Master's Thesis

Interactive generation of customized Configurations

Context

Knowledge-based Configuration, Human-Machine Interaction, Qualitative Reasoning, Constraint Programming, Artificial Intelligence

Background

TUM's Model-based Systems & Qualitative Reasoning group is currently engaged in developing a generic, constraint-based configuration system called GECKO. The project aim is to develop an application-independent software solution for solving user-focused configuration problems. The first application is currently in development together with the Munich-based startup eGym and is focused on the generation of customized training plans. To achieve a higher user acceptance, especially amongst trainers, it is necessary to move from a completely automatic system to an interactive approach, in which the user creates the training plan (configuration) with assistance of the GECKO system.

Task

The outcome of this thesis shall be a prototypical software solution for interactively generating customized training plans. Hereby, the focus is on

- Analysis of user requirements and preferences
- Analysis of concepts for interactive, user-focused software
- Development of a generic concept for interactive configuration
- Development of an application specific concept for interactive training planning
- Feasibility and practicality of the developed concept have to be proven in a prototypical implementation

All steps have to be carefully documented.
The Thesis has to be written in English

Prerequisites

- All prerequisites for a Master's Thesis
- Experience in .net / C# or in another OO programming language
- Interest in Artificial Intelligence

Supervisor

Prof. Dr. Peter Struss (struss@in.tum.de)

Advisor

Florian Grigoleit (grigolei@in.tum.de)