Open solution to managing distributed software developments

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"The idea was to develop a flexible and low intrusive environment for managing the distributed teams of people working on the same project," says Pierluigi Ritrovato, Manager of the Centre for Research in Pure and Applied Mathematics (CRMPA) at the University of Salerno, coordinator of this IST programme-funded project. "We tried to develop tools to help formalise these distributed activities, following a workflow-like approach."

Changing project processes 'on the fly' ,GENESIS researchers developed a software platform capable of supporting virtual organisations by supporting the cooperation, distribution and control of the various aspects and phases of a project performed by differing project partners located in different geographical sites. The GENESIS Platform integrates, in a low invasive and harmonised way tools for resource management, process flow control, event notification, artefact management, automatic metric collections, collaboration and cooperation. The project specifically targeted the software development market sector.

The key difference in the GENESIS approach lies in the ability to change the process flow within the project as it develops. "We created a workflow engine and a workflow language able to accept incremental definition and 'on the fly' changes in the process. So new activities can be defined, different persons can be assigned to a task. You can define the development process incrementally, as the project goes on," says Ritrovato.

This ability to re-assign personnel or processes as the project develops is a major advance on earlier project management methods for virtual organisations. If a new

activity or a revision of the process is required following, say, consultation with the client, such changes can be accommodated immediately without requiring major modifications of the complete development process. Any changes are instantly notified to the relevant sites.

Support for both formal and informal communication,The GENESIS platform allows the various phases of software engineering projects to be allocated to teams at differing sites. Software development processes can be defined, and the tasks or activities within such processes can be distributed among various sites. Each site can execute different instances of the software development process; the inputs and outputs of such process instances are treated as software artefacts, e.g. software modules, design documents, test suites, etc.

Communication abilities support both the formal (the release of specification documents) and informal (personal views on a design choice) aspects of a project. The environment is designed to support modelling, control and measurement of software design, development and maintenance processes, as well as the communication between software engineers belonging to the different development teams.

Placed on SourceForge ,GENESIS was completed in November 2003, and the software has been placed on http://SourceForge.net ↗, the development resource site for Open Source software.

Since that time several external companies have downloaded the software, and the project partners have received some requests for information about the tools and processes. To date however, Ritrovato admits, there have been no approaches from the Open Source community to develop the platform further.

"It may be that GENESIS is simply too big to be seen as a solution to specific short-term projects," he says. "It is a component-based, flexible, non-intrusive and scalable environment that can work in a centralised or distributed manner. However, it is aimed at the management of medium to large software development projects by distributed teams configured as virtual organisations." As a result, the partners may in future try submitting some platform components individually to the Open Source community.

Platform for future activities ,The platform has been used for the management of the last three months of activity under the GENESIS project itself, and, says Ritrovato, will be used to manage some Sixth Framework Programme initiatives.

Other project partners are using the environment internally for the control of specific projects. Greek software house LogicDIS for example, intends to use the platform internally for the control of the development of their commercial products. CRMPA itself has built on GENESIS, and is currently working on an experimental environment for collaborative research.

Source: Based on information from GENESIS,The IST Results service gives you online news and analysis on the emerging results from Information Society Technologies research. The service reports on prototype products and services ready for commercialisation as well as work in progress and interim results with significant potential for exploitation.

Słowa kluczowe

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Kraje

Greece, Spain, Italy, United Kingdom

Dostawca treści

Przesłane przez
DIIMA Universita' di Salerno
Centre for Research into Pure and Applied Mathematics (CRMPA) ,Via Ponte Don Melillo
I-84084 Fisciano (SA)
Włochy 🇮🇹
[Strona internetowa](#)

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