

Solution Design Document (SDD)

Project: Automatisation du traitement des factures

Prepared by: Rayen Mabrouki

Architecture:

The solution integrates three UiPath workflow models — Sequence, Flowchart, and State Machine — each addressing different automation levels of the same business process.

Workflow Types and Roles:

1. Sequence Workflow – Performs basic invoice extraction and data entry. Ideal for simple, repetitive actions such as reading PDFs and writing data to Excel.
2. Flowchart Workflow – Adds conditional routing. For instance, it checks invoice validity (amount, date format, duplicates) and branches accordingly.
3. State Machine Workflow – Acts as the orchestrator, managing different stages and transitions, including retries, exceptions, and process completion.

State Machine Design:

States:

- Initialization: Setup directories and configurations.
- Read PDF Invoice: Extract invoice data from PDFs.
- Extract Data: Parse key invoice fields (Invoice No., Date, Amount).
- Validate: Use Flowchart workflow to verify extracted data.
- Write to Excel: Record valid data into Excel files.
- Archive Files: Move processed invoices to an archive directory.
- Error Handling: Catch and log exceptions.

Inputs and Outputs:

Inputs: Invoice PDFs.

Outputs: Excel report and archived invoices.

Error Handling:

Implemented using Try-Catch and State transitions to ensure smooth recovery.