Politecnico di Milano

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Workgroup and Workflow Management Systems - Written Test of Sep 12th, 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 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 the concept of *local 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) Printing digital photos through online print shops is significantly gaining market. Typically, print shops only offer payment via credit card and automatically apply standard picture settings that not always produce acceptable results. To guarantee professional service, higher quality and flexible payment options, the following procedure (to be automated) could help.

A user starts the processing of a new print order by uploading his/her picture files and by specifying the desired print sizes and qualities. Immediately, the system checks whether the uploaded files are compatible picture files and whether the pictures' resolutions are suited to the specified print sizes. In case of problems, the user is asked to modify his order. This procedure goes on until no further problems can be detected, in which case the order is forwarded to a photo editing expert, which is in charge of checking the aesthetic quality of the pictures. If the expert has some comments, he/she fills in a form with appropriate feedback and (if required) suggests possible editing operations. After that, the user can comment the provided feedback via the shop's Web site and accept/deny the suggestions. Based on the user's decisions, the expert applies the accepted modifications and fixes the final cost. If the expert has no additional comment, he/she just fixes the cost according to the price list. Once the cost of the order is known, the system sends an email with the required payment instructions to the user and, also, forwards the pictures to the print department. The user can choose between online payment via credit card, money order or bank transfer. Credit card payments are directly supported and processed by the shop's Web site, while the two other options are not under control of the system, which thus keeps waiting until the payment occurs. In the meantime, the print department prints the pictures and prepares them for shipment. Once the payment has arrived, the prints are shipped, and the user has one month to provide his feedback (and to close the order) before the process terminates automatically.

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) Consider a simple fragment of a process model with the straight connection between tasks `A`, `B`, and `C`. Define a suitable mapping technique to manage the *exception* to check if the duration of the execution for task `B` exceeds the value $MaxValue$: in case, a message is sent to the case responsible.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Considering the workflow design methodology, what are the main outputs of the pre-analysis phase?

space reserved to your answer

This part for use by the teacher, only.

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