



Politecnico di Milano

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Business Process Modelling – Written Test of Jan 15th, 2018

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 which are the major interfaces a business process engine, aka Workflow Management System, must have (hint: consider the recommendations 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 FMH - Foot Mountain Highway is a toll highway whose customers may purchase a monthly subscription or may pay-per-passage (pay-as-you-go). A simple business process (to be optionally designed) enables a customer to enroll, providing FMH with car plate number and an e-mail address.

Every due toll is automatically computed by a CCTV system and stored by a file structured as `CarPlateNumber`, `Location`, `Timestamp`, `Amount`. A pay-as-you-go customer receives an e-mail message with the due amount after every passage under the CCTV system; a subscribed customer at the end of every month receives an e-mail message with the grand total amount, and receives a 10% discount. In any case, the payment must be received by FMH within 14 days after the request has been sent out.

Provide a reasonable schema of the outlined process(es), according to the modeling formalism of WIDE. Please, suitably model all the *pre-conditions* and *post-conditions* of every task.

(3) With respect to the process(es) in Exercise 2, design an exception that detects those customers whose payment has not been received within the proper deadline, and suitably informs the case responsible.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) With respect to a business process model, define the concept of independent execution paths and provide a simple example.

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
