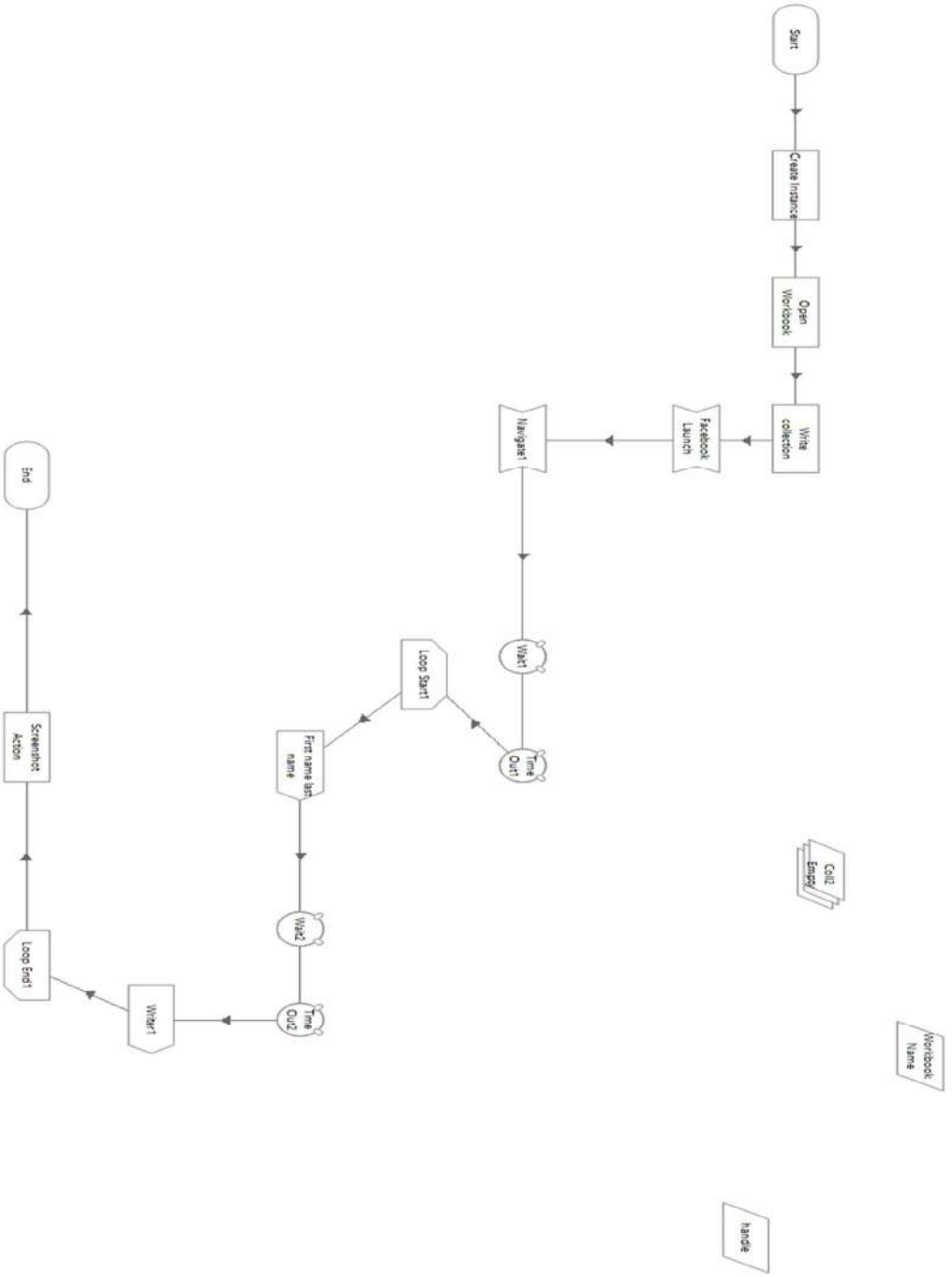
Second trial was done to check compatibility of data item like password in the process design. As it was later found that initial step of Facebook login does not hide password so this phase was ignored. Here only data items were used and they were supposed to get replaced by collection in later phase



Author :Parth Dave

Trial 3 Logic check using loop

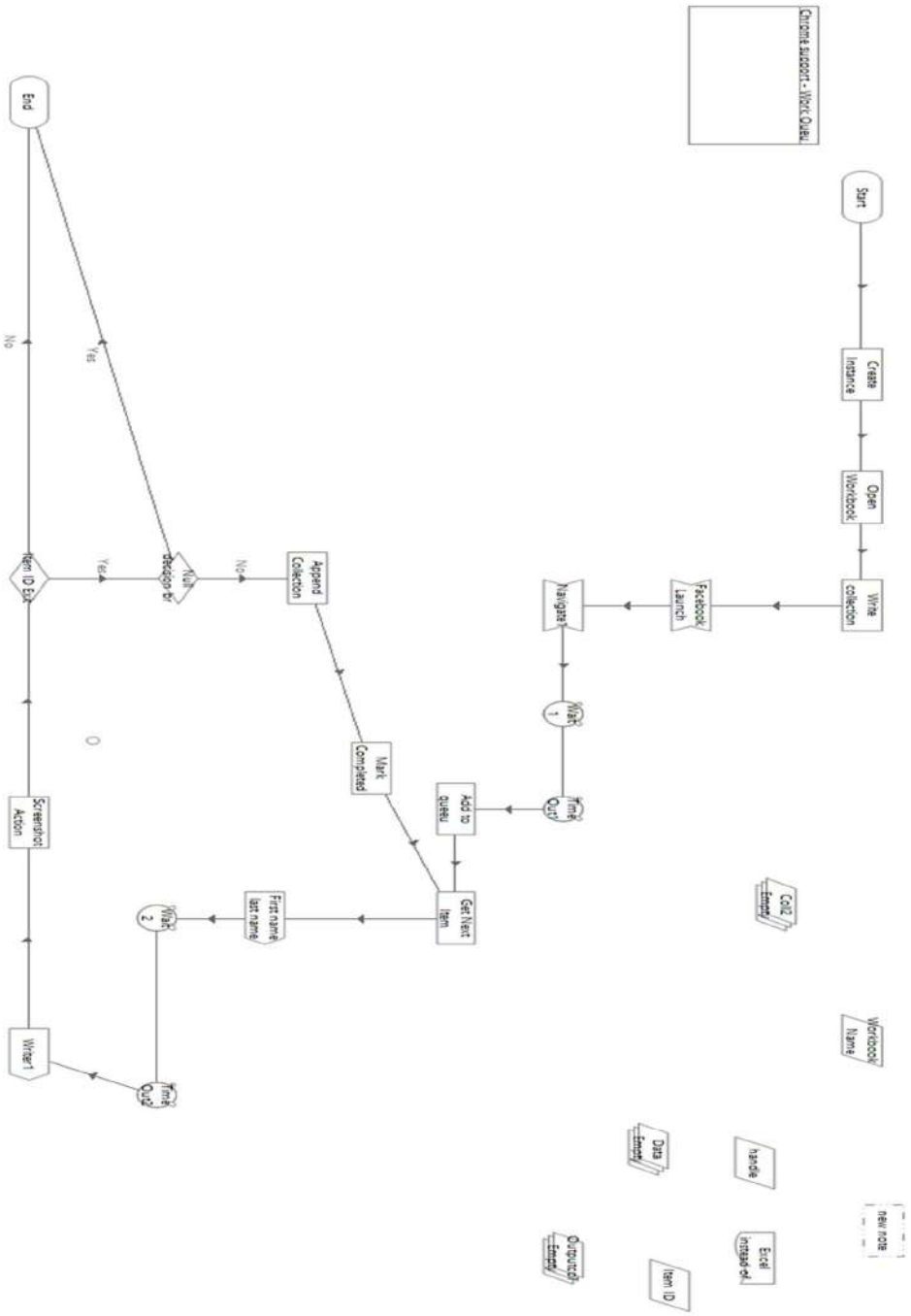
Data item from previous step were replaced by collection. VBO were imported so that function like read, open and create instance can be possible in Blue prism. Loop operation were used in this trial version to check compatibility of logic.



Author :Parth Dave

Trial #4 Work Queue

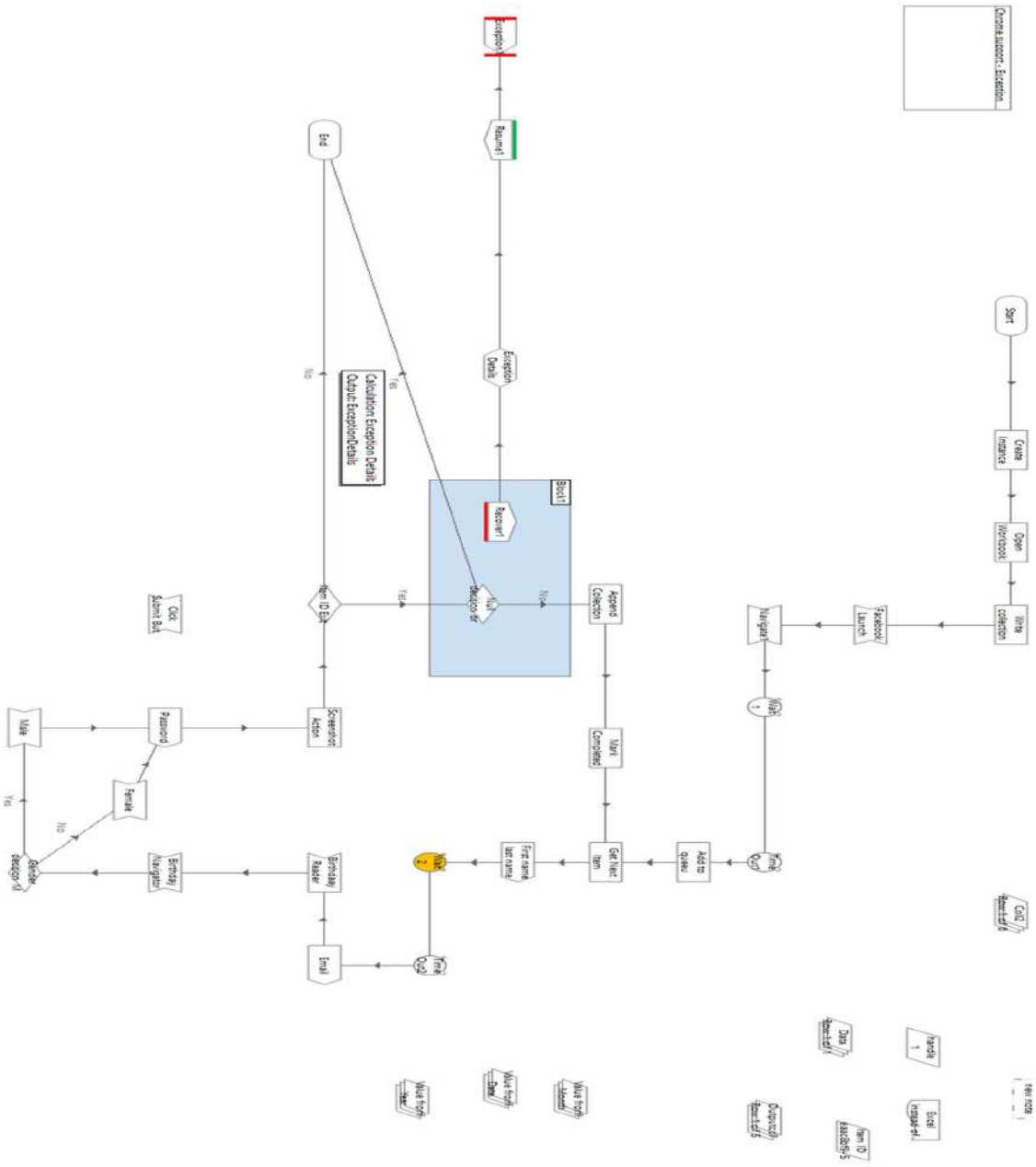
To get into final objective work queue were set up and loop function was removed by using action steps.



Author :Parth Dave

Trial #5 Exception Handling

As the bot operation was not able to triggered close steps and used to go in infinite loop, exception handling was used. A calculation step was used to capture exception so that in latter phase more work can be done in bot improvement



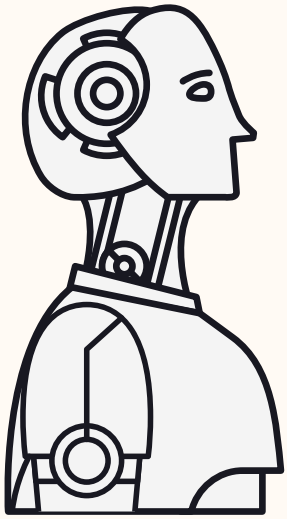
Author :Parth Dave

9.0 Possible Business case

Similar kind of bot can be used for banking and insurance purpose. Some of the possible cases are

1. To create Multiple bank account for employees (new joining)
2. To create multiple IT setup account for new employee
3. Bot to do automatic KYC for AML OPERATION purpose
   And MANY MORE…..

******



Process Design Documentation.

AUTOMATION FOR GOOD

•An innovative solution to improve patient waiting experience, Automate check-in process and minimize contact between patient and nurses in Covid times•An innovative solution to improve patient waiting experience, Automate check-in process and minimize contact between patient and nurses in COVID Times

CREATED BY
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PROCESS DESIGN DOCUMETATION

Table of Content

Author : Parth Dave

1.0 Introduction

This documentation is going to summarize proof of concept and detailed approach taken to complete automation for ambulatory clinic at UHN. The objective of this project was to demonstrate capabilities of RPA as a tool.

The document describes the sequence of steps performed as part of process, the conditions and rules of the process prior to automation. This design documents serves as a base documentation for developers to collect details required for robotic process automation for the same business process.

2.0 Objective

The process has been designed for RPA capability demonstration conducted for Glackathon purpose only.

3 bots were developed in independent environment

Bot -1 (Master Bot) This bot has cognitive skills. It tries to make communication with the patient to make him/her feel like he/she is talking with a real human. This bot is going to screen the covid -19 questionnaire as well as going to register the old patient into Epr system.

Bot -2 (OCR READER): This bot is going to scan the health card and then work on EMR. This bot is capable of doing self-registration into system

Bot 3 (New patient registration) this bot is going to fill data for new patient. Generally new patient questionnaire is kind of lengthy and by using this bot the new registration time can be reduced by 50% and most important part is there is no human contact. Only systems are used to have basic conversation as well as exchange on information

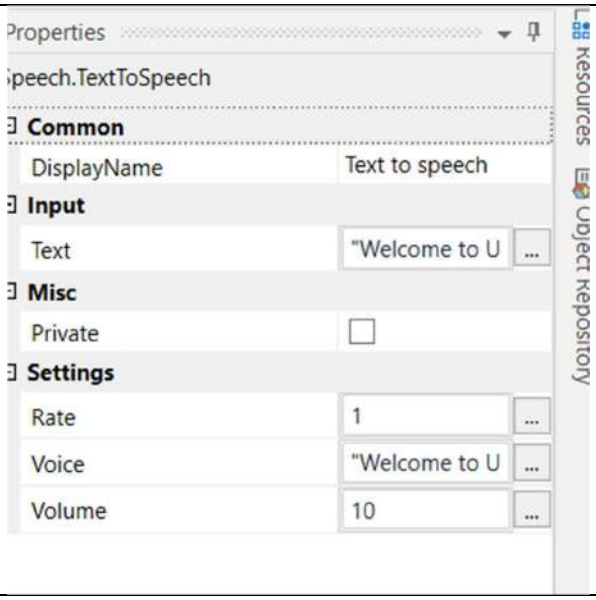
To conclude the solution, a power BI tool is used for dash boarding activity. This tool is going to display in television screen in such a way that many patient can see their waiting time and hence they won't bother nurses or other admin staff to ask ETA of their visit with doctor.

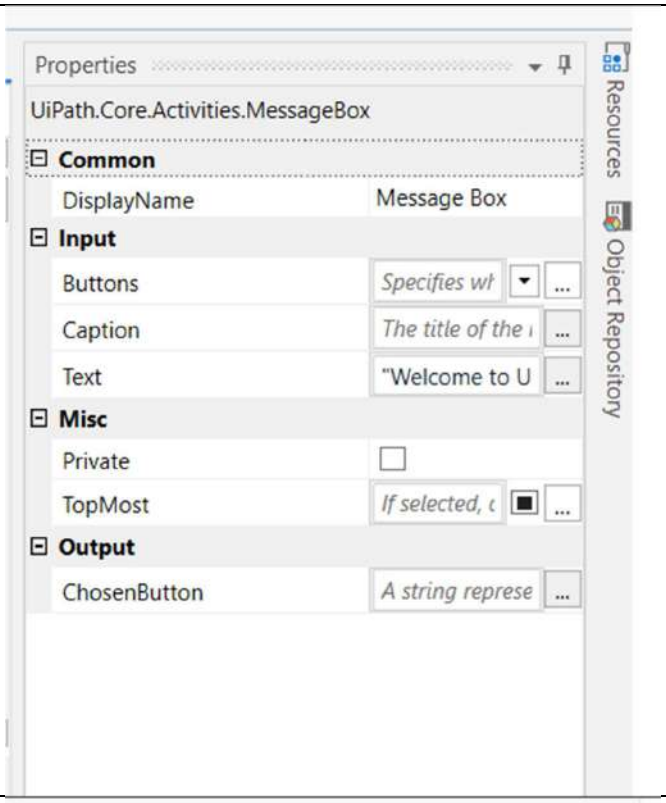
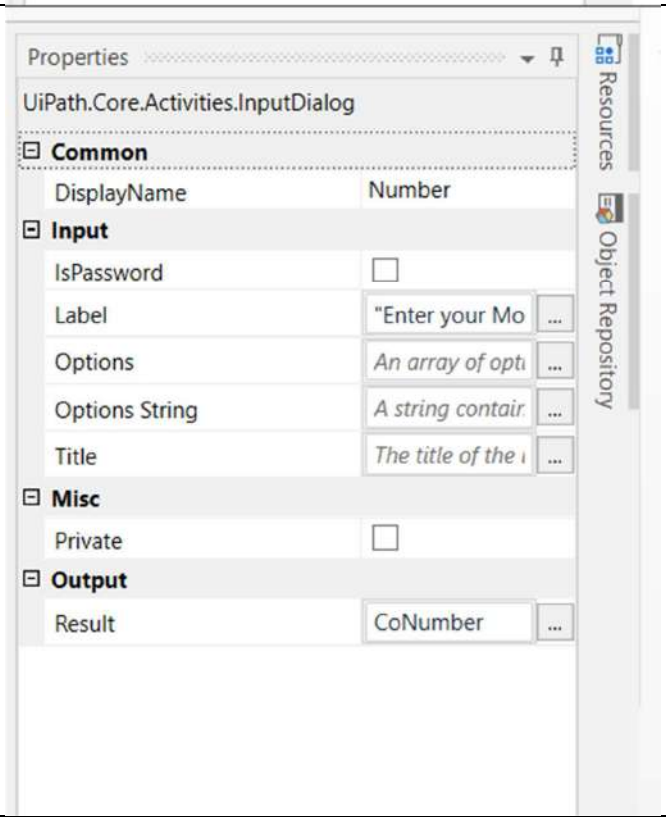
3.0 Process Overview

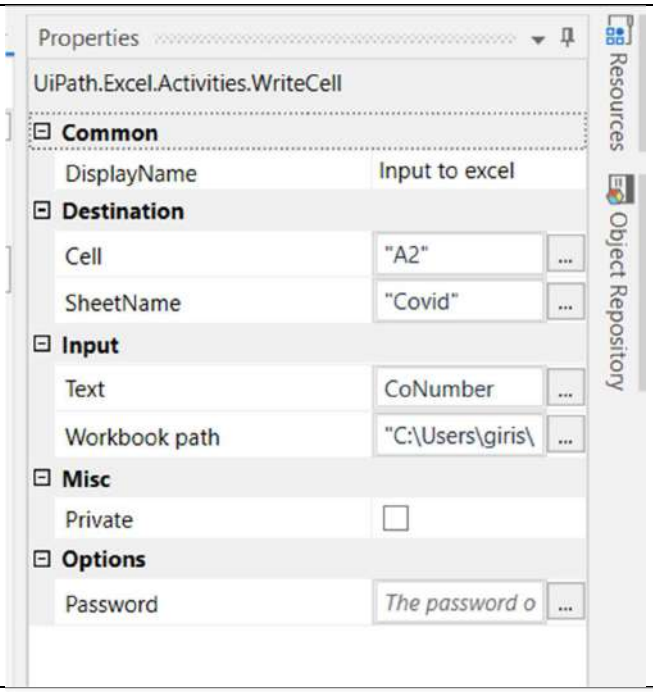
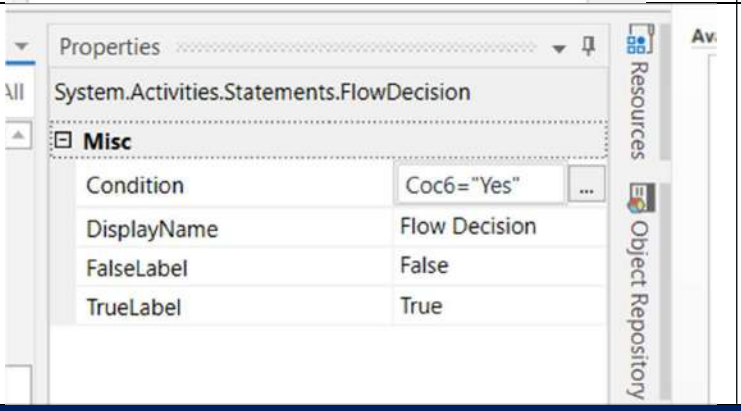
Proposed System / RPA system	
Function	Reduce mundane manual paper based task and replacing it by automation to work on rule based task
Software	UI PATH
SERVER CONNECTED	NONE
DATABASE	HC record
Sample health card	Health card
Output data	In HC record
Dashboard	POWER bi

4.0 Detailed process steps and configuration

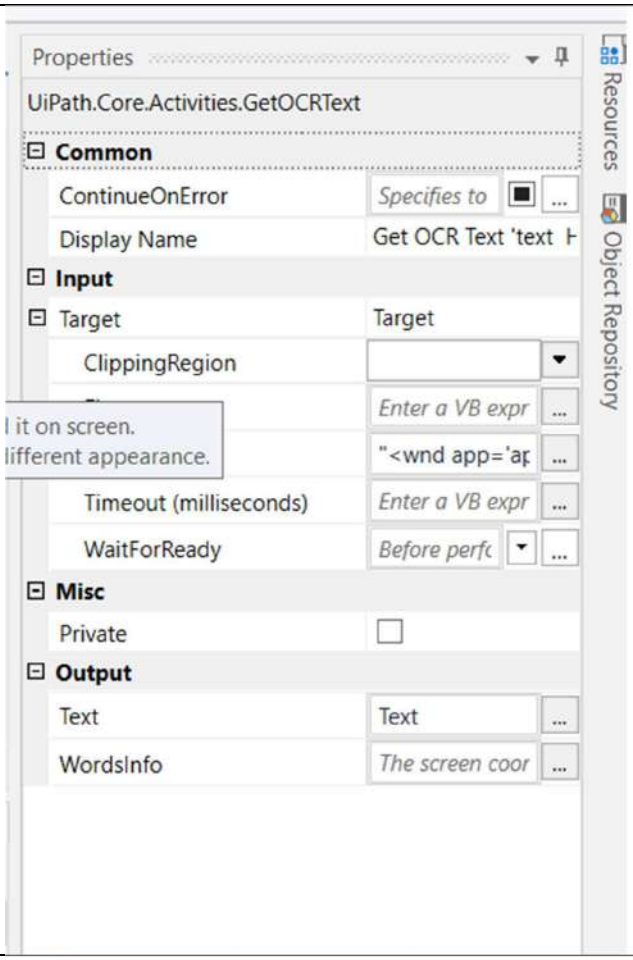
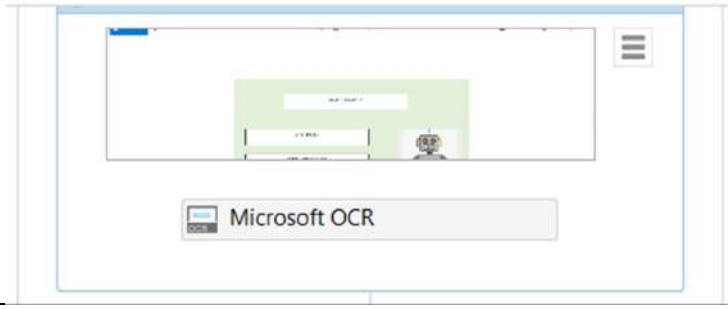
Only major process are covered. Not each and every steps are captured to make this document optimized. On the granular level there were 87 steps for Bot -1 , 22 steps for Bot 2 and 61 steps for Bot 3. As this document cover all the major process considered, please have a look on process used in Bot creation

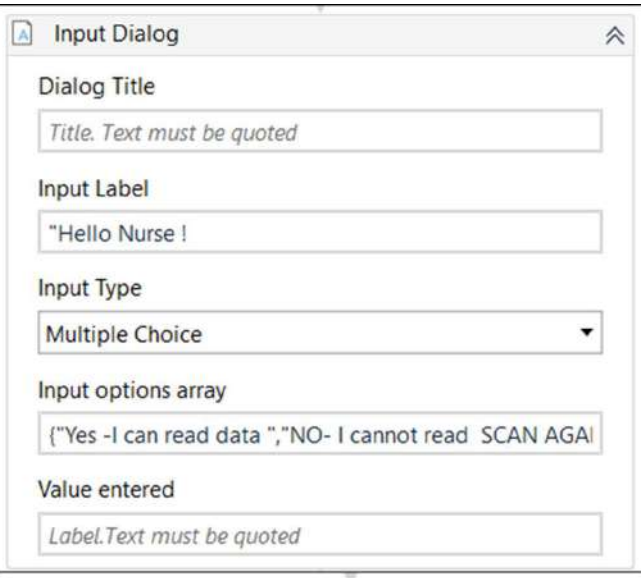
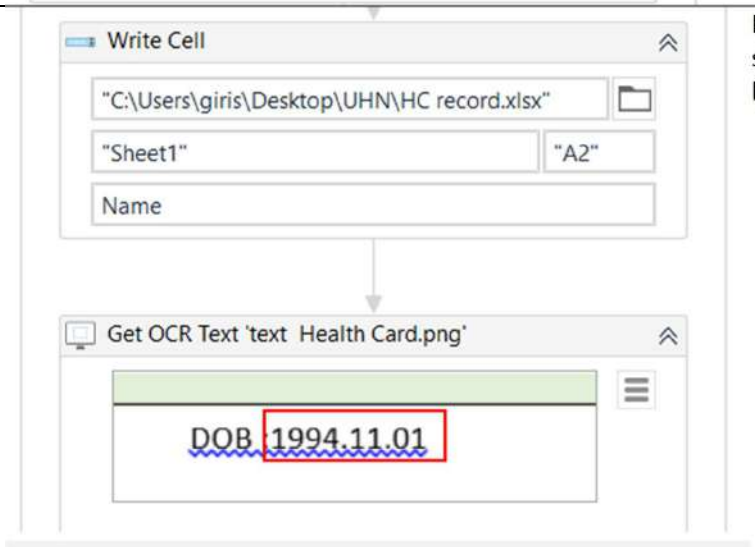
MASTER BOT (BOT #1)			
Steps	Description	Screenshot	Remarks
1.1	Text to speech		Ran successfully

1.2	Mesaage bOX		Ran successfully
1.3	Input Number		Ran successfully

1.4	Input to excel		Ran successfully
1.5	Flow decision		Ran successfully

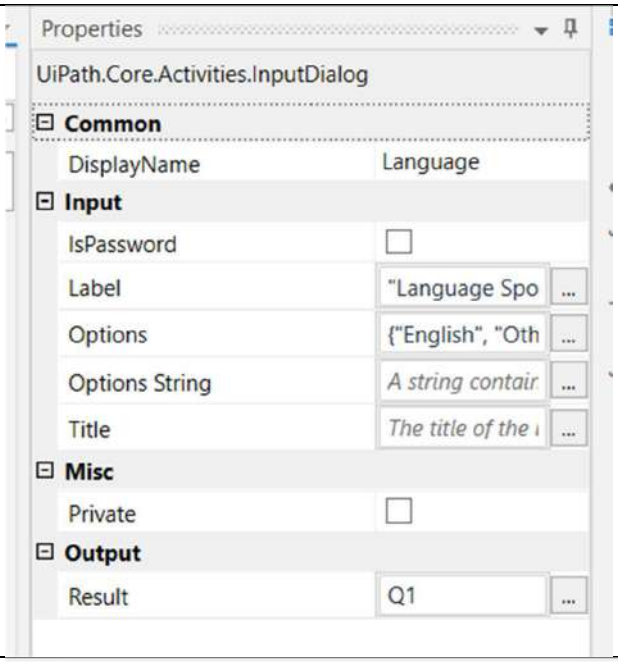
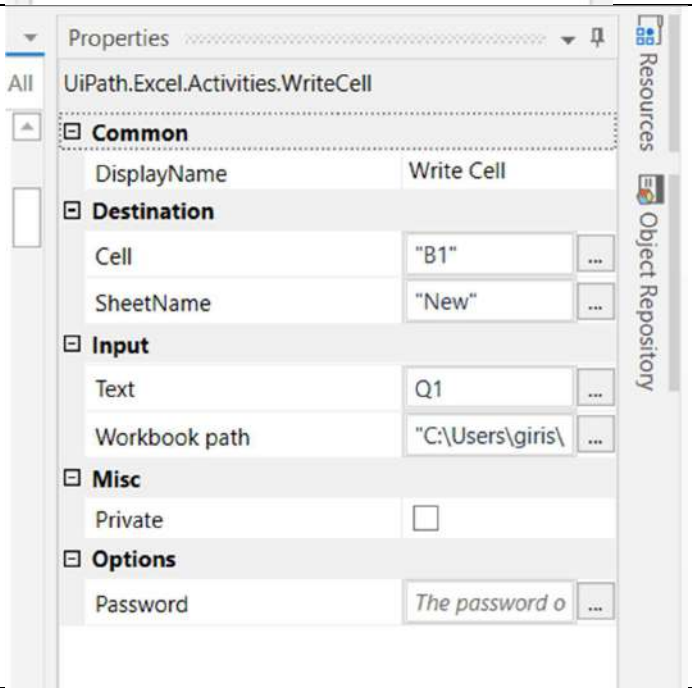
BOT -2 OCR READER			
Steps	Description	Screenshot	Remarks

2.1	OCR READER		Ran successfully
2.2	Selection of correct ocr reader		Ran successfully

2.3	Input Dialogye box		Ran successfully
2.4	OCR READINGAND WRITING IN THE EXCEL FILE		Ran successfully

BOT 3 (NEW PATIENT QUESTIONAIRE FORM)

Steps	Description	Screenshot	Remarks

3.1	Input text			Ran successfully
3.2	Write cell			Ran successfully

5.0 Project life cycle

RPA life cycle revolves around 6 stages
1. Discovery phase
2. Solution design phase
3. Development phase
4. UAT
5. Deployment phase
6. Execute bots

As this project was strictly for personal and educational purpose, RPA life cycle stages were not Taken into consideration. Although final design of bot came after many stages of development and Trial and error.

5.1Discovery Phase

Discovery phase was considered tp find out low hanging fruit which can be easily transformed into automation bot. First step was th create BPMN , current state and propsed state as well as Gap Analysis

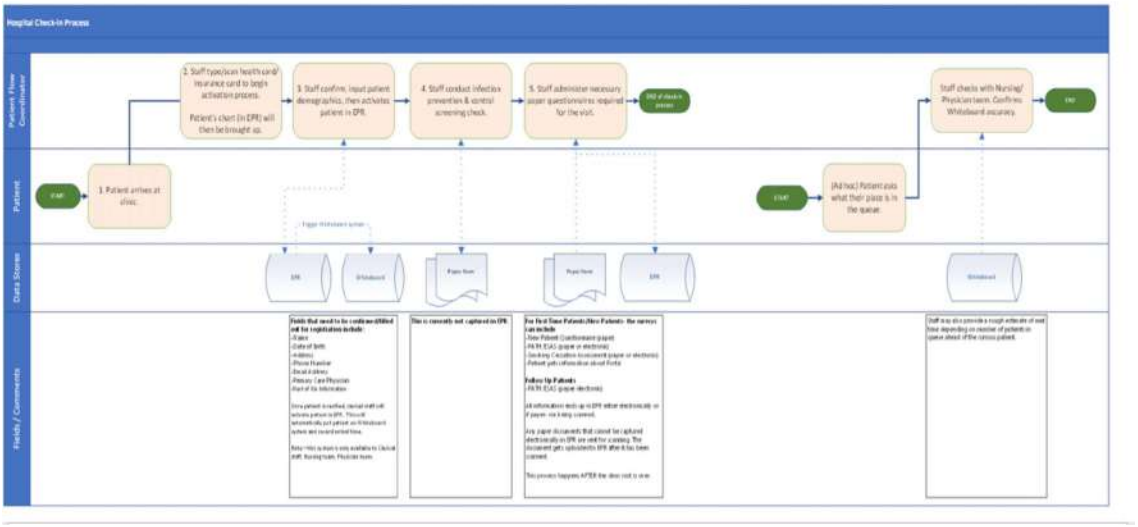


Fig : Current state of Business Process

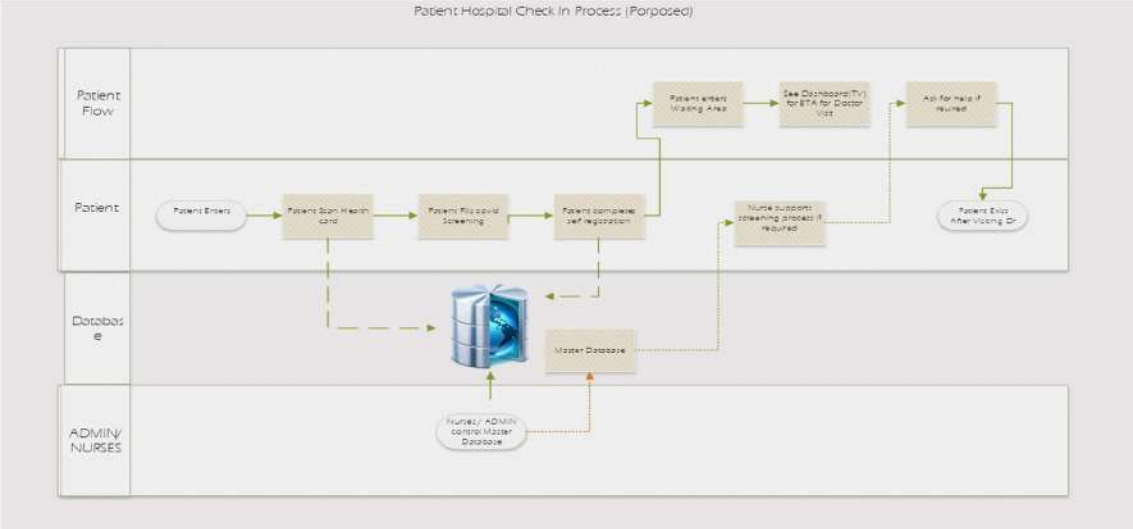


Fig : Proposed Business state after implementation of RPA bots

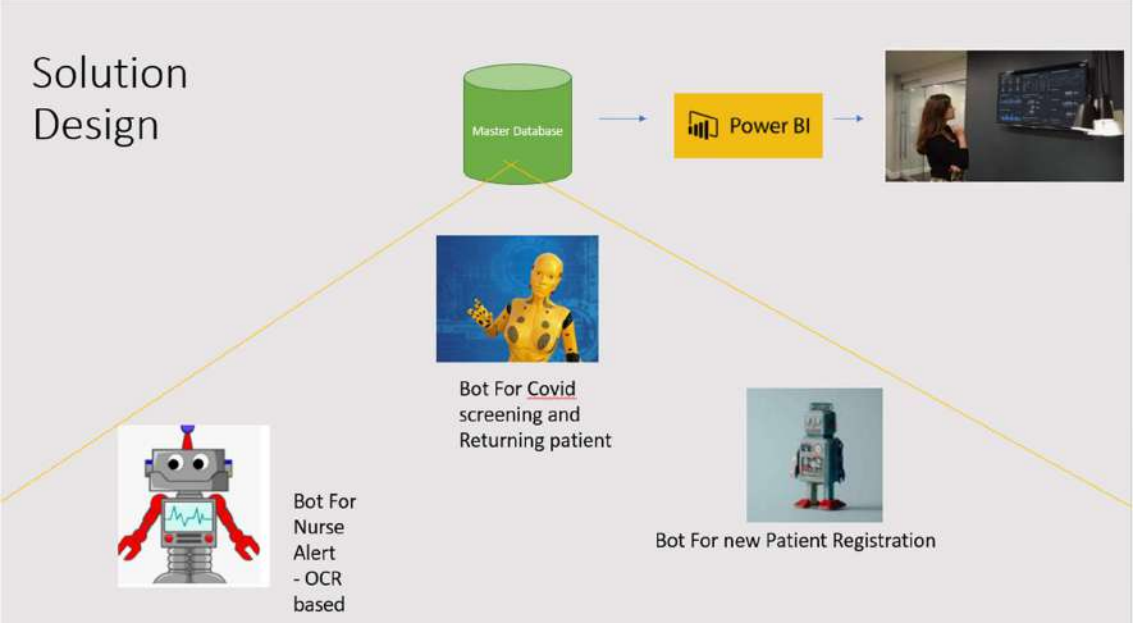
5.2 SOLUTION DESIGN PHASE

First hand analysis were done on the system requirement. As per bot development 3 systems are required

Touchscreen display

Computer /Monitor to support Bot

Scanner to scan Health card



5.3 Development phase

Bots are already developed and ready to use

5.4 UAT

A video is attached with the submission package. Kindly consider it as UAT

5.5 Deployment

Out of the scope of Process design documentation

5.6 Execution

Out of the scope of process design documentation

6.0 Possible Business case

Similar kind of bot can be used for multiple hospitals. Some of the major benefits of using this kind of bots are

1 Saving of at least 4 FTE worker / day

2 Bots can be used to generate automated report

3 Bots to be used for automatic and more correct data entry

4 Automated update to Major database

5 Reduction in paper based transaction and contact between patient and nurses

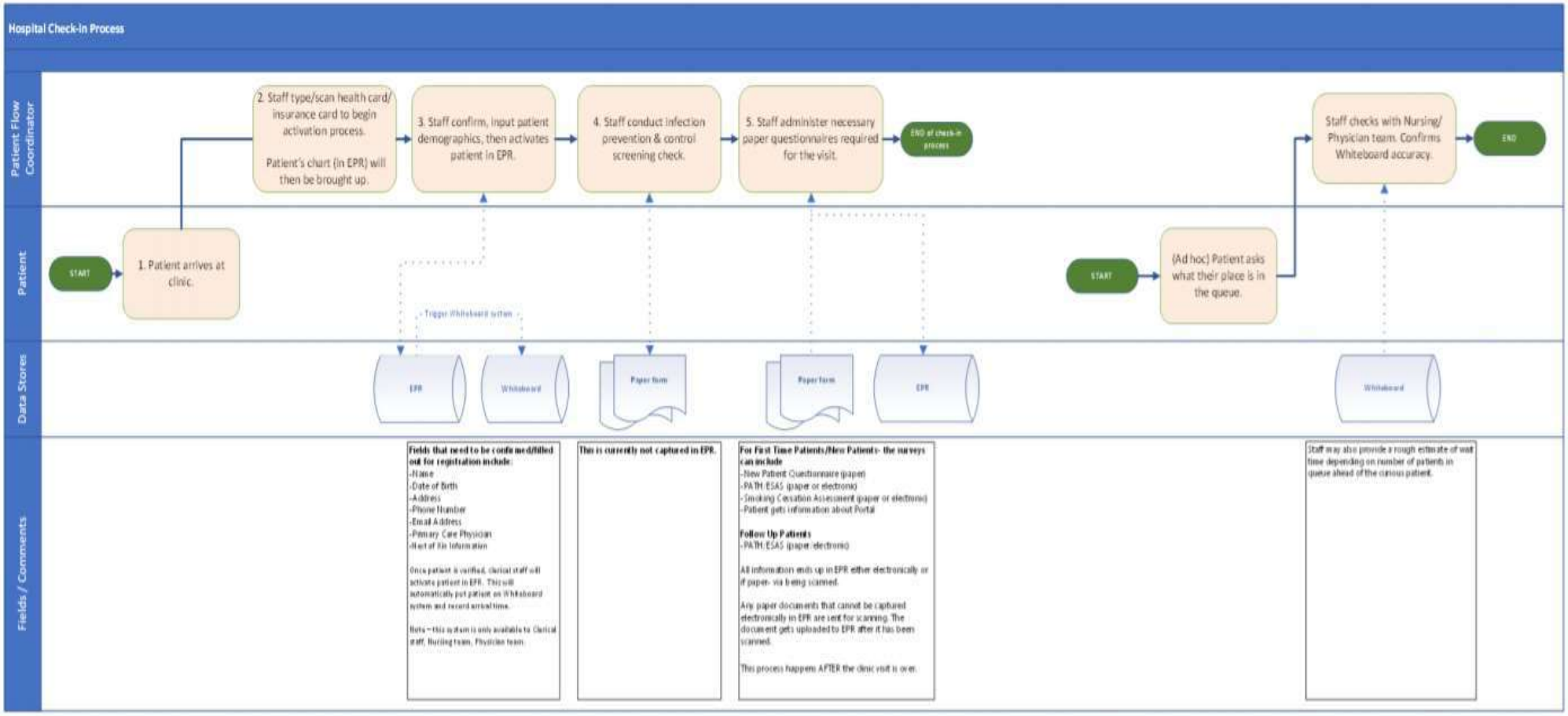
***

Automation for Good

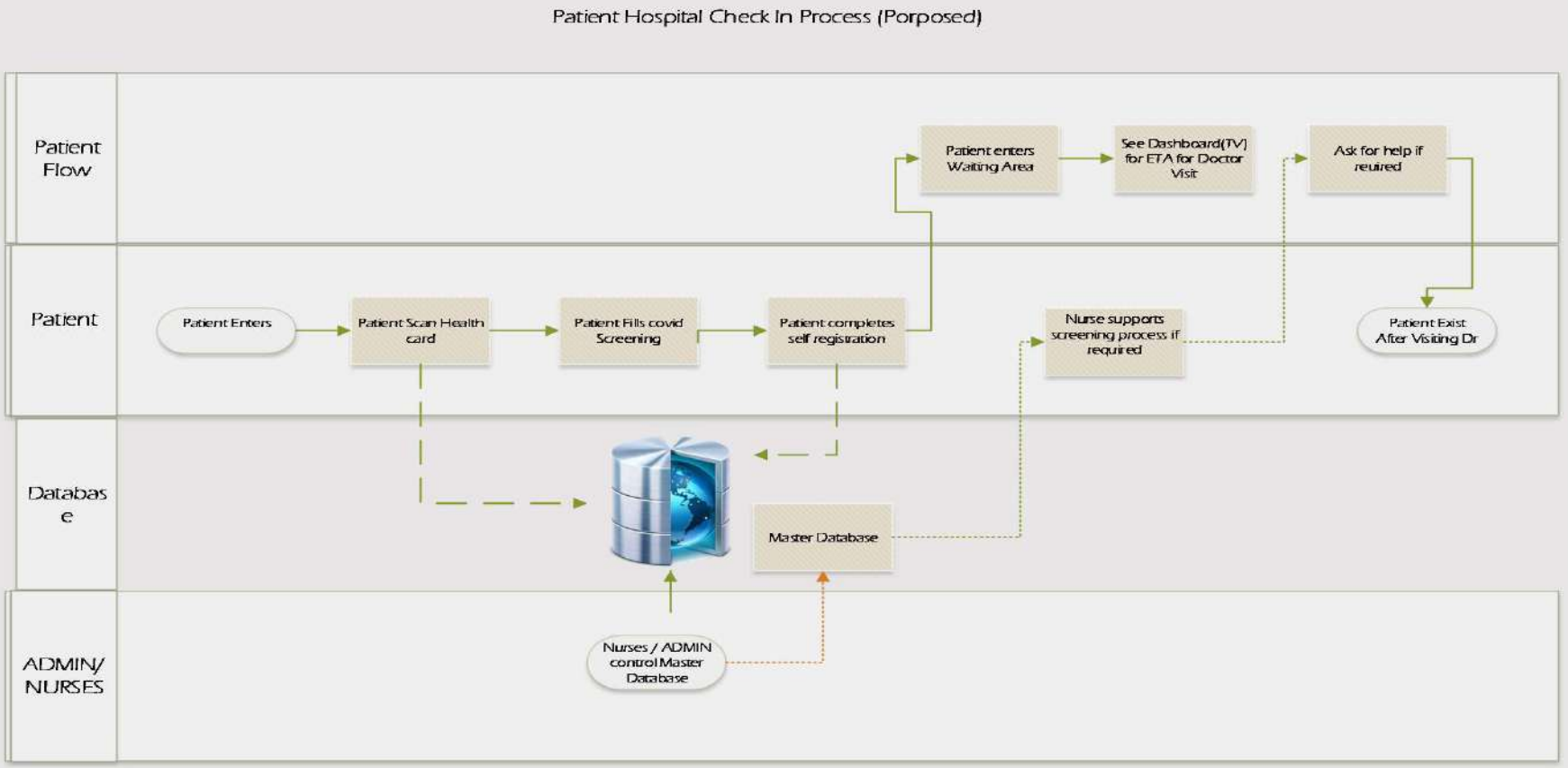
- Presentation on “ University Health Network” – An innovative solution to improve patient waiting experience, Automate check in process and minimize contact between patient and nurses in Covid times

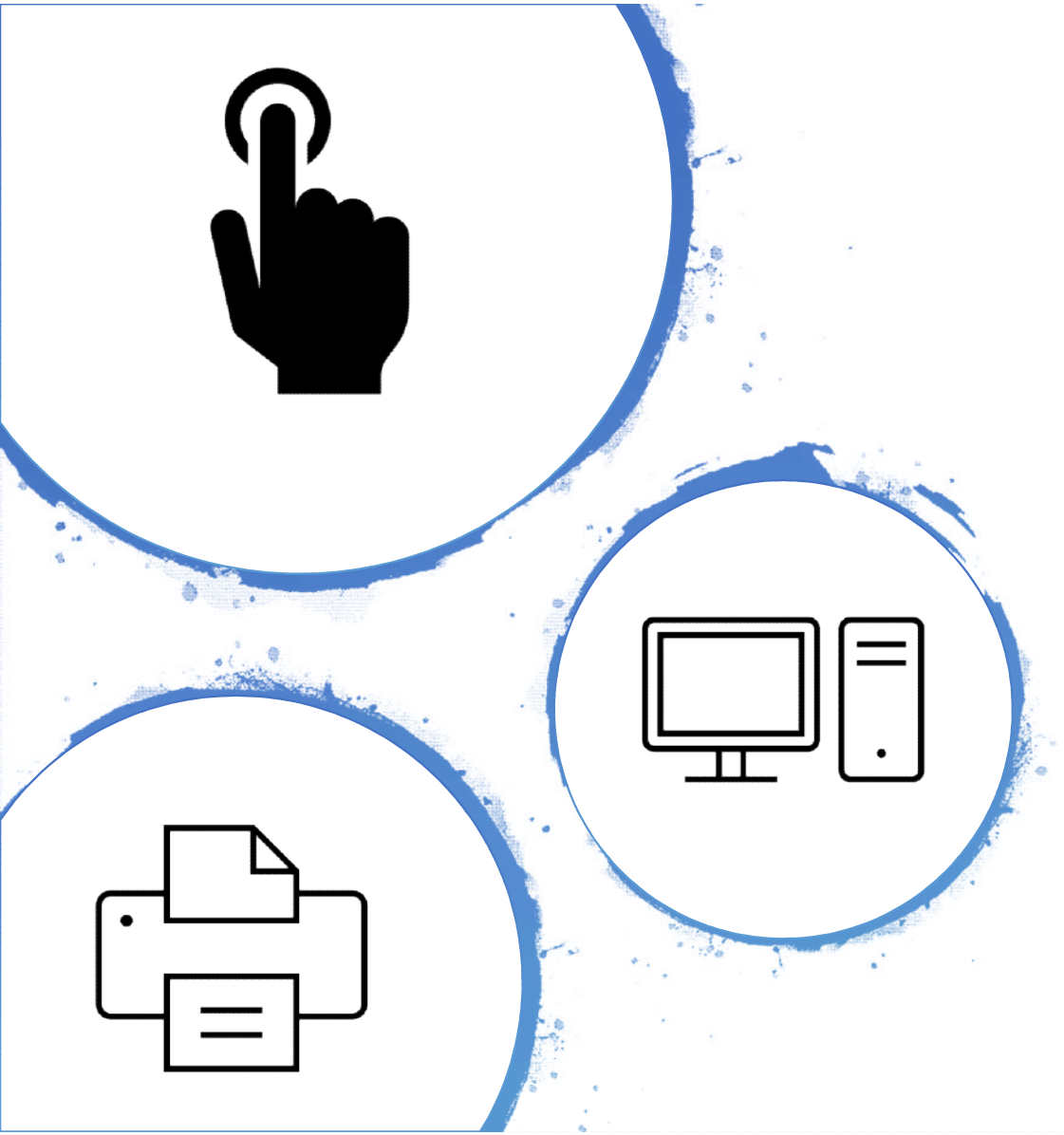
Creator : Parth Dave

Workflow Diagram



Gap Analysis/ Situation Analysis





System Requirement for Execution

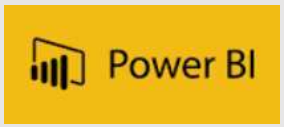
- Simple solution requires a monitor with touch screen Capabilities and scanner which can scan Health Card

User Requirement – Solution

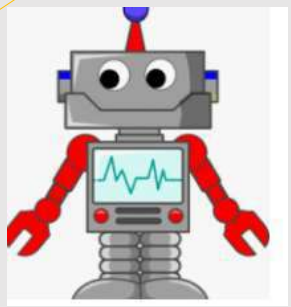
The solution meet the following criteria

- Automated report / data entry
- Automated update to EPR
- Reduce paper transaction and contact between patient and Nurses
- Whiteboard / Patient Dashboard for better wait time experience

Solution Design



Bot For Covid screening and Returning patient



Bot For Nurse Alert - OCR based

Bot For new Patient Registration

Additional Idea that can be Implemented

Temperature Gun can be attached to Monitor for automatic temperature recording. This system will need PLC system

To avoid rush at Hospital , Power platform app can be developed which can help patient to complete screening from home

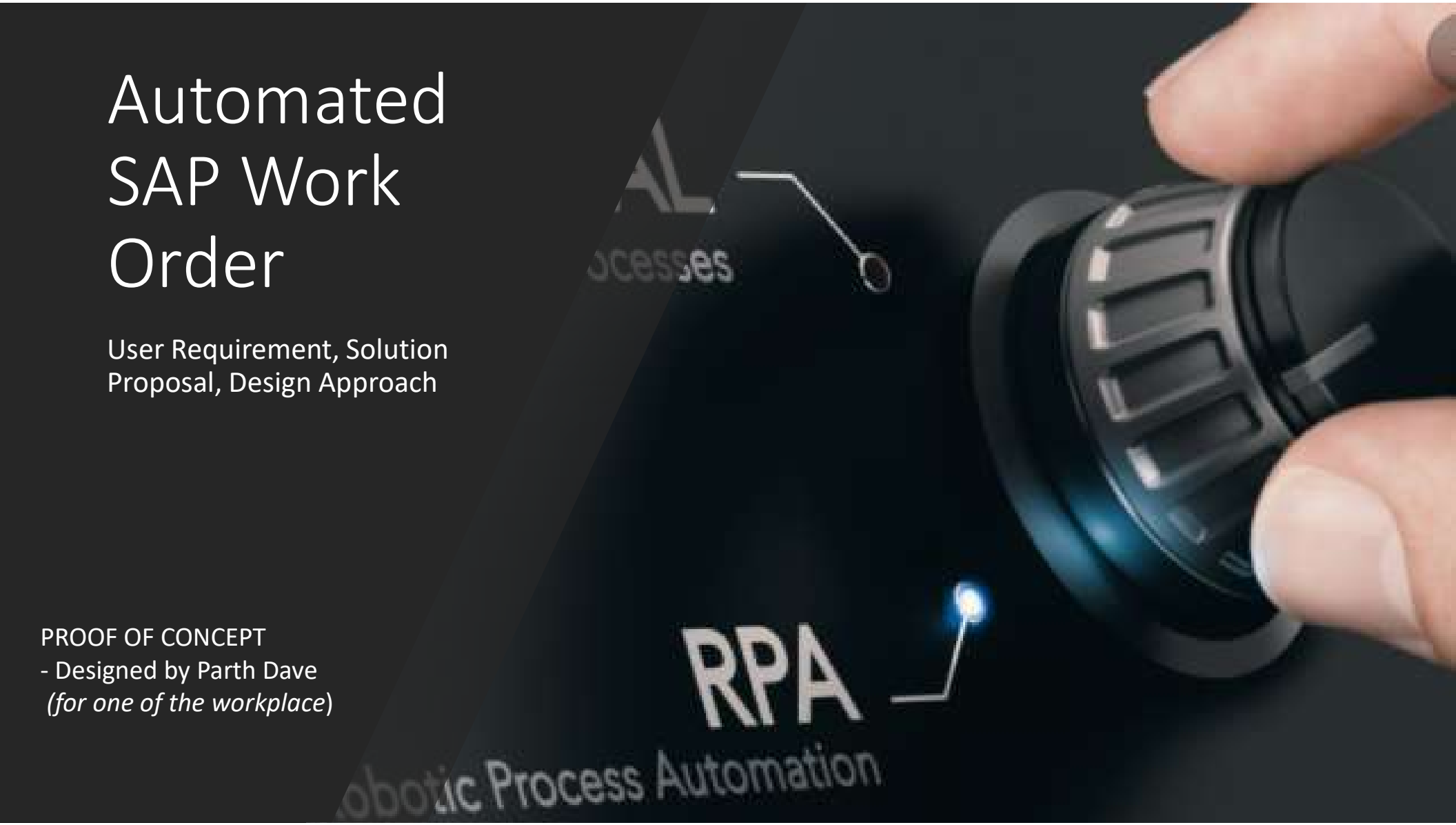
Young people / Vaccinated People should come forward and should Volunteer at Hospitals for screening and assisting patient. This way we can minimize the threats of Pandemic on Front line workers

Thank You!

Lets think of bringing bots to service….!
Lets accelerate IOT 4.0 revolution with RPA!

Automated SAP Work Order

User Requirement, Solution Proposal, Design Approach



PROOF OF CONCEPT
- Designed by Parth Dave
(for one of the workplace)

User Requirement-Situation Analysis

Situation

- As per the current SAP situation most of the work orders are created manually.
- 90% of the data is manually entered into these Excel documents/SAP system leaving a high chance of data entry error.
- Tracking of work order against PO and PGWO/MGWO is difficult
- Generating reports and Data Analysis is complex and inefficient due to multiple data sources with improper data management.

Requirements

- Efficiency
  - Centralize the data for ease of reporting (One database)
  - Proper Data Management
- Speed
  - High tech I7 laptops to match the clock speed of bot
  - Dedicated team for processing SAP work orders along with Master administrator
- Tools
  - Store the data in a way that it can relate to other data such as Ample and other sources
  - Be able to generate Ad Hoc reports
  - Be able to create work order with automation
  - Maintain Data integrity of work order and transactions

User Requirement – Solution

The solution must meet the following criteria;

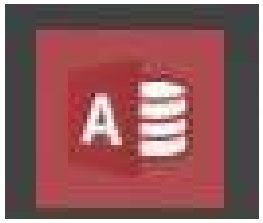
- One Central Database (Not referring to SAP Database)
- Database integrity policy
- Clearing all the useless databases
- Automated report generation
- User friendly Bot to help automate the sap work order
- Using Process automation to reduce the human intervene
- Start with simple process and evolve to Agent process improvement (Best case scenario – Transactional Business Process)

Solution Design

Proof on Concept
0->3 months
“Simple Process”

Front End GUI

Back End Tables

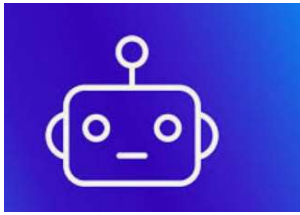


BOT

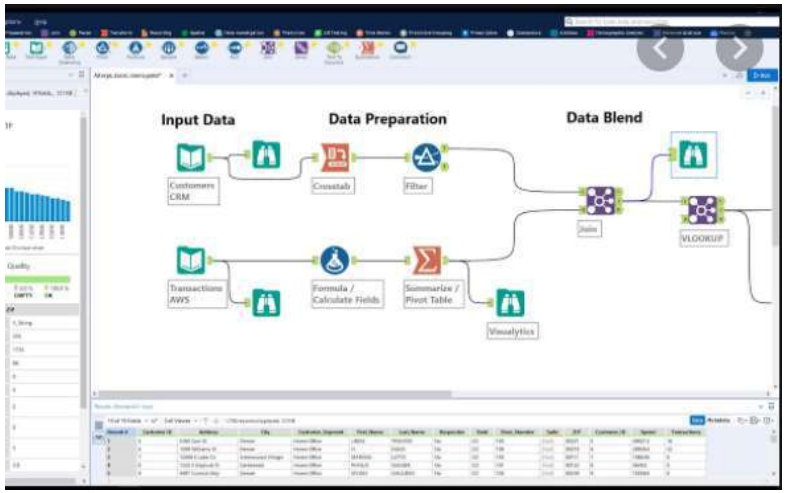
Medium Term Solution
3 months - > 1 year
“Agent Process Improvement”

REPORTS

Long Term Solution
1 year ->>
“Transactional Business Process”



Solution Design



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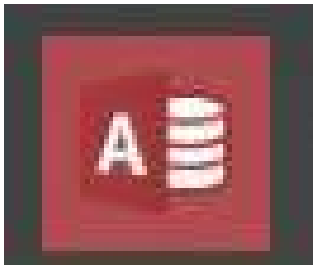
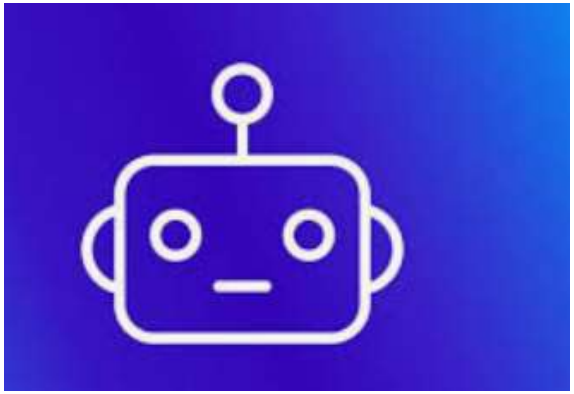
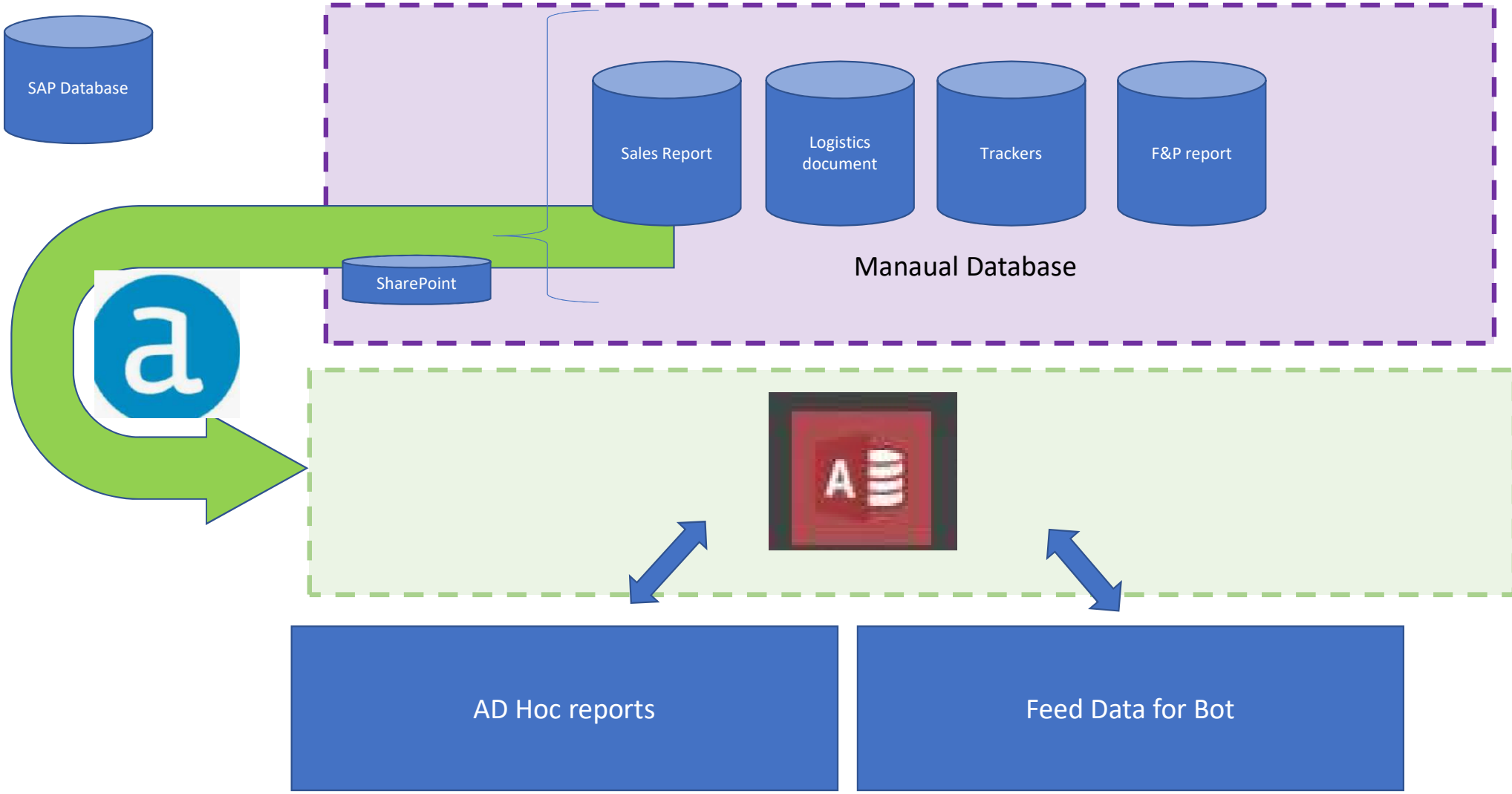


Access



Automation

Solution Design – 1. One Database – Clean Database



Bot Selection

p rpa tools and their comparison

Vendors / Factors	Kofax Kapow	Blue Prism	UiPath	Automation Anywhere	NICE
Base Technology	.Net, Java	C#	Microsoft - SharePoint wf, elasticsearch, kibana	Microsoft	VB scripting & C#
Reliability	Moderate	High	Moderate	High	Moderate
Cognitive Capability	Medium	Low	Low	Medium	Low
Re-usability	Yes	Yes	Yes	Yes	Yes
Accuracy	High for web automation and file handling	Available for web, desktop, and Citrix automation	Good in Citrix environment designed for BPO automation	Rational accuracy across mediums	Good accuracy for tasks which requires little or no subjective judgment
User-friendly	High (no coding required)	High	High	Medium	Medium
Operational Scalability	Easily scalable with a stateless, multi-thread architecture	High speed of execution	Frequently crash in medium projects	Large-scale robot deployment is limited	Fast execution, seamlessly scalable

Vendor Data file

What’s Best for Cronos ?

After Comparing top 3 vendors model ,
UI path is currently best for Cronos

Pricing : USD $3999/Year/ User

Cost Analysis

As per my analysis, bot can save 0.25$/min

Hence, After 300 Hours (Approx) bot run time ,
we might reach break even.

I am not even considering intangible benefits

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