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Workgroup and Workflow Management Systems - Written Test of Mar 8th, 2006

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 *global transaction* as defined by the methodology of *WIDE*. Is there any equivalent concept in the model from the *Workflow Management Coalition*?

space reserved to your answer

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

(2) The US research institution *VisaTech* is planning to provide the Immigration Office with an automated support to assist visiting researchers in their application for a US visa. Tourists visiting the United States in many cases do not require a proper visa, while workers in general do. As *VisaTech* is actively promoting the international exchange of research personnel, they are particularly interested in automating the following procedure.

Usually, visiting researchers agree with one of *VisaTech*'s lab managers in an informal way about the research visit, which then should be assisted by the Immigration Office. As soon as one of the managers calls the Immigration Office, a secretary opens a new file for the researcher to be assisted, not yet containing all the data required to handle the visa application. Therefore, the secretary sends out two questionnaires, one to the manager and one to the researcher, who both fill their questionnaire and send it back independently. Once the secretary has received the two forms, he/she checks the provided data and calls the researcher to confirm the data and to ask his/her availability for the interview at the Consulate. When applying for a US visa, applicants need to appear personally at the responsible Consulate for an interview before a visa may be issued.

The secretary thus provides the researcher with a set of personal forms, which he/she has to fill before the interview at the Consulate. In parallel the secretary also tries to fix a date for the interview at the responsible Consulate. If it is not possible to fix the interview in order to respect the availability of the researcher, the secretary asks (by phone) the researcher again for other possible interview dates and tries to fix the interview anew. This procedure is repeated until the interview date can be fixed. Only then the secretary is able to prepare and send out the complete documents required for the visa application. In the meanwhile also the researcher himself/herself should have prepared the personal documents. As soon as the researcher owns all the necessary documents and forms, he/she is ready for the interview. After the interview, he/she informs the secretary about the respective outcome. After a while the Consulate issues the visa and informs the Immigration Office. The secretary closes the file.

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) Complete the process model, as defined according to exercise (2), by adding a reasonable example of an *exception* to manage the particular situation when the researcher calls in to cancel the interview and his/her application.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Provide an example for an organizational model, and describe it by suitable database tables. Highlight the data can be affected by temporal properties, and provide an example.

space reserved to your answer

This part for use by the teacher, only.

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