Methods and Tools for Collaboration in GSE Environments

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1. Panel Description

As researchers and practitioners gain more experience with global software engineering (GSE), we are beginning to move from individual tools and practices that help with particular aspects of GSE toward integrated solutions that attempt to cover the full range of needs of distributed projects. The fundamental GSE problem is that colocated projects make very effective use of coordination mechanisms and communication channels that are not available or effective for distributed teams [1] [2]. The fact that these mechanisms often operate so naturally and invisibly within colocated projects has made adjusting to GSE all the harder, since we tend to underestimate the difficulties and to be unsure about what additional collaboration tools GSE projects require.

Global software engineering projects are often difficult due to time and distance issues as distributed team members must collaborate on key artifacts such as the system architecture description. This panel discusses some of the tools and methods being used to overcome these issues for achieving efficient collaborative work. The panelists will identify the types of tools that every GSE project must have (e.g., knowledge, configuration, change management) [3]. There may also be certain tasks that should not be distributed or require face-to-face meetings due to their highly collaborative nature, specific methods used, or inadequate tools support. Best practice examples will be given for tasks such as architecture design as well as suggestions for avoiding common pitfalls.

Collaboration in GSE environments can be discussed within the following themes.

Decoupling the work: Interdependent tasks require some type of collaboration mechanism and, potentially, extensive communication exchanges. Modularity plays an important role in software design, in general, and it is particularly vital for GSE.

The importance of unplanned and informal communication: Informal communication pays a major role in project collaboration. Since informal communication is nearly absent across distributed sites, complex software development projects are likely to suffer from communication based misunderstandings.

Project management must be both more flexible and more rigid: Different sites are likely to use different collaboration tools and methods because of differences in history, culture, expertise. Project management must accommodate such differences. Since it is much easier to be surprised by delays and technical setbacks in a GSE environment, it is also critical to use a strict reporting method. Reconciling these needs is often a challenge for efficient collaboration.

Panelists: Daniel J. Paulish - Panel Lead (Siemens, USA)
- José Carlos Maldonado (USP-SC, Brazil)
- Linda Northrop, (SEI, USA)
- Frances Paulisch (Siemens, Germany)
- Renato Quédas (Borland, Brazil)
- Li-Te Cheng (IBM, USA)

References

