Edicolab – Implementation of Validation Mechanisms for Description Languages

André Dora, António Alberto, Gonçalo Sousa, Hugo Sousa, Pedro Salgado

Advisors: Prof. Osvaldo Pacheco, Prof. João Paulo Silvestre

Projeto em Informática, 3ºAno, LEI.

2025

Abstract

Edicolab is a collaborative platform designed to facilitate the **digital editing and annotation of historical documents**, with a specific focus on medieval Portuguese royal charters (**forais**).

Context and Motivation

It was developed within the scope of the **iForal project**, which aims to study and preserve ancient charters.
It utilizes **TEI-XML**, a standard **markup language** in **digital humanities**.

Problem

TEI lacks predefined models for **charter encoding**, so custom markup structures had to be created.
This lack of **standardization** leads to:

- **Inconsistencies**
- Unseen **errors** while encoding
- **Inefficient** editing processes

Implementation

We developed a **validation module** to ensure **TEI-XML** follows a **customizable schema**.
Key features:

- Validates **elements** and **hierarchy**
- Provides clear **feedback**
- Supports **custom rules** for different documents and **editorial guidelines**
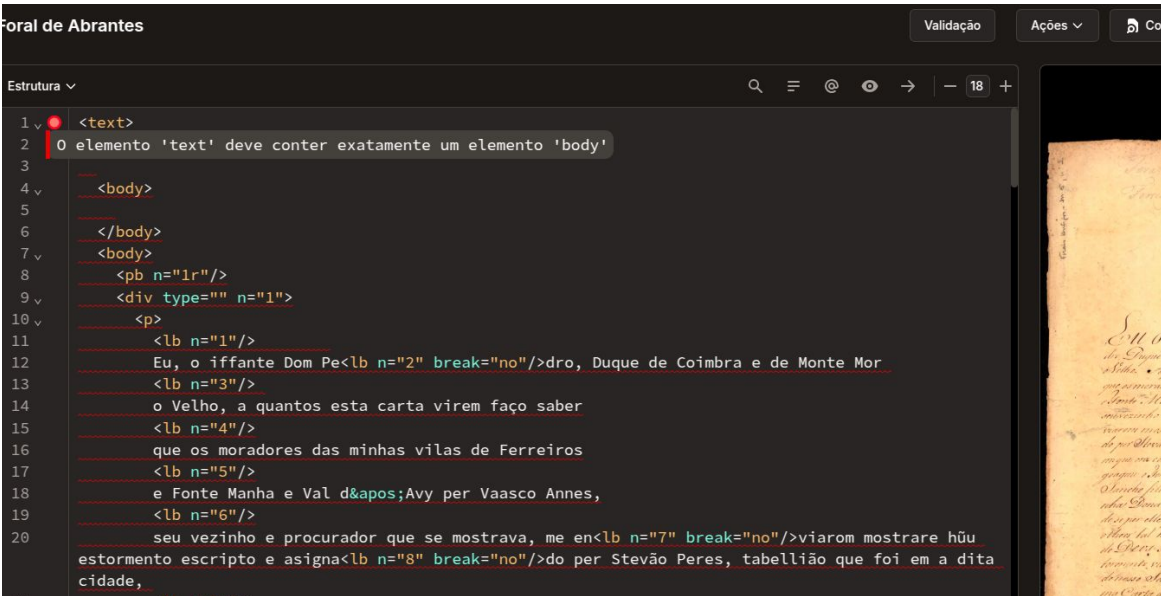- **Autocomplete** of tags

Fig 1 - Example of a highlighted error that affects the whole structure of the transcribed text
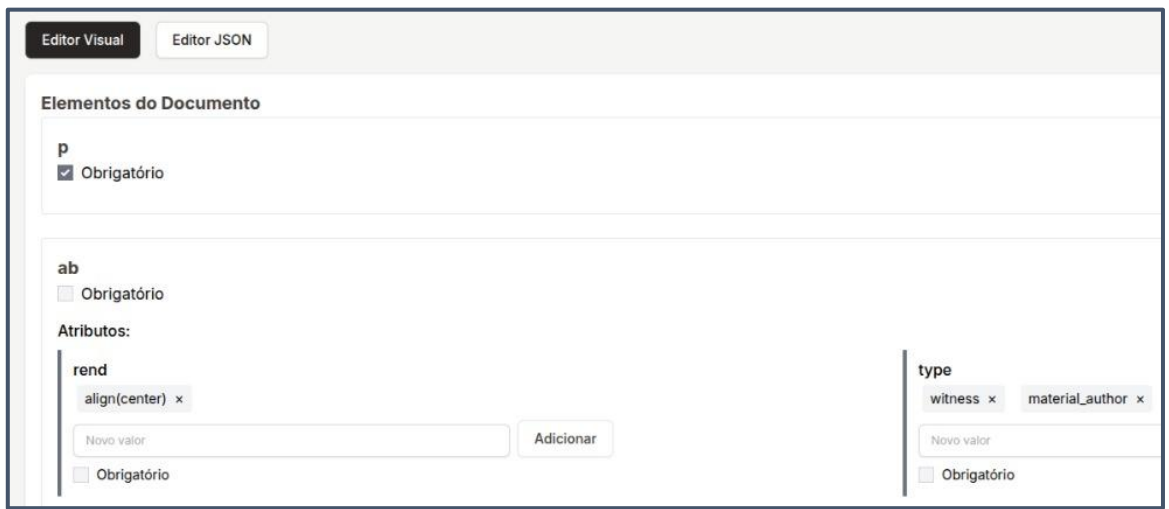

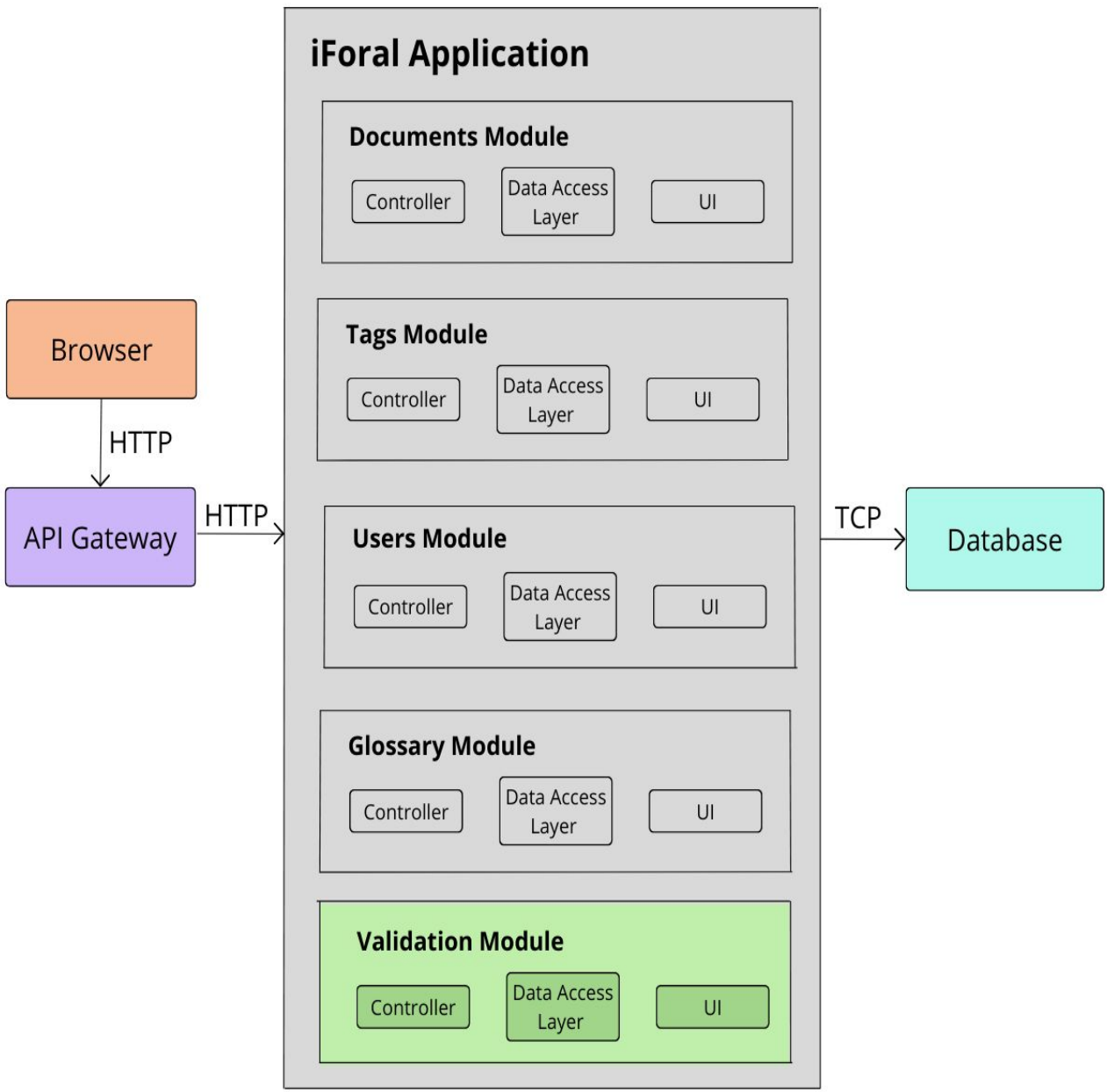Fig 2 - Example of the definition of a custom schema

Fig 3 - Edicolab's Updated Architecture: Instead of restructuring the platform, we integrated the validation module. This module includes a **TypeScript-based backend** responsible for processing and validating documents, and a **Svelte-based frontend** for the user interface.
In the **Database (PostgreSQL)**, we added the support to store the validation schema associated with each document and incorporated the logic to manage the automatic creation of tags during the editing process.

Conclusion

The **validation module** reduces **errors**, improves **markup quality** and enhances **usability**, making Edicolab a more **robust tool** for the creation of Critical Editions of **Portuguese charters**.

References

Silvestre, J.P., Pacheco, O., Sousa, J., Roldão, F., and Serafim, J. (2024), "A edição digital de forais medievais portugueses com o suporte de um sistema de edição colaborativa em base de dados", *Diacrítica*, Vol. 38, No. 1, pp. 130–145.
DOI: https://doi.org/10.21814/diacrtica.5602

Braga, J.S. (2025), "A produção documental das câmaras municipais no Antigo Regime: legislação, administração e escrita do poder local em Portugal (séculos XVII e XVIII)", *Varia Historia*, Vol. 41, e25006.
DOI:https://doi.org/10.1590/0104-87752025v41e25006
ISSN: 0104-8775.

Reis, A.M. (2019), Forais Medievais Portugueses. Edição e Estudo. Volume I. Lisboa: Imprensa Nacional-Casa da Moeda. ISBN: 978-972-27-2643-0.