|  |  |
| --- | --- |
|  | | Process Definition  Document |
|  |  |

IMDb Movies

Reviewer

This RPA project aims to automate the process of rating movies on IMDB, extracting relevant information, and sending the data via email. The input is an Excel file containing a list of movies and their respective ratings. The output is another Excel file that includes detailed descriptions and information about the movies, which is then sent via email.

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## Introduction

### 1.1 Purpose

The Process Definition Document outlines the business process chosen for automation. The document describes the sequence of actions performed as part of the business process, the conditions and rules of the process prior to automation (AS IS) as well as the new sequence of actions that the process will follow as a result of preparation for automation (TO BE).

The PDD is a communication document between:

* The RPA Business Analyst and the SME/Process Owner. The goal is to ensure that the RPA Business Analyst has the correct understanding of the process and has represented it accurately.
* The RPA Business Analyst and the Development team (represented by the Solution Architect and RPA Development Lead). The goal is to ensure that the process is documented appropriately and to a sufficient level of detail so that the Solution Architect can then create the solution based on the PDD content.

### 1.2 Objectives

The business objectives and benefits expected by the Business Process Owner after automation of the selected business process are:

* Reduce processing time per item by 80%.
* Better Monitoring of the overall activity by using the logs provided by the robots.

### 1.3 Key Contacts

Add here any stakeholders that need to be informed or to approve changes to the process:

| **Role** | **Name** | **Contact Details** (email, phone number) | **Notes** |
| --- | --- | --- | --- |
| **Mentor** | Darius Blaga | darius.blaga@tquila-automation.com |  |
| **Student** | **Laurentiu Muresan** | **muresan.ni.laurentiu@student.utcluj.ro** |  |

### 1.4 Minimum Pre-requisites for the Automation

1. Filled in Process Definition Document
2. Test Data to support development
3. User access and user accounts creations (licenses, permissions, restrictions to create accounts for robots)
4. Credentials (user ID and password) required to logon to machines and applications

## AS IS Process Description

In this section the Business Analyst will document the process. This section will serve as the starting point for the re-engineering and automation effort.

* **Step 1** Project Initialization
  + **Step 1.1:** Create a Microsoft Excel final report named “Movies Report.xlsx”.
  + **Step 1.2:** Open the input Excel file.
  + **Step 1.3:** Open the output Excel file just created.
  + **Step 1.4:** Open a web browser and go to the IMDb website.
  + **Step 1.5:** Check if you are logged into your IMDb account by looking for your profile icon or name in the top right corner.
  + **Step 1.6:** If not logged in, click on the "Sign In" button.
  + **Step 1.4:** Enter your email and password, then click "Sign In."
* **Step 2** Rating the Movie on IMDb
  + **Step 2.1:** For each movie name in the Excel file type the movie name into the IMDb search bar and press Enter.
  + **Step 2.2:** If the movie does not exists then input “Movie not found!” into the corresponding column (“BE” column).
  + **Step 2.3:** If the movie exists then click on the correct movie to open its detailed page.
  + **Step 2.4:** On the movie's detailed page, locate the rating section.
  + **Step 2.5:** If the movie has a rating already then click “Remove rating”.
  + **Step 2.6:** Click on the star rating corresponding to the rating from the Excel file.
  + **Step 2.7:** Confirm the rating by clicking “Rate”.
* **Step 3** Extracting Movie Details
  + **Step 3.1:** On the movie's detailed page, manually extract details such as categories, description, directors, writers and stars.
  + **Step 3.2:** Copy these details and paste them into the corresponding columns int the output Excel file.
  + **Step 3.3:** Save and close the output Excel file.
* **Step 4** Emailing the Excel File
  + **Step 4.1:** Open the Microsoft Outlook application.
  + **Step 4.2:** Click to create a neu email.
  + **Step 4.3:** Attach the created Excel file ("Movies Report.xlsx").
  + **Step 4.4:** Enter the recipient's email address and a subject line.
  + **Step 4.5:** Write a brief message in the email body explaining the attachment.
  + **Step 4.6:** Send the email.
* **Step 5** Closing the applications
  + **Step 5.1:** Close all the used applications.

### 2.1 Process Overview

Section contains general information about the process before automation.

| **Item** | **Description/Answer** |
| --- | --- |
| **Process Full Name** | IMDb Movies Reviewer |
| **Process Area** |  |
| **Department** |  |
| **Short Description**  (operation, activity, outcome) | ***This project automates the process of rating movies on IMDb, extracting movie details, and emailing the data. Input is an Excel file with movie names and ratings. Output is a new Excel file with detailed movie descriptions and information, which is then emailed.*** |
| **Role(s) required in applications to perform the process** |  |
| **Process schedule and frequency** |  |
| **Number of times the process is ran by selected frequency** |  |
| **Process execution time** | ***{process\_execution\_time}*** |
| **Process Restrictions** | ***e.g.*** *This is necessary for the Solution Architect to decide how they will need to split the Master Project into smaller projects (the scheduling of the robots will depend on this)*  ***Example:*** *The applications can be used only between 7 AM-8PM during work days and not allowed to be used during weekend.* |
| **Peak Period (s)** | ***e.g.*** *It is important to understand peaks in order to design a robust and scalable solution.*  ***Example:*** *Beginning of month, usually from 28th to 30th day of each month* |
| **Peak Volume Approximate increase** | ***E.g.*** *It is important to understand peaks in order to design a robust and scalable solution.*  ***Example:*** *600* |
| **Number of persons performing the process** | ***1*** |
| **Expected Volume increase during next periods** | ***e.g.*** *It is important to understand peaks in order to design a robust and scalable solution.*  ***Example:*** *10-20%* |
| **Percentage Un-handled exceptions** |  |
| **Input data description** | ***e.g.:*** *pdf invoices from ~100 suppliers* |
| **Output Data description** | ***e.g.*** *posted invoices report in SAP* |

*\*Add more rows to the table to include relevant data for the automation process. No fields should be left empty. Use “n/a” for the items that don`t apply to the selected business process.*

### 2.2 Applications Used

The table includes a comprehensive list of all the applications that are used as part of the process to be automated to perform the given actions in the flow.

| **Application Name** | **Version** | **Application Language** | **Thin/Think Client** | **Environment/ Access method** | **Comments** |
| --- | --- | --- | --- | --- | --- |
| **Microsoft® Excel® for Microsoft 365** | **MSO (Version 2407 Build 16.0.17830.20056) 64-bit** | *English (World)* |  | On machine |  |
| **Google Chrome** | **127.0.6533.90 (Official Build) (64-bit)** | *English* |  | On machine |  |
| **MicrosoftOutlook** | **1.2024.725.400 (Production)** | *English* |  | On machine |  |

*\*Add more rows to the table to include the complete list of applications.*

### 2.3 AS IS Process Map

This section contains various process maps contributing to a better understanding of how the process is performed pre-automation.

#### 2.3.1 High Level Process Map

This section is useful for the Business Analyst in presentations and discussions with management to underline areas of weakness, inefficiency or to demonstrate which actions could be in scope for automation.

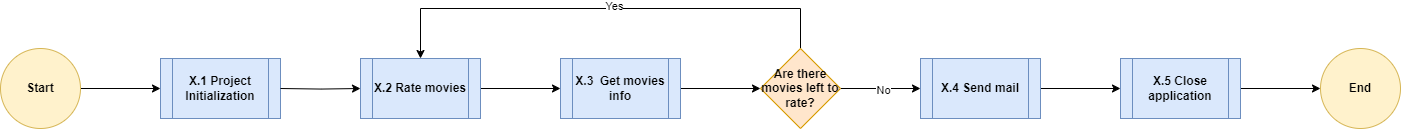


Figure 1 As-Is Map.

#### 2.3.2 Detailed Level Process Map

This section describes the process at key-stroke level and is an essential part for the communication with the developers.



Figure 2 Project Initialization.

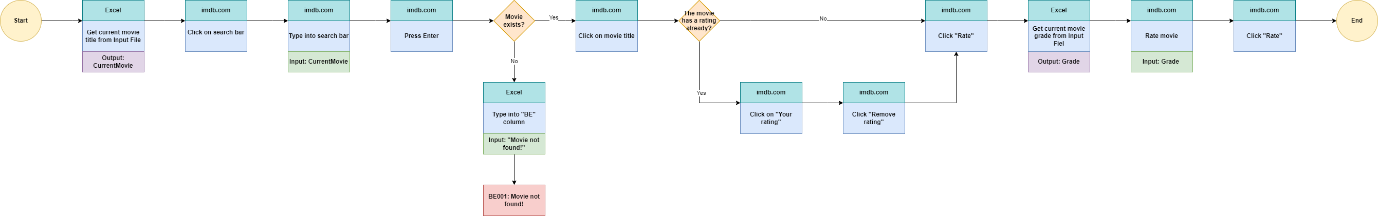


Figure 3 Rate movies.



Figure 4 Get movies info.



Figure 5 Send Mail.

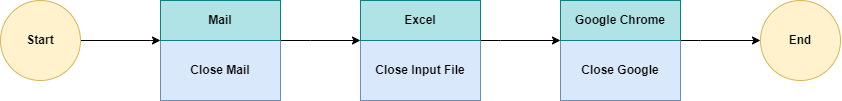


Figure 6 Close Application

### 2.4 Process Statistics

**High Level statistics**

| **Processes** | **Windows** | | **Actions** | **Mouse clicks** | **Keys pressed** | **Text entries** | **Hotkeys used** | **Time** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| {total\_applications\_count} | {total\_windows\_count} | {total\_actions\_count} | | {total\_clicks} | {total\_keys\_pressed} | {total\_text\_entries} | {total\_hotkeys} | {process\_execution\_time} |
|  |  |  | |  |  |  |  |  |
|  |  |  | |  |  |  |  |  |

**Detailed statistics**

| **Window name** | **Mouse clicks** | **Text entries** | **Key pressed** |
| --- | --- | --- | --- |
| {#windows}{name} | {total\_clicks} | {total\_text\_entries} | {total\_keys\_pressed} {/windows} |
|  |  |  |  |
|  |  |  |  |

### 2.5 Detailed AS IS Process Actions

| **#Action** | **Input** | **Description** | **Details (Screen/Video Recording Index** | **Exception Handling** | **Possible Actions** |
| --- | --- | --- | --- | --- | --- |
| Open Excel File | Excel applicatio, Input Excel file | Open the existing Excel file with movie names and ratings | Navigate to file location, double-click file to open in Excel |  |  |
| **Create New Excel File and set up columns** | Excel application | Create a new Excel file for results and set up columns | Open Excel, create a new workbook and name it “Movies Report.xlsx”. Create columns: "Movie Name",  “Description”, “Categories”,  ”Directors", "Writers”, "Stars" |  |  |
| **Open IMDb Website** | Google  Chrome | Open IMDb homepage | Type "IMDb" in browser address bar, press Enter, then click on the first page |  |  |
| |  | | --- | |  |  |  | | --- | | **Check IMDb Login Status** | | Google  Chrome, IMDb account | Verify if logged into IMDb | Look for profile icon or name in the top right corner | Not logged in | Proceed to login step |
| **IMDb Login** | Google  Chrome, IMDb account | Log into IMDb if not already logged in | Click "Sign In" ,select “Sign in with IMDb”, enter email and password, click "Sign In" | Incorrect credentials | Retry login, reset password. |
| **IMDb Movie Search** | Google  Chrome, IMDb account | Search for each movie in Excel | Type movie name in search bar, press Enter, review results | No results, incorrect movie | Paste “Movie not found” into corresponding column in the results Excel |
| **Select Movie from Results** | Google  Chrome, IMDb account | Select correct movie from search results | Click correct movie based on title |  |  |
| **Check Existing Rating** | Google  Chrome, IMDb account | Check if the movie already has a rating | Scroll to the rating section on the movie's detailed page |  |  |
| **Remove Existing Rating** | Google  Chrome, IMDb account | Remove existing rating if present | Click on "Remove Rating" |  |  |
| **Rate Movie on IMDb** | Google  Chrome, IMDb account | Rate movie on IMDb | Click star rating based on Excel rating, confirm if prompted |  |  |
| **Extract Movie Details** | Google  Chrome, IMDb account | Manually extract details | Copy categories,  Description, directors, writers and stars |  |  |
| **Input Movie Details** | Excel application | Enter movie details into the new Excel file | Paste details into corresponding columns |  |  |
| **Save New Excel File** | Excel application | Save the new Excel file with movie details | File > Save As, choose location, enter filename "Movies Report.xlsx" |  |  |
| **Open Outlook** | Outlook application | Open Outlook to send the email | Double-click Outlook icon or search in start menu |  |  |
| **Compose New Email in Outlook** | Outlook application | Compose email with new Excel file attached | Click "New Email," enter recipient, subject, body, click "Attach File," select "Movie\_Details.xlsx" |  |  |
| **Send Email in Outlook** | Outlook application | Send the composed email with the attachment | Click "Send" in the email window |  |  |
| **Close Outlook** | Outlook application | Close the Outlook application after email is sent | Click the "X" button at the top-right of the window, or File > Exit |  |  |
| **Close Excel** | Excel application | Close the Excel application after saving the new file | Click the "X" button at the top-right of the window, or File > Exit |  |  |
| **Close Browser** | Google Chrome | Close the browser after completing IMDb tasks | Click the "X" button at the top-right of the window, or File > Exit |  |  |

{#sequenceLayout}

| 1. **{sequenceTitle}** |
| --- |
| {sequenceDescription} | Est. time: {sequence\_execution\_time} |

{#actionLayout}

| **1.1 {actionTitle}** |
| --- |
| {actionDescription} | Est. time: {action\_execution\_time} |
| {%actionImage} | {#action\_metadata}  Action: {action\_type}  {/action\_metadata} |

{/actionLayout}

{/sequenceLayout}

### 2.6 Input Data Description

The following table should contain details regarding the inputs that every action of the process takes.

| **#Action** | **Sample** | **Input Type** | **Location** | **Are inputs Natively Digital\*?** | **Are the inputs Structured\*?** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

*\* Native Digital: This is data that was originally created digitally e.g. excel, database or application reports etc. The non-native digital inputs are usually scanned images.*

*\* Structured Data: has a predictable format and exists in fixed fields (e.g. an excel cell or a field in a form) and is easily detectable via search algorithms.*

## TO BE Process Description

In this section the proposed improvements to the process, actions to the process will be outlined as well as the actions proposed for automation and the type of robot required. **This will be cross-checked by the Solution Architect.**

A diagram of a computer

Description automatically generated

Figure 7 TO-BE Map

### Detailed TO BE Process Map

A diagram of a diagram

Description automatically generated

Figure 8 Project Initialization

A close-up of a diagram

Description automatically generated

Figure 9 Sign In

A diagram of a diagram

Description automatically generated

Figure 10 Rate movies

A diagram of a computer

Description automatically generated

Figure 11 Close application

A detailed process map of the process as it will look like post-automation will be outlined here.

*Highlight Bot interventions/ To-Be automated actions with different legend/ icon (purple).*

*Mention below if process improvements were performed on the To-Be design and provide details.*

| **Legend** | **Description** |
| --- | --- |
|  | Action number in the process. Referred to in details or Exceptions and Errors table. |
|  | This process action is proposed for automation. |
|  | This process action remains manual (to be performed by a human agent). |

### 3.2 Parallel Initiatives

The table below will capture the proposed Business, Process or Application changes to be made in the near future that would impact the process at hand (if any).

| **Initiative Name** | **Process Action(s) where it is identified** | **Impact on current Automation Request** | **Expected Completion Date** | **Contact Person** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

### 3.3 In Scope for RPA

The actions in scope for RPA should be listed below:

### 3.4 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** | **Impact on the TO BE** | **Possible measures to be taken into consideration for future automation** |
| --- | --- | --- | --- |
| *e.g. Action 3* | *e.g. Input is handwritten* | *e.g. after action 2 an e-mail is sent to the user to manually perform action 3* | *e.g. collect the input in pdf form and use electronic signature* |

*\*Add more rows to the table to reflect the complete documentation provided to support the RPA process.*

### 3.5 Exception Handling

The Business Process Owner and Business Analysts are expected to document below all the business exceptions identified in the automation process. Exceptions are of 2 types and both need to be addressed:

**Known exceptions** = previously encountered. A scenario is defined with clear actions and workarounds for each case.

**Unknown** = New situation that was not encountered before. It cannot be predicted and in case it happens it needs to be flagged and communicated to an authorized person for evaluation.

#### 3.5.1 Known Business Exceptions

Details regarding how the robot should handle the exceptions.

| **Exception Name** | **Action** | **Parameters** | **Actions to be taken** |
| --- | --- | --- | --- |
| *e.g. Employee ID <> 6 characters* | *e.g. Action 1* | *e.g. Employee ID* | *e.g. send an e-mail to exceptions@company.com with the text: “Employee ID <> 6 characters”*  *Go to the next transaction* |

#### 3.5.2 Unknown Business Exceptions

An umbrella rule that includes a notification needs to be designed for all other exceptions that could happen and cannot be anticipated.

*e.g.: for all other cases which do not follow the rules defined an e-mail should be sent to: exceptions@company.com with a screen shot and robot should proceed to next transaction.*

### 3.6 Applications Errors & Exceptions Handling

A comprehensive list of all errors, warnings or notifications should be consolidated here together with the action to be taken for each by the Robot. There are 2 types of exceptions/errors:

**Known** = Previously encountered and action plan or workaround available for it (e.g. SAP unresponsive during peak times)

**Unknown** = these are exceptions and errors that cannot be anticipated but for which the robot needs to have a rule so that the RPA solution is sustainable.

#### 3.6.1 Known Applications Errors and Exceptions

Details regarding how the robot should handle the exceptions.

| **Error/Exception Name** | **Action** | **Parameters** | **Actions to be taken** |
| --- | --- | --- | --- |
| *e.g. Application Crash* | *e.g. Any action* | *e.g. Error message* | *e.g. recover and retry 3 times* |

#### 3.5.2 Unknown Applications Errors and Exceptions

An umbrella rule that includes a notification needs to be designed for all other exceptions that could happen and cannot be anticipated.

*e.g. robot should attempt to access the application 3 times then it should terminate thread.*

### 3.7 Reporting

In this section all the reporting requirements of the business should be detailed so that when the RPA solution is moved to production the administrators can track the performance of the solution.

| **Report Type** | **Update frequency** | **Details** | **Monitoring Tool to visualize the data** |
| --- | --- | --- | --- |
| *e.g. Process logs* | *e.g. Daily* | *e.g. How many times was this process run since the beginning of the month and what was the average run duration* | *e.g. Kibana* |
| *e.g Process logs* | *e.g. Monthly* | *e.g. How many robots worked on this process per each month?* | *e.g. Csv file posted daily on share drive* |
| *e.g Transaction logs* | *e.g. Daily* | *e.g. How many transactions were run by this process since the beginning of the month and what was the average transaction duration?* | *e.g. Kibana* |
| *e.g Error logs* | *e.g. Daily* | *e.g. Average number of errors by type per day* | *e.g. Kibana* |
| *e.g Error logs* | *e.g. Daily* | *e.g. All errors per month grouped by type* | *e.g. Csv file posted daily on share drive* |

*\* For complex reporting requirements, include them into a separate document and attach it to the present documentation*

## Other

In this section the proposed improvements to the process, actions to the process will be outlined as well as the actions proposed for automation and the type of robot required. **This will be cross-checked by the Solution Architect.**

### 4.1 Additional sources of process documentation

If there is additional material created to support the process automation please mention it here, along with the supported documentation provided.

| **Additional Process Documentation** | | |
| --- | --- | --- |
| **Video Recording of the process (Optional)** | Acme-System1-Process-WI5-Manual-Walkthrough | Insert any relevant comments |
| **Business Rules Library (Optional)** | Insert link to Business rules library | Insert any relevant comments |
| **Other documentation (Optional)** | Insert link to any other relevant process documentation (L4, L5 process description, fields mapping files etc.) | Insert any relevant comments |
| **Standard Operating Procedure(s) (Optional)** |  | Insert any relevant comments |
| **High Level Process Map (Optional)** |  | Insert any relevant comments |
| **Detailed level process map (Optional)** |  | Insert any relevant comments |
| **Work Instructions (Optional)** |  | Insert any relevant comments |
| **Input Files (Optional)** |  | Insert any relevant comments |
| **Output Files (Optional)** |  | Insert any relevant comments |

*\*Add more rows to the table to reflect the complete documentation provided to support the RPA process.*