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Workgroup and Workflow Management Systems-Written Test of Jan. 25th, 2011

Family name _____ First name _____ Politecnico ID # _____

Master Course in _____

Please, fill in this sheet carefully. All answers must be provided on this sheet, which must be returned at the end of the test. No additional sheet will be considered¹.

Rules. The examination is passed if the student obtains at least 13 points out of a total of 25 points available for this test, and the grand total of obtained points, including those obtained with a presentation or a project, is greater than or equal to 18. Use of books, handbooks, lecture notes is not permitted: only the sheets provided by the teacher can be used. All the questions must be answered, at least partially: tests in which even one question has not been answered will not be evaluated. Duration of the test: 2 hours.

Exercises

(1) Describe the concept of return of investment (ROI) applied to the use of a Workflow Management System inside an Organization.

space reserved to your answer

¹**Remark.** Complete specifications whenever needed. Clarity and order will be taken into account for the evaluation.

(2) The German company **ScharfeArbeit** decides to better control the employees' working time by an electronic control system.

All the employees of **ScharfeArbeit** are registered into the company's system and information are collected by sensors installed at the employee's office door through his/her badge. Every first day of the month the system checks the working time of all the employees regarding the working days of the previous month (holidays and free days are not taken into consideration). All the employees must work 8 hours a day, i.e. from 8:00 a.m. to 12:00 a.m. and from 1:15 p.m. to 5:15 p.m. Variations of up to 5 minutes either at the starting or the ending time are ignored. Outside such minutes, the system classifies the working day as "extra" for the employee who worked more, and "miss" for the employee who worked less. If instead the limit is respected, the day is classified as "normal".

If all the working days from the previous month are classified as "normal", an additional bonus of 3.5% of the employee base salary is paid and the system quits. Otherwise, the system computes all the "extra" and the "missed" and compensates them: if the balance is less than one hour, the system calculates the amounts to be added or discounted from the employee base salary. Outside such a limit, an alert message is sent to the manager of the HR (human resource) department of **ScharfeArbeit**, a manual decision is awaited regarding the employee payment, and the payment execution is delayed. In any case, as the payment is issued, all the historical data are stored for further analysis and the system quits.

Provide a reasonable schema of the outlined process(es), according to one of the following modeling formalisms: WIDE model, Workflow Management Coalition model. Please, suitably model all the *pre-conditions* and *post-conditions* of every task.

(3) With respect to the process described in Exercise 2, provide an example of a reasonable exception that immediately starts the computation of the amount due to the employee if he/she resigns from the post.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Whenever a new case is started, the Workflow Management System makes a copy of its current schema. Why is this necessary? Which are the main pros and cons?

space reserved to your answer

This part for use by the teacher, only.

Ex. 1	Ex. 2	Ex. 3	Ex. 4	Total
4	12	5	4	25
