Java Technologies - Lab 3

[valid 2022-2023]

JavaServer Faces
Create a Web application using **JavaServer Faces** technology, dedicated to [Sports Tournament Scheduling](#)
"The problem is to schedule a tournament of n *teams* over n−1 weeks, with each week divided into n/2 periods, and each period divided into two slots.
The first team in each slot plays at home, whilst the second plays the first team away.
A tournament must satisfy the following three constraints: every team plays once a week; every team plays at most twice in the same period over the tournament; every team plays every other team."
Each team has the following properties: name, founding date, city.

The main specifications of the application are:

Compulsory (1p)

Create the following:

- A relational database in order to store and retrieve data. ([PostgreSQL](#) is recommended).
  You should have at least the tables: *teams* and *cities*.
- A JSF project using Maven
- A web page for viewing the teams in the database.

Homework (2p)

- Create the support for managing the *teams*, using a [datatable](#).
- Define a page for creating a new team or editing an existing one, using a modal [dialog](#).
  Use appropriate components for specifying the date and the city.
- Define the web-flow using *navigation-rules*.
- Internationalize the user interface and offer support for at least two locales.

Bonus (2p)

- Create an algorithm for solving the problem. You may use a constraint solver such as Choco solver, OptaPlanner or ORTools,
- Create a page for displaying the results.
- Create a random generator that produces problem instances of various sizes and test your algorithm.

<u>Notes</u>

- It is recommended to use an Ajax-based JSF implementation: PrimeFaces, BootsFaces, or other.
- Additional points will be given for using JSF technology beyond the "beginner" level (use custom converters, validators, "rich" components, i18n, etc.).

Bibliography

- Slides
- The Web Tier
- JavaServer Faces Technology
- Introduction to Facelets
- JavaServer Faces 2.2 Facelets Tag Library Documentation

Additional Readings

- References