

# Distributed and Outsourced Software Engineering (DOSE 2010)

## Assignment 3: Interface Specifications using Contracts

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*(10 points of 100)*

*Draft Deadline: Thursday, November 11<sup>th</sup> - 8 am (Zurich time)*

*Final Deadline: Tuesday, November 16<sup>th</sup> - 8 am (Zurich time)*

*Commit the files at*

*[https://svn.origo.ethz.ch/dose2010/src/group\\_n/](https://svn.origo.ethz.ch/dose2010/src/group_n/)*

*where n is your group number.*

### 1. Questionnaire

You should have collected the time expended in Assignment 2. Please send this information by e-mail to Martin Nordio (if possible use the excel file you got) before **Friday Nov 5th**.

Important: the time expended is collected by teams and calculated in person-hours. For example, if 3 people participated in a meeting for 2 hours, then the expended time is 6 hours.

For assignment 3, you should also collect this information:

1) How many person hours did you dedicate to Assignment3?

a) How many person hours of Assignment 3 did you use for communication? Split the answer in two categories:

I. Communication with members of the same team (located in the same university)

II. Communication with members of other teams (located in other universities)

b) How many person hours of Assignment 3 did you use for development of the assignment result (preparing the documents, answering questions, writing documents, reading documentation, etc)?

2) From question 1.a):

a. How many hours were used for voice communication?

b. How many hours were used for other way of communication such as e-mail, forums,, etc. ?

c. How many hours did you use for face-to-face meetings?

3) How long did you have to wait for a reply from the other team? Indicate best case, worst case and average in hours.

## 2. Reading Assignment

Read the paper:

Martin Nordio, Roman Mitin, Bertrand Meyer, Carlo Ghezzi, Elisabetta Di Nitto and Giordano Tamburelli: **The Role of Contracts in Distributed Development** in Proceedings of SEAFOOD 2009 (Software Engineering Advances for Offshore and Outsourced Development). 2009. [http://se.ethz.ch/~meyer/publications/tools/contracts\\_seafood.pdf](http://se.ethz.ch/~meyer/publications/tools/contracts_seafood.pdf)

## 3. API

Before starting the implementation, teams have to define the common API of the system. The API has to be written in Eiffel using design by contract<sup>1</sup>. Use contracts to improve interface specifications by providing meaningful pre-, post-conditions and invariants. The API in the form of Eiffel classes has to be added to the project at:

[https://svn.origo.ethz.ch/dose2010/src/group\\_n](https://svn.origo.ethz.ch/dose2010/src/group_n)

where n is your group number.

Furthermore, the API has to be added as an Appendix to the Software Requirements Specification document you've developed in the previous phase of the project and the extended document has to be committed to the repository at:

[https://svn.origo.ethz.ch/dose2010/requirements/group\\_n/team](https://svn.origo.ethz.ch/dose2010/requirements/group_n/team)

where n is your group number and team is your team name.

Make sure that all teams in your group agree on the interfaces defined by the contracts.

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<sup>1</sup> See [http://en.wikipedia.org/wiki/Design\\_by\\_contract](http://en.wikipedia.org/wiki/Design_by_contract)  
[http://www.eiffel.com/developers/design\\_by\\_contract.html](http://www.eiffel.com/developers/design_by_contract.html)