SUPERVISED AND EXPERIENTIAL LEARNING
(Master in Artificial Intelligence, UPC-URV-UB)

Spring semester, Course 2021/2022
May 13th, 2022

Practical Work 3 (PW3, Teamgroup): *a CBR prototype for a synthetic task: planning / design / configuration in a concrete domain*

A CBR planning/design/configuration prototype system should be developed in a *team-group of four people*. The domain could be chosen by the team, **upon agreement with the professor**. It could be oriented to a design or configuration or temporal planning domain (cooking recipes, cocktail preparation, robot planner, travel planner, architectural design, etc.).

Deliverable

The Delivery (ZIP file) must contain the following items:

1. Documentation (**max. 20 pages with 11-point letter size**):
   a. Technical document about the development of the work (pdf file)
      i. Introduction
         1. Basic principles of the CBR engine project. The general ideas of the CBR engine implemented, from a technical point of view. That means explaining what are the general implementation guidelines of your project (which kind of Case Library structure, which kind of case structure, etc., without giving more details).
         2. Chosen application domain
      ii. Requirement Analysis of the CBR engine Project. The requirements include both the *user requirements* (main functionalities of the system that user needs, i.e., what the system must do?) and the *technical requirements* of the system (maximum time response of the system, maximum memory size of the system, etc.)
      iii. *Functional Architecture* of the CBR engine Project, describing the input, the output, the different components of the system and their interactions with a diagram and a brief explanation of each component.
      iv. Proposed CBR engine Project solution design:
         1. Description of the Case Structure and Case Library structure designed.
         2. Description of the Methods implementing each CBR cycle step (retrieval, adaptation, evaluation and learning)

      v.   Testing and evaluation of the CBR system

      vi. Discussion of results

   b. User manual (pdf file)

      i.   Description of the CBR engine system goals

      ii. Start-up/Shutdown of the system

      iii. Description of the different functionalities of the system

      iv. Examples of use in the concrete application

2. <u>Software source code</u> of the CBR system conveniently commented
3. <u>Executable file</u> of the system, or/and precise instructions to execute it.
4. <u>Folder containing the original dataset/s (input data of the system)</u> used for testing
5. <u>File README.txt</u> specifying the structure and contents of the Delivery ZIP file, including comments on the contents of the different files

The Delivery of the PW3 (documentation and software code of the project) is due on **June 19th, 2022,** and must be sent through the Racó.

Qualification

The qualification of this work will take into account both the quality/functionality of the software delivered (correctness, efficiency, scalability), the robustness of the code, the written documentation delivered, and the public presentation of the work.

PW3 is due on June 19th, 2022

Public Presentation of PW3 by all team-works will be on June 21st, 2022, from 11:30am-14:30pm