

# Project “Personalized Wine 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. This is especially true if a restaurant offers a big wine menu.

Usually customers have preferences. Some prefer wine only from a specific country, e.g. Italy, or a specific region<sup>1</sup> like the Lombardy. Others exclude or prefer specific grapes<sup>2</sup>, e.g. some don't like Pinot Noir. (Please note that some wines are made out of several grapes.) Most people are not wine experts and would like to select their wine by describing the taste (i.e. dry/not-dry, tannin/less-tannin)

But a very prominent decision influencer is the meal<sup>3</sup>. Red wine usually is offered to meat dishes; white wine usually to fish. But there are exceptions<sup>4</sup>, e.g. white wine with chicken.

The objective of the project is to represent the knowledge about wines. Menus and guest preferences are needed to support the selection process (i.e. they are input). Create a system that allows to select those wines that fit the guest preferences and the menu.

The knowledge base shall contain information about typical wines (of an international restaurant) with wines from different regions and countries. For the taste, the grapes and the meals focus on five major representatives (of your choice).

## Tasks

The following tasks needs to be done:

- 1) Define input and output of the knowledge-based system
- 2) Create different knowledge-based solutions based on
  - a. decision tables
  - b. prolog
  - c. knowledge graph.
- 3) Design a graphical modeling language, which allows a chef to represent meals and wines in a graphical way, such that it contains all information relevant for the customers to select according to their preferences

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

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<sup>1</sup> [https://en.wikipedia.org/wiki/List\\_of\\_wine-producing\\_regions](https://en.wikipedia.org/wiki/List_of_wine-producing_regions) [06.03.2022]

<sup>2</sup> [https://en.wikipedia.org/wiki/List\\_of\\_grape\\_varieties](https://en.wikipedia.org/wiki/List_of_grape_varieties) [06.03.2022]

<sup>3</sup> <https://winefolly.com/wine-pairing/getting-started-with-food-and-wine-pairing/> [06.03.2022]

<sup>4</sup> <https://media.winefolly.com/food-and-wine-poster.jpg> [06.03.2022]



## 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 1<sup>st</sup> of July at midnight. Please submit via e-mail to "holgererik.wache@unicam.it"

