

Specifying Business Requirements through Interaction Design

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Abstract. When the requirements and the interaction design of a system are separated, they will most likely not fit together, and the resulting system will be less than optimal. Even if all the real needs are covered in the requirements and also implemented, errors may be induced by human-computer interaction through a bad interaction design and its resulting user interface. Such a system may even not be used at all. Alternatively, a great user interface of a system with features that are not required will not be very useful as well.

This tool demo illustrates joint modeling of (communicative) interaction design and requirements, through a Discourse-based Communication Model consisting of a Discourse Model, a Domain-of-Discourse Model and an Action-notification Model. The concept of such a Discourse Model was derived from results of human communication theories, cognitive science and sociology (even without employing speech or natural language). While these models were originally devised for capturing interaction design, it turned out that they can be also viewed as specifying classes of scenarios, i.e., use cases. In this sense, they can also be utilized for specifying requirements. Ontologies are used to define the domain of discourse for the interactions and the actions that can be performed through the interactions with a software system. These models specify both the business requirements and the interaction design.

User interfaces for software systems can be generated semi-automatically from our Discourse Models, Domain-of-Discourse models and Action-Notification Models. This is especially useful when user interfaces for different devices are needed, since graphical user interfaces (GUIs) for PCs will most likely not fit relatively small screens of devices like today's smartphones. Based on an additional device specification, our tool automatically tailors the generated GUI to the given device.

So, interaction design facilitates requirements engineering to make applications both more useful and usable.

Keywords: Business requirements, Scenarios, Interaction Design, Discourse Models, Generation of multi-device GUIs

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