Workgroup and Workflow Management Systems-Written Test of Jul. 5th, 2012

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 considered[1].

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 why do business processes need flexibility.

space reserved to your answer

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

(2) The Authority for Number Portability of Cellular Phones (ANPCP) is a National Agency managing the portability of phone numbers among the several operators of the national market. When a customer decides to change his/her mobile phone operator, he/she goes to ANPCP, fills in a form with his/her data, including the phone number to be ported and the selected new operator, a clerk inserts the data in the system: hence, the process starts and the customer will then be kept informed via SMS.

ANPCP checks in the National Phone Directory (which is consulted for every phone call to determine the operator managing every mobile phone number) if the phone number is black-listed, and, if so, the customer is informed and the process ends. Otherwise, ANPCP contacts the selected mobile phone operator and waits for the acceptance. If the operator refuses the customer (e.g. for previous invoices still unpaid), ANPCP informs the customer via a SMS, and the customer has to specify another mobile phone operator for the current request, or to withdraw the request.

If the mobile phone operator accepts the customer, ANPCP informs the the customer's previous operator about the change, updates the National Phone Directory, confirms the request with the new mobile phone operator, and informs the customer.

Every communication between ANPCP and the mobile phone operators is performed by inserting tuples in a database table managed by a shared DBMW.

Provide a reasonable schema of the outlined process(es), according to the modeling formalisms of WIDE. 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 supertask and the related local transaction (with subtransactions) managing the cancelation of the phone number from the past operator to the new operator.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

space reserved to your answer - exercise 2

(4) Describe some of the limitations encountered when reconstructing a business process model from execution logs.

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