

# Mortgage Document Extraction – UiPath

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## About Automation:

This automation is used to extract the required fields from Closing Disclosure document.

## User Guide:

1. **INPUT:** Place the pdfs in the input folder of the automation.
2. **OUTPUT:** Trigger the job, output csv contains the extracted fields of all the input files.
3. Logs and errors can be observed from the orchestrator logs.

## Version Control:

Github: <https://github.com/yashwant43/MortgageDocumentExtractRPA>

## Architecture:

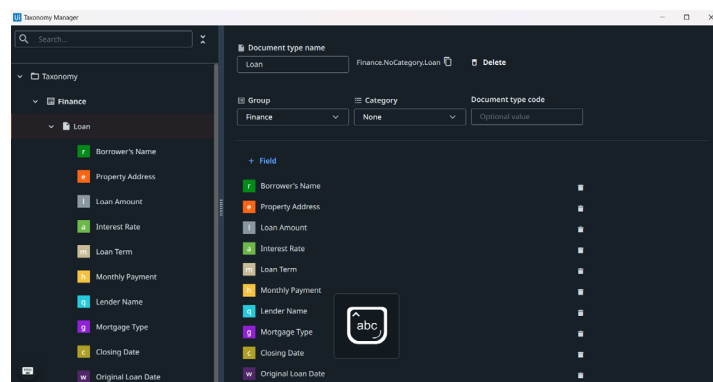
1. This automation uses UiPath Document Understanding.
2. Automation is a linear process where each input file is read, and fields are extracted to csv file.

## Dependencies:

1. UiPath.DocumentUnderstanding.ML.Activities=1.17.0
2. UiPath.IntelligentOCR.Activities=6.5.0
3. UiPath.OmniPage.Activities=1.17.0

## Automation Steps:

1. For each file in the input folder, bot iterates and stores the file path into str\_InputFolder.
2. Taxonomy is created, fields and their respective data types are added.



3. Load Taxonomy activity is used to load the created taxonomy and the output is stored in Taxonomy variable.
4. Str\_DocumentPath is assigned to the file path.
5. Digitize Document activity is used to digitize the pdf to text. The output is saved to str\_DocumentText and meta data to DOM variable. OmniPage OCR is used.
6. Classify Document Scope is used to classify the type of document which is loan.

Keyword based classifier is used and necessary keywords are added. Results are stored to classificationResults variable.

7. Data Extraction Scope activity is used to extract the fields. Extracted results are stored in extractionResults variable. Form Extractor is used extract the fields.

API value is retrieved from UiPath Admin->Licences.

Template Manager is used to annotate the fields. Each filed location is marked and saved.

The screenshot shows the UiPath Template Manager on the left and a Closing Disclosure form on the right. The Template Manager has a 'Document Type' dropdown set to 'Loan' and a list of fields with matching information: 'Closing Property Transaction Borrower Seller Lender Loan Purpose Product Loan', 'Borrower's Name', 'Property Address', and 'Loan Amount'. The Closing Disclosure form is titled 'Closing Disclosure' and contains sections for 'Closing Information', 'Transaction Information', 'Loan Information', 'Loan Terms', 'Projected Payments', and 'Can this amount increase after closing?'. The form includes fields for Date Issued, Closing Date, Disbursement Date, Settlement Agent, File #, Property, Sale Price, Borrower, Seller, Lender, Loan Term, Purpose, Product, Loan Type, Loan ID #, and MIC #. The 'Loan Terms' section shows a Loan Amount of \$162,000, an Interest Rate of 3.875%, and a Monthly Principal & Interest of \$761.78. The 'Projected Payments' section shows a Payment Calculation of \$761.78 for Years 1-7 and Years 8-30.

8. Present Validation Station is used to validate the results.
9. Export Extraction Results activity is used to extract the results to dataset variable.
10. Output datatable of extracted fields is present in dt\_Output variable.
11. File Path and Timestamp columns are added and data is stored in output.csv.

## Screenshots:

Input:

**Closing Disclosure** This form is a statement of final loan terms and closing costs. Compare this document with your Loan Estimate.

<b>Closing Information</b>	<b>Transaction Information</b>	<b>Loan Information</b>
<b>Date Issued</b> 4/15/2013	<b>Borrower</b> Michael Jones and Mary Stone	<b>Loan Term</b> 30 years
<b>Closing Date</b> 4/15/2013	123 Anywhere Street	<b>Purpose</b> Purchase
<b>Disbursement Date</b> 4/15/2013	Anytown, ST 12345	<b>Product</b> Fixed Rate
<b>Settlement Agent</b> Epsilon Title Co.	<b>Seller</b> Steve Cole and Amy Doe	<b>Loan Type</b> <input checked="" type="checkbox"/> Conventional <input type="checkbox"/> FHA
<b>File #</b> 12-3456	321 Somewhere Drive	<input type="checkbox"/> VA <input type="checkbox"/>
<b>Property</b> 456 Somewhere Ave	Anytown, ST 12345	<b>Loan ID #</b> 123456789
<b>Sale Price</b> \$180,000	<b>Lender</b> Ficus Bank	<b>MIC #</b> 000654321

<b>Loan Terms</b>	<b>Can this amount increase after closing?</b>
<b>Loan Amount</b> \$162,000	<b>NO</b>
<b>Interest Rate</b> 3.875%	<b>NO</b>
<b>Monthly Principal &amp; Interest</b> \$761.78 <small>See Projected Payments below for your Estimated Total Monthly Payment</small>	<b>NO</b>
<b>Prepayment Penalty</b>	<b>YES</b> • As high as \$3,240 if you pay off the loan during the first 2 years
<b>Balloon Payment</b>	<b>NO</b>

<b>Projected Payments</b>		
<b>Payment Calculation</b>	<b>Years 1-7</b>	<b>Years 8-30</b>
Principal & Interest	\$761.78	\$761.78

Output:

AutoSaveOff

output.csv

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	A	B	C	D	E	F	G	H	I	J	K
1	Borrower's Name	Property Address	Loan Amount	Interest Rate	Loan Term	Monthly Payment	Lender Name	Mortgage Type	Closing Date	Original Loan Date	File Path
2	Michael Jones and Mary Stoni	456 Somewhere Ave Anytown, ST 1234	\$162,000	3.88%	30 years	\$761.78	Ficus Bank	Fixed Rate	4/15/2013	4/15/2013	F:\OneDrive\Documents\UIPath\MortgageDocument_Extractio
3	Tim David and Alex Brown	317 Davinci Ave Anytown, ST 54321	\$178,000	4.19%	40 years	\$542.78	LIB Bank	Fixed Rate	8/18/2023	6/15/2020	F:\OneDrive\Documents\UIPath\MortgageDocument_Extractio
4											
5											
6											

output

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