Linked data supporting the legislative decision process

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Abstract

Legislation has been a rewarding topic to apply the concepts and structures of linked data, resulting in semantically enriched descriptions of legislative texts. A next step is to semantically support the steps before legislation comes into force. Based on the semantic.works platform and a business approved data model, the Flemish government succeeded in doing exactly that. Our software supports the filing of topics, filing of decision steps, registration of scheduling activities, decision activities, and the follow-up in the distribution of decisions, signing of texts and the publications of laws. We will highlight that working with a semantic data model was and is key to make the digital transformation of the processes supporting such a complex use case as political decision a success.

Keywords
Linked data, legislation, government, decision making process, digital transformation

Laws are, by definition, open data. Laws are in essence also linked: they refer to each other, they refine, they replace or give execution to other laws. Therefore, we see the publication of European legislation as one off the early implementations of linked open data. This schema of being linked and open is also present when laws are being made: the actual processes of (political) decision making that precede the actual legislation. Typically, a new legislative text will pass several cycles of reading, amending and approving. However, for this phase of genesis, while so many different interests, concerns, drives and balances are playing, it is hard to engage in building digital support for it. Most governments do not get further than bundling documents in function of an agenda. In Flanders we have accomplished a next level of supporting the decision making, by formally modelling the process and working towards standardisation. The last steps in the process of decision making at the council of ministers are in Flanders now supported by a native semantic platform (named Kaleidos). It is built on the semantic.works[2] stack and is open source.

The linked data format is excellent for the recurrence of files, for registering typical actions as being placed on the agenda, to be discussed, postponed or decided upon, to add the formal decision of the council on the subject and pieces. Using a standardised approach with an openly available data model also naturally aligns with the process itself, preventing that a 'democratic' process is registered in a closed IT system accessible only by insider engineers. Of course, this does not mean the whole decision process and the involved information is open for the public, but it does mean the barriers to access what is registered are imposed by politics and not by IT.

The core platform was put in place in September 2019, and since then it has been incrementally enriched with functionality. At the basis of the whole implementation is a data model that has been established in collaboration with all stakeholders, and is treated as an open data standard (https://data.vlaanderen.be/doc/applicatieprofiel/besluitvorming). The main concepts in this model are: file, procedural step, agenda item, agenda version, scheduling activity, decision activity and decision output.

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CEUR Workshop Proceedings (CEUR-WS.org)

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[2] https://semantic.works

Throughout the years, this core process of supporting decision-making has been amended with separate services growing a linked data eco-system: a module to add the summary of each decision in layman's terms for press and public, functionality to prepare the relevant pieces for digital signature and a module to prepare the pieces for the publication in the official bulletin of laws. After each meeting of the council, the data are posted on a human-readable website, every next business day the entire public data set of metadata and documents is made available on an open data portal (https://themis.vlaanderen.be).

Those different services of the supporting administration, operated before in their own environment, separated and isolated. As such they required intensive manual tracking and/or expensive ETL transfer processes of data to have a link to the actual decisions. It proved that these services need very specific functionality using specific controlling data. However, using linked data to graft their specific data on top of the basis of the shared core set of data, these services do work now as on one (distributed) set of data. The current semantic framework also supports the next steps in supporting the making of legislation, e.g. where advisory cycles can be integrated and more and more of the legislative content itself is semantically enriched and can be processed.

In the period since switching to production, almost 4 years ago, the platform registered and distributed 330 agenda's with more than 9400 agenda items. The core application had more than 600 (not necessarily simultaneous) active users per month in 2023 so far. In 2022, 1.523 texts passed through the workflow towards publication as legislative texts for a total of 23.129 pages. The streamlining of the supporting and facilitating process on a shared data model also helps to keep pace with the ever-increasing legislative work in our modern society.

After almost 5 years of incremental development in a live environment we have some learnings we want to share.
The linked data format is not only the structure that is naturally affiliated with the domain, but the modus operandi starting from a business approved data model has shown to be the most suitable approach for us to address the digital transformation challenge that is given with the use case of decision making. The implementation of digital support in this domain is best described as rebuilding a ship inside out while it is sailing through rough seas, with limited vision and reduced steering control for anybody on the midship. There is no possibility to put the process of political decision making on hold or reduce its scope over a longer and planned period. As such, development needed to be done in an agile way, since requirements, constraints and exceptions are in a continuous evolution as the business is realising and tackling the consequences of the digital reinvention of processes. Whatever we implemented as feedback loops during analysis and design phases, we were always confronted with significant new requirements later in the process that would have broken any approach based on a classic database. Only the basis of an agreed and business-approved data model allows us to proceed in a consistent way, preventing the proliferation of database fields. So, in this environment the linked data structures do not only allow for a proficient modelling of the domain, they are also the prime method to stay on course in a domain where scope is under the continuous pressure of new insights during the digital transformation and the primacy of the politics, while needing to adhere to the legislative prescriptions for the decision process.

There is still a long way to go to get the different administrations engage in the more digitally embodied processes that precede or follow upon the decision processes at the council. It is a shift away from the semi-computerized processes built on mail and file sharing towards a cloud-shared information web. Fortunately, this process is expedited by the ever-increasing number of decisions, complexity of legislation, size of documents and required speed to get them processed.