6. Evaluation

Contents

6.1. Results of the Evaluation

In this section the concept developed in this bachelor thesis, is evaluated. The evaluation is based on a questionnaire, which includes questions in form of multiple choice or text. The multiple choice questions were realized with a four degree rating scale from **Completely Agree** to **Completely Disagree**. Five persons took part in the evaluation.

Evaluation Setup

The evaluation is divided into four groups. At first, the terms of the dashboard initialization tool, and their functionality in the tool are explained. Then, in the first group of the questions, the subjects were asked about their experience with dashboards and dashboard templates. All subjects did not have any experience with dashboard templates and only one subject had experience with the creation of dashboards. This person also had no problems with the formulation of information needs and the selection of appropriate metrics.

In the second part a scenario for the generation of a template was given to the subjects. They were asked to follow the instructions, which led them through the process of the dashboard template creation. The purpose of the scenario was to test the usability of the developed application.

After going through the scenario by working with the tool, the subjects were asked to write down their suggestions for improvement and their critique. There were three categories of critique and suggestions.

Evaluation Results

The first category contains critique about the terminology used in the application. Most subjects did not understand the concept of the *Dimension*. Therefore, one suggestion was to extend the term of the *Dimension* by a more self-explaining formulation. The term visualization ID also was unclear for the most

subjects. One subject stated that the term *rule* was never mentioned in the tool.

The next category of critique concerns the navigation of the tool. One of the suggestions was to add an initial wizard to lead the user through the dashboard template creation process. Another point of critique was the necessity to return to the main page, when navigating through the application.

In the last category suggestions about the design of the GUI were made. All persons were irritated by the *No Automatic Selection* Check Box, since its function was not clear. One user suggested to add an explanation to the widget selection. The update button seemed to be a point of irritation, because it is not clear what will be updated and when the action has to be invoked.

The next group of questions regards to quality and functionality of the application, which are based on the standard for economic requirements for office work (ISO 9241-110) [1]. The questions are divided into three groups: suitability of the task, self-descriptiveness and controllability. According to suitability of the tasks, all users were satisfied with the average number of steps needed to perform a task. Most of the subjects had no problem to understand what task they had to perform. The results of the questions related to the self-descriptiveness and controllability of the application reflect the critique about the terminology and navigation from the previous question group.

In the last group of questions the users were asked about the conformity of the tool functionality with their expectations. It turned out, that most of the subjects understood the purpose of the rule-based dashboard configuration, but some users felt discomfited with the visual components of the application.

6.2. Conclusion and Future Work

In order to summarize the answers of the evaluation, the following conclusions can be made:

- Most users understand the purpose of a rule-based dashboard initialization tool and think about the concept of the application for inexperienced dashboard users as a good solution.

- There is much critique regarding to the technical terms used in the application. In particular, the most users did not understand the terms *Dimension*, *Visualization ID* and *Rule*.

- The critique concerning the technical implementation of the concept indicates, that the most users were not satisfied with the navigation of the application. The functionality of some *Update* buttons seems also not to be intuitive. It was not obvious, what property of the application component had to be actualized through the *Update* button. Furthermore,

all users did not understand the purpose of the checkbox *No automatic selection* in the DashboardTemplateEdit page.

According to the review of the evaluation results from the previous section, the following enhancements of the application can be targeted:

- It is necessary to give more information about the terms, which are used in the application. For instance, they could be extended by an explanation text.

- The properties of the dashboard items like *Visualization ID* and the corresponding Image should be reworked, in order to clarify their relationships with the dashboard item components. Perhaps the *Visualization ID* should be renamed.

- Also the label of the checkbox *No automatic selection* should be changed, in order to make its meaning more understandable.

- The realization of the navigation through the application pages can be improved by the implementation of an initial wizard. However, the wizard should not replace the current navigation, since the application user wants to modify the data afterwards.

- The input field on the *Create Dialog* has to be cleared after each usage.

- The user should also be able to select a widget for the view organization of characteristics on the dashboard setup page.