Project "Personalized Menu"

Description

With COVID-19 many restaurants have their menus digitized. Guests can scan a QR code and have the menu presented on their smartphones. A disadvantage is that the screen is very small and it is difficult to get an overview, in particular, if the menu is large. However, some guests can not or do not want every meal, e.g. vegetarians or guests with an allergy. Instead of showing all the meals that are offered, it would be preferable to show only those meals the guest prefers.

The objective of the project is to represent the knowledge about meals and guest preferences and create a system that allows to select those meals that fit the guest preferences.

The knowledge base shall contain information about typical meals of an Italian restaurant, e.g. pizza, pasta, and main dishes.

Meals consist of ingredients. There are different types of ingredients like meat, vegetables, fruits, or dairy. For each ingredient, there is information about the calories.

Guests can be carnivores, vegetarians, calorie-conscious, or suffer from allergies, e.g. lactose or gluten intolerance.

Task

Create different knowledge-based solutions based on

- Decision tables
- Prolog
- Knowledge graph

and create a graphical modeling language, which allows a chef to represent meals with their ingredients in a graphical way.

Write a brief explanation of each solution and a conclusion chapter that explains the advantages and disadvantages of the three knowledge-based solutions.

Conditions

For the development of the three knowledge bases and the modeling language, you can work individually or as a pair. The conclusion chapter must be written individually.

You can request two coaching sessions with the lecturers. For first coaching session we recommend that you show a proposal.

The deadline for the submission is the 1st of July at midnight.