Enhanced Workflow Models as a Tool for Judicial Practitioners

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Abstract. In the past, attempts were made to make law and justice more accessible to general audience and to legal practitioners using models of legal texts. We present a new approach to make the judicial workflows easier to understand. By using process modelling methods, the developed representation emphasises on improving transparency, on promoting mutual trust and on formalising models for verification. To design semi-formal models interviews are used as well as legal texts are consulted. These models are formalised in a second step. The models are enhanced with hierarchies, modules and the generation of different views. Language problems are also treated. The subsequent formalised models are used to verify trigger events and timing of judicial workflows, which have very specific requirements in terms of periods of time and fixed dates. A new tool, *Lexecute*, is presented which gives new perspectives into justice and reveal new potentials for modelling methods in the field of justice.

The results presented in this paper have been achieved in the context of *eJustice*, an EU-project within the 6th framework programme (see www.ejustice.eu.com). eJustice is bringing together experts from the field of informatics and law, developing solutions to enable the European justice for a closer collaboration. One major part of eJustice, that will be presented here, is the development of a proper representation for judicial workflows.

We present the new tool *Lexecute* that combines a graphical representation of legal processes with a detailed description of all steps of these processes. Lexecute supports the work of judicial practioners for several reasons:

- A workflow model helps to visualise the process described. One can get a quick overview over the procedure without having to concern huge texts. A visualisation can be realised in such a self-descriptive way that it is understandable even by amateurs and not only by legal experts.

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- Visualisation promotes mutual trust. If the applicant knows where and how his request is processed and whom he can turn to in case of questions he brings enhanced trust into the process.
- The visualisation of processes in a modelling language allows formalisation. Formalisation allows verification. The next step can be automation then, or at least support of the processing of judicial workflows by computer technology.

Legal sources are the fundaments of judicial decisions and define the legal processes. Although some of them are meant for the organisation of work, there is hardly a process described by one single legal source only. Hence, the representation of judicial processes in workflow models can be of great support, just as it is in the private sector. In the service sector, process models are even used as an engineering method for services and could correspondingly be used for the development of new laws in the future.

We call our representation *enhanced workflow models* since they contain more information than a typical business workflow model. The information needed by judicial practitioners is too complex to be displayed within the graphical representation of a workflow model. Thus, we decided to enrich the workflow model with additional properties that are not shown in the graphical representation but in a separate *info-box*. By clicking on an element in the workflow model, the info-box returns information that would otherwise overcrowd the workflow model. The info-box is generated automatically. This box is the most important interface to the user. It contains information on the legal basis of an element, of documents, short descriptions, navigational information etc.

Two methodical mechanisms have been developed in main workflow modelling methods and are implemented in Lexecute: hierarchy and modularisation.

A hierarchy allows to refine the workflows and their functions stepwise and is represented by a tree structure. A Workflow is composed of several functions executed in a time-logical sequence and each function is supported by a workflow (except for the lowest function in the hierarchy).

The second possibility to reduce the complexity of a workflow model is the modularisation. Modules are self-contained parts of a workflow that have a defined in- and output and that can have multiple usage. They can be handled more flexibly either by representing them in a strictly logical sequence (without a time sequence) or by defining a set of modules for a specific domain or usage. The advantages of modularisation are that they are reusable (in this case it is sufficient to model and view a module only once, even if it is used several times in a workflow) and that they are exchangeable, e.g. the module `serve a claim by mail` can be replaced by the module `serve a document electronically`.

When modelling trans-national workflows, the language barrier forms an obstacle and complicates the understanding. However, the judicial legal terminology differs not only from language to language but also from country to country. In our models the original terms are used and translations are presented by moving the mouse over the terms depending on the country in which our tool is used.