Research program:
"COSTTA: Combinatorial Software Testing: Theory and Applications"

Annex C

Department of Department of Management Engineering, information and production

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Description

The research grant program studies how some particular technologies for testing, as the combinatorial testing, can help designers and testers during the development and testing of code. The activities under this project are:

- How algorithms for the generation of test cases combinatorial can be integrated in test execution in order to make the detection of defects more efficiently.
- How you can integrate the testing activities based on combinatorial interaction testing in software development in order to bring it into line with the reference standards (eg ISO and CMM).
- How combinatorial testing can help to generate a "safety case" ("a documented evidence that provides a compelling argument valid that a secure system is suitable for a given application in a given environment") for the safety assessment of the software. The approach has to take into account the views of the software developer and the organization in the use of the system as part of off-the-shelf.
- How combinatorial testing can help the revaluation of safety during the evolution of the software. In fact, the safety assessment should be an ongoing process throughout all stages of evolution until the disposal.