

Process Design Document / Solution Design Document

Process Name: Influenza Risk Scores Upload

Purpose of Document

This document serves as the technology policies and procedure for Intelligent Automation Hub at Geisinger

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1. Document Control

Applies to:	All IAH RPA Operating Model
Classification:	Highly Confidential
Owner:	Intelligent Automation Hub Team

DOCUMENT HISTORY

Version	Date	Author	Approver	Reasons for Change
1.0	6/4/22			Initial Draft

REVIEW/APPROVAL

Role	Name	Date
SME		6.7.22 6.7.22 6.7.22
Process Owner		6.7.22
Business Architect		6.7.22
Developer		6.7.22
IAH Director		6.7.22

STAKEHOLDERS

Role	Name	Email
Process Owner		

SME		
Business Architect		
IAH Director		
Developer		

2. Document Details

2.1 PURPOSE OF THIS DOCUMENT

The Process Design Document outlines the Influenza Risk Scores Upload automation and the technology being utilized.

The document describes the sequence of actions performed as part of the business process, the conditions and rules of the process prior to automation and how they are envisioned to work after automating it, partly or entirely. This specifications document serves as a base for developers, providing them with the details required for applying automation to the selected business process.

3. Current State Process Description

3.1 PROCESS SUMMARY

The automation of influenza risk scores upload involves the digital user using a spreadsheet as an input file, breaking the file into groups of 300 patients at a time, and dropping one file at a time to the designated destination at the designated intervals.

3.2 DATA FLOW & APPLICATIONS

3.2.1 INPUT

Input	Format	Location	Is it natively digital?	Is it structured?
Patient List	TXT	Network folder	Yes	Yes

3.2.2 OUTPUT

Output	Format	Location	Frequency	Comment
Process Summary	Excel via Outlook	Outlook email	1st email: First day: at 2 hour mark Daily emails: At 8am daily	Reporting out how many reports out of total reports (300 patients list) uploaded up to that point. *Bot uploaded *** out of *** batches *Bot uploaded *** patients out of *** patients *Estimated completion time **: **AM/PM
File Drop	No extension	- The filepath is on a server with address: GHSHDPHDFSGLX1v - The filepath for testing in the Epic TST environment is /filedrop-dev/rhapsody/medial/ - The filepath for the Production environment of Epic is /filedrop/rhapsody/medial/	File Drop every 2 minutes until all patients are completed. Bot will check before dropping the information (Bot will check every 1/2 minute to see if previous list completed)	One time automation to transfer ~250,000 patients, 300 patients at a time, every 2 minutes (Bot will check every 1/2 minute to see if previous list completed)
Data Format: MRN FirstName LastName MiddleName DOB GenderAbbreviation FlowsheetIdentifier DateOfImport FlowsheetValue				

3.2.3 APPLICATIONS

Application	Version	Interface	Req Key / Operation / URL	Comment
NotePad		Desktop Application	n/a	Input file

Network Folders				IAH_CO_Influenza_Risk_Scores_Upload_TEST IAH_CO_Influenza_Risk_Scores_Upload_PROD
File Drop Directory				- The filepath is on a server with address: GHSHDPHDFSGLX1v - The filepath for testing in the Epic TST environment is /filedrop-dev/rhapsody/medial/ - The filepath for the Production environment of Epic is /filedrop/rhapsody/medial/
Outlook		Desktop Application		

3.3 BUSINESS RULES

Rule	Detail
Automation frequency	One time automation From Start: Every 2 minutes until all patients/rows are transferred
Bot start time	TBD
Patient unique field	MRN and DOB
Excluding weekends and holidays	No
SLAs	Until all patients/row are transferred

3.4 CURRENT STATE METRICS

Avg. Daily Transactions	# Batches Daily	Avg. Volume / Batch	Weekly Avg. Volume	Frequency
Total count: ~250,000 Patients Transferred hourly: *** Total run time to complete the full list: *** hours	~300 patients a batch in one file Every 2 minutes Patients Transferred hourly: ***	300 patients each transfer every 2 minutes		2 minutes

3.5 CURRENT STATE PROCESS FLOW

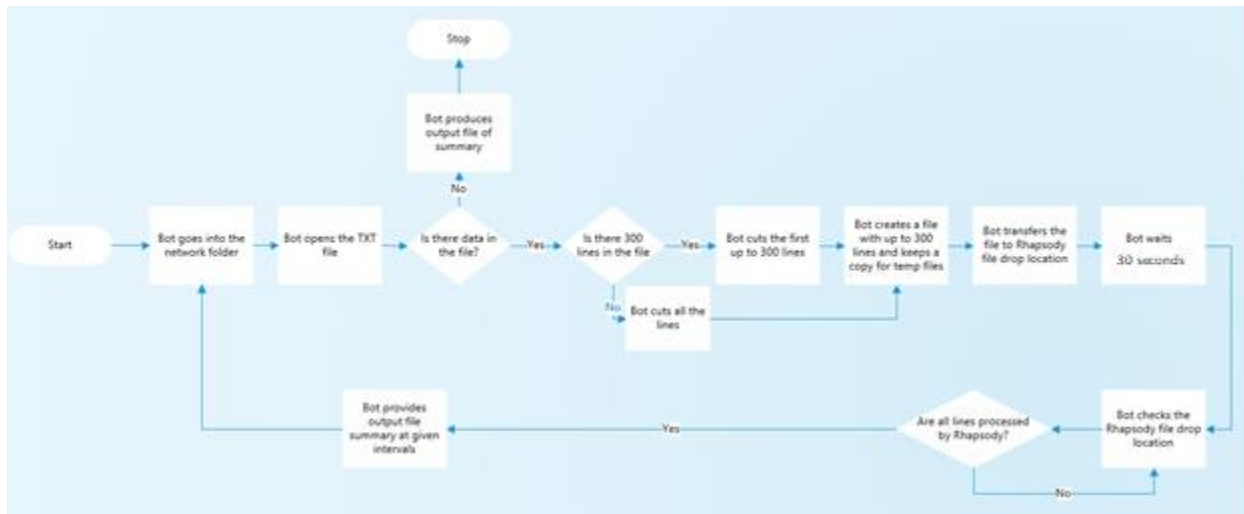
High Level Process Flow Diagram (Current state):

No Current State

4. Future State Process Description

4.1 FUTURE STATE PROCESS FLOW

Bot Automation Process & Workflow Diagram (Future State):



High Level future state workflow:

1. Bot goes into the network folder
2. Bot opens the TXT file
3. Is there data in the file?

If yes

Is there 300 lines in the file

If yes

1. Bot cuts the first 300 lines

If no

1. Bot cuts all the lines

- A. Bot creates a file with up to 300 lines and keeps a copy for temp files
- B. Bot transfers the file to Rhapsody file drop location
- C. Bot waits 30 seconds
- D. Bot checks the Rhapsody file drop location
- E. Are all the lines processed by Rhapsody?

If yes

- a. Bot provides output file summary at given intervals
- b. Bot goes to step #1

If no

- a. Bot goes to step #D

If no

- I. Bot produces output file of summary

4.2 IN SCOPE FOR RPA

100% of current state process is in scope for RPA.

4.3 OUT OF SCOPE FOR RPA

The actions out of scope for RPA should be listed in the table below together with the reasoning.

Activity/Action	Reason for out of scope	Future State solution	Measures to be taken for future automation
N/A	N/A	N/A	N/A

4.4 FUTURE STATE DETAILED STEPS

Step	Short description of key process steps	Screenshot for reference
1	Bot goes into the network folder	
2	Bot opens the TXT file	
3	Is there data in the file?	
4	If yes, Bot cuts the first 300 lines	
5	If no, Bot cuts all the lines	

6	Bot creates a file with up to 300 lines	
6a	Bot makes a copy of the above file and places in the directory for temp files	Temporary File: Iteration Number File Drop: Influenza_Risk_Factors_Iteration Number_ YYYY (No Extension)
7	Bot transfers the file to Rhapsody file drop location	
8	Bot waits 2 minutes	
9	Bot checks the Rhapsody file location	
10	Are all the lines processed by Rhapsody	
11	If yes, Bot provides output file summary at given intervals	
12	If no, Bot goes to Step #9	
13	If no (referencing to line #3) Bot produces output file of summary	

4.5 EXCEPTIONS IN THE PROCESS FLOW

Exception	Actions	Comment
N/A		

4.6 SYSTEM ERRORS

Error	Action	Comment
Application crash	Recover and retry 3 times	- Bot will not transfer the same file twice to the file drop location - Bot will retain the list of patients and ensure the list is transferred if there was interruption
Transfer interruption	Recover and retry 3 times	- Bot will not transfer the same file twice to the file drop location - Bot will retain the list of patients and ensure the list is transferred if there was an interruption
Network downtime	Wait 10 minutes Recover and retry 3 times	Recover from where the process left off
Rhapsody didnt process the last file in expected time frame (20 minutes)	Bot will check up to 20 minutes (every ½ minutes)	Bot will check up to 20 minutes and alert @geisinger.edu email of the error

4.7 PROCESS CONTINUITY

Prevention: Establishing and defining what redundancies and protocols are in place to prevent failures in the process and maintain business continuity Detection: Defining what protocols are in place for monitoring the process to detect bugs and stop incorrect actions at all points post go-live and escalated monitoring during massive systems changes

Recovery

Assessing the level of risk, define strategic stakeholders to be alerted in need of a recovery and outlining the recovery plan to get back to operational state.

Scenario	Prevention	Detection	Recovery
Expected number of input files not provided or missing.	Business reviews and confirms number of anticipated files are loaded/prepared by agreed upon date. Bot schedule will be determined once the file availability is confirmed	Bot scans/inspects for anticipated files/number of files.	• Bot sends notification email to those who are on the distribution list and IAH Prod support team. • Business to resolve the issue and notify IAH regarding next steps. • IAH team to reschedule bot run based on bot's availability.
Input file format change or input file is blank (no data).	Business to notify IAH regarding upcoming changes. IAH and Business work together to prepare and follow change management process.	Bot finds out the unexpected file format and fails to complete the process.	• Bot sends notification email to those who are on the distribution list and IAH Prod support team. • Business and IAH work together prepare and follows change management process.
Bot not completing as outlined in PDD.	N/A: What was not known was not preventable.	Hypercare Phase: Daily auditing is performed and process logs are monitored. Error handling and notifications to be built	• IAH team adjusts bot design to improve success. • IAH team and business may determine to pause the BOT if necessary
Higher than expected volumes	The Bot will know the volumes prior to the start No additional MRNs will be added to the list by business after BOT starts	Insight Dashboards created during UAT for monitoring of volume and changes (increases or decreases).	• Alert/pulses identified and notifications sent to IAH Comm Support. • Business and IAH work together if additional runs needed

Output file errors (timing, format, info, reporting).	N/A: What was not known was not preventable.	Hypercare Phase: Daily auditing is performed and process logs are monitored. Insight Dashboards created during UAT for long term monitoring of volume and exception changes (increases or decreases).	• Business and IAH team adjusts bot design to identify output file errors. • Business and IAH work together if additional phase is needed.
Unknown reasons If the bot fails, how will it continue and resolve issue?	N/A: What was not known was not preventable.	Bot is unable to complete the automated process.	• Bot sends notification email to those who are on the distribution list and IAH Prod support team. • The Bot Controller will then be responsible to triage the bot disruption, fix the issue(s), and either schedule ad hoc processing or resume the bot processing. • Response time confirmed by business – the goal is to complete the work by xxth of the month, but ok if completed by xx th of the month.
Bot fails at any point of the processing the list?	N/A: What was not known was not preventable.	Bot is unable to complete the automated process.	• Bot will pick up where it left off and continue move forward without losing any transactions

5. Technical Details

Item	Description	Comment
Robot Type	Unattended	
Orchestrator used?	Yes	On-Premise version
UiPath version used	2020.10.4	

6. Reporting

Report Type	Update Frequency	Details	Distribution List
Progress Report	1st email: First day: at 2 hour mark Daily emails: At 8am daily	Report status of processed transactions via email: Subject: IAH – Influenza Risk Scores Upload Status Update Body: - Reporting out how many reports out of total reports (300 patients list) uploaded up to that point. *Bot uploaded *** out of *** batches *Bot uploaded *** patients out of *** patients *Estimated completion time **: **AM/PM	
Error Logs	Unexpected error	Unexpected error to start or continue the automation Subject:	

		Bot will email the business and IAHs to inform of the failure. Body: Bot failed due to system error.	
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7. Environment Details

Application	Development Stage	Environment	Access Type	Access Key/Credential
Outlook	Development /Test/UAT/Prod	<Environment Name>	Email account and password	Email: TBD@geisinger.edu Password: <password1>
Network Folder	Test and Prod	Test and Prod	Access granted as needed	IAH Test and Prod Folders
Rhapsody File Drop location	Test and Prod	Test and Prod	Access granted as needed	The filepath is on a server with address: GHSHDPHDFSGLX1v The filepath for testing in the Epic TST environment is /filedrop-dev/rhapsody/medial/ The filepath for the Production environment of Epic is /filedrop/rhapsody/medial/

8. Assumptions

Assumption	Impact
The entire process is automated end to end with no manual intervention.	
The distribution list, email addresses, and/or shared mailbox listed in the PDD for the purpose of process notification through email are to be maintained solely by the line of business.	

9. ADDITIONAL SOURCES OF PROCESS DOCUMENTATION

Type	Name	Link	Comments
Assessment			IAH Teams Folder
Step Recording (video)			IAH Teams Folder
Task Capture			IAH Teams Folder
UAT Recording (video)			IAH Teams Folder
Executive Summary			IAH Teams Folder

10. Appendix

10.1 GLOSSARY

Acronym/Term	Meaning
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PDD	Process Design Document – document that contains information about the process in scope for automation and about the agreed technical solution
RPA	Robotic Process Automation
MRN	Medical Record Number
IAH	Intelligent Automation Hub