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Workgroup and Workflow Management Systems - Written Test of Feb 09th, 2007

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 what is the main rationale for using *patterns* in workflow process design, and what are the aspects that most benefit from the use of *patterns*.

space reserved to your answer

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

(2) Alex, a smart university student with knowledge in WfMSs, has recently done an internship in the famous bank Loan4U. Regarding their loan application process, he observed that Loan4U does not adopt any computer support at all! So, at the end of his internship, he suggested to automate the following process.

A customer who requires a loan comes to the bank and explains his/her needs to one of the clerks. The clerk opens a new file for the new customer, inputs some personal data about the customer and shows the customer the different loan opportunities with Loan4U. Together they choose the product that best suits the customer's needs, and the clerk records the amount of the requested loan and provides a first assessment of the customer's risk category. According to those two parameters, the file is further processed by the agency the customer went to, or it is delegated to the central agency of Loan4U, which requires the clerk to send the whole documentation to the central agency.

In either way, in the next step the bank starts an inquest to collect all the necessary documents to more precisely assess the customer's risk category; this may imply contacting the customer and collecting new data. If the inquest performed by the local agency shows that - contrarily to the assumptions of the previous step - it does not have the authorization to proceed, the file (ready for the final decision) is sent to the central agency for further processing. In any case, the result of the inquest is communicated to the customer, as it could require to change the initial agreement the customer made with the clerk.

If the customer does not accept the new conditions, he/she can either turn back to the clerk and re-negotiate the initial assumptions, thereby starting the whole process from scratch, or he/she can cancel the loan application process. If the customer accepts the communicated loan conditions, the bank (either the customer's agency or the central one) proceeds with the decision, which is represented by the contract with all its articles (if the customer accepts), or by the cancellation (if the customer cancels). Depending on the decision of the agency in charge, in the next step either the customer signs the contract, or the whole process is cancelled. The process ends.

Provide a reasonable schema of the outlined process (process model), according to one of the following modelling formalisms: *WIDE* model, *Workflow Management Coalition* model, Petri nets.

(3) With respect to the process described in Exercise 2, provide a reasonable mapping of its schema onto tables of a relational DBMS.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Describe the concept of *event node* when trying to map *expected* exceptions on top of a commercial WfMS.

space reserved to your answer

This part for use by the teacher, only.

Ex. 1	Ex. 2	Ex. 3	Ex. 4	Total
