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Workgroup and Workflow Management Systems-Written Test of Feb 4th, 2016

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 concepts of *global* and *local* transaction. Provide a very simple example for both concepts.

space reserved to your answer

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

(2) The NBH (New Born Hospital) adopts a new experimental care flow, namely LIVIA, to manage new-born babies. As soon as a new baby is born inside the hospital, some basic parameters (height, weight, gender) are taken along with a general description (free text) of the conditions. Mother's conditions are stored, too.

During the first day, the baby is kept under observation. At the end of the first day, if everything is fine, the baby starts being fed by the mother: after every feeding, the amount of eaten food is measured and stored. If, unfortunately, something goes wrong, some more examinations are prescribed and the baby no longer adheres to the main care flow.

At the second day the mother is discharged from the department (where the baby still remains), and admitted to the neighbor residence where she stays waiting to be called to feed the baby. The baby remains in the department for 3 more days: every day, the baby is visited by a physician and - whenever the baby is hungry - a nurse calls the mother to feed the baby.

When the physician believes that everything is fine, the baby is discharged from the department, the mother leaves the residence, and the case completes.

Provide a reasonable schema of the outlined processes, according to the modeling formalism of WIDE. Please, suitably model all the *pre-conditions* and *post-conditions* of every task. Also provide a reasonable description of the needed external database tables.

(3) With respect to the process described in Exercise 2, provide an example of an exception that is executed if the baby eats a very small quantity (less than 50 g.) of food, alerting the physician.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Describe the concept of *event node* to map an *expected* exception 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
4	12	5	4	25
