A few years ago, we created a new discourse metamodel that specifies what discourse models for classes of dialogues may look like. Such a discourse model can specify an interaction design. It refers to a business domain model that specifies the domain-of-discourse of the dialogues between user and business application (app). Business ontologies may help to define the domain of discourse, and the discourse models referring to it implicitly define tasks as well.

Such discourse models can be also viewed as specifying classes of scenarios, i.e., (business) use cases. In contrast to the usual approaches for specifying use cases, however, our discourse models provide well-defined structures of how the various scenarios and their steps are related to each other. So, they also define business requirements.

From such models, we can generate user interfaces (UIs) (semi-)automatically. Recently, we included in this generation process automatic optimization based on heuristic search. This approach is particularly useful for optimizing UIs for relatively small screens like those of current Smartphones. Just based on a simple device specification of the Smartphone, the business App UI is specifically optimized for it. Such UIs can be generated fully automatically and optimally fit the given device, so that they are ready for real-world use, e.g., on Smartphones.

Graphical user interfaces (UIs) for PCs will most likely not fit relatively small screens of devices like today’s Smartphones. Providing dedicated UIs for several devices manually, however, is costly and takes time. Therefore, we have developed an approach to (semi-)automatic generation of UIs for various devices. A designer defines classes of dialogues in a device-independent discourse model. Such a discourse model can be also viewed as specifying classes of scenarios, i.e., (business) use cases. It refers to a business domain model that specifies the domain-of-discourse of the dialogues between user and business application (app). Business ontologies may help to define business domain models and the domain of discourse for the interactions with software systems of the business as modeled. From such models, we can generate UIs (semi-)automatically. Recently, we included in this generation process automatic optimization based on heuristic search.

In effect, this tutorial shows that and how business app user interfaces can be automatically optimized for your Smartphone.

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