Workshop on
Technology for supporting software engineers in globally distributed contexts

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Abstract
Research shows that people apart more than 30 meters communicate no more frequently than those separated by oceans. Technological support for globally distributed software engineering should therefore focus on: “Creating a virtual 30 meters”. Creating such transparency among dislocated software engineers can be provided by specific development technology. Within the Merlin project research has been carried out between international industrial organizations and research institutions. The focus has been on the development and validation of solutions global distributed software engineering with different companies/partners on the same product. Different types of solutions have been identified for specific globally distributed software engineering challenges, often related to the processes, technologies or organization of software engineering. Some of the solutions include the use of technical support, varying from complete transparent development environments implicating an open way of working to simple communication features included in a specific purpose tool (such as project management tool or collaboration handbook).

1. Introduction
Globally distributed software engineering (GDSE) offers many opportunities, such as access to scarce resources and knowledge, savings in development times and costs, and being close to global customers. However, collaborative development makes it at the same time more complex; for example, the development teams are usually dispersed over different time zones, continents and cultures, which places high demands on communication, teamwork and working methods.
3. Workshop contents

The workshop includes three introductory presentations based on the results of the Merlin project. After the presentations the workshop participants work together to define the challenges and priorities for such engineering technical support.

3.1. Inventory, development and industrial trials

The project started with a broad inventory in the market, industry and literature. All were focused on establishing an overview of current status, both in practice as well as theory. Based on that inventory and overview was made of open challenges and several solutions have been developed in the project to overcome these. Finally, these solutions were tested in real-life industrial projects as to learn whether they actually work and solve the GDSE problem it addresses. Results from this inventory, development and industrial trials will be shared with workshop participants.

3.2. The development and usage of an electronic collaboration handbook

Merlin project has developed a collaboration handbook intended to support all product development projects developed in collaboration, meaning that two or more entities, companies, departments, teams or customers, are working together to create mutual value. The entities are physically in different locations, i.e., the development is distributed and can work in any one of several different business relationships and for very different periods of time, ranging from some duration needed to exploit a particular innovation or business opportunity, to a much longer term on-going relationship.

The handbook describes important items that need to be taken care of during collaboration and includes solutions, that is tools, methods and practices that support collaboration.

During the workshop the process of developing the handbook as well as it’s contents are introduced.

3.3. Implementation and industrial deployment of a toolchain for co-located software development

One of the results of the Merlin project is a tool chain for collaborative software development, enabling, amongst others, synchronization of the development activities and transparency of the status of development activities and results for all development parties. In the workshop the concept and implementation of the tool chain will be discussed, as well as its deployment in a real-life industrial project within Philips.

3. Summary and conclusions

GDSE is a challenging research area in which many open questions still remain. In the Merlin project some of them have been addressed and worked out towards industrial solutions. These have been tested in industry and many of them proved to solve practical problems with software engineering distributed over the world. Focus is put on technology that create a "virtual 30 meter” distance between software engineers, no matter where they actually are. This workshop will share findings from research and industrial case-studies, and furthermore, work towards a set of requirements for GDSE technology that focus on creating transparency among dislocated software engineers.