Fastapi – mongoDB

Electronic invoice

Specifications

Context

In the age of Big Data, data entry has never been such a widespread task.

Data entry in accounting software is a very important step, but it is generally quite long since this repetitive work requires a lot of concentration at each execution.

Operators take less and less pleasure in doing this work and the psychological impact that the practice of this task can have is significant. Eye strain, carpal tunnel syndrome, tenosynovitis, and emotional stress have all been linked to excessive data entry work.

Why, oh why inflict such pain on yourself?

The answer is simple: the electronic invoice.
Why not launch a web platform with the opening of third-party APIs in this sense?

Improvement to its beneficiaries

Succeeding in this transition from the “all-paper” world to the “all-digital” world is essential and ecological, but also in terms of efficiency and rationalization of management processes.

The eco-responsible transition. In a context where the ecological transition is taking an increasingly important place in our society, we could not ignore this argument. A survey by Human and Green Consultants for Bonial tells us in particular that a printed A4 sheet generates the equivalent of 10.22 grams of CO2 while a page read on a mobile requires only 0.72 grams, i.e. 14 times less!

Thus, this project may be useful for accountants who must manually enter invoices purchases. E-invoicing eliminates any need for printing, mailing, physical archiving, etc. For an association, its adoption is therefore the assurance of reducing the administrative costs associated with the issuance and processing of invoices in "paper" format.

Objective

Allow associations working with the public or private sphere to receive their invoices in electronic format. To do this, create an application with possibly third-party APIs to avoid the manual entry of invoices within the association's accounting department.

Factur-X is a new electronic invoicing standard composed of two sides: a human-readable side (in PDF) and a machine-readable side (in XML). The objective is to allow suppliers, issuers of invoices, to create value-added invoices, containing a maximum of information in structured form, but also to recipient customers to automate their processing.
The advantage of Factur-X therefore lies in the flexibility of invoice processing. It becomes, in fact, possible to exploit the plain data in the PDF or the structured data of the XML file for an automated integration.

Constraints

The electronic invoice is an invoice created, sent, received and stored in electronic form, under the legal conditions in force. It takes the place of the original invoice.
The content of an electronic invoice must correspond to that of a paper invoice containing strictly the same mandatory information, namely:
date,
bill number
sender and recipient identities,
description of the product or service,
amount,
VAT number and rate,
date of sale or service,
amount excluding and including tax and penalties provided for in the event of late payment.

Additional information

In the long term, partnerships with brands marketing accounting software should be considered (API creations for the software). The seller can then export his invoices on the application and the buyer can receive the purchase invoice in electronic format.

Practical case in our project

On the Web platform based on the Python FASTAPI framework with a NOSQL mongoDB database, associations can import electronic invoices.

Structured data would allow the file to be processed automatically on the recipient side. The file can also be checked manually from the invoice image. If an automated transaction is rejected, it is possible to detect the anomaly and correct it by viewing the image file.

As part of the project, I simulate the behavior of an API providing electronic invoices.