

FACULTY CANDIDATE SPRING 2007 SEMINAR

April 13, 2007
PGH 563
11:00 AM
Host: Dr. Pavlidis

Dr. Anita Sarma
University of California, Irvine

Palantír: Bridging Formal and Informal Coordination through Workspace Awareness

Abstract:

Software development involves multi-team construction of multi-version software. Coordination of team activities is an integral part of software development. I discuss a theoretical framework that provides a historical and evolutionary perspective on coordination tools in software development. This taxonomy sets the context for current research and charts a roadmap for coordination tools of the future.

Modern software engineering tools exhibit a fundamental paradox: they are meant to support the collaborative activity of software development, but cause individuals and groups to work independently from one another. The underlying issue is that existing approaches discretize time and tasks in concrete but isolated process steps. In particular, Configuration Management systems, currently a widely used approach to coordination, squarely depend on the formal check-out/check-in model with synchronization protocols. However, configuration management workspaces isolate developers who can obtain information of parallel activities only when they interact with the repository (check-in or synchronize).

Through my work, I present a new approach to coordination that blends the process-based approach with the sharing of "awareness information" to inform developers of relevant ongoing parallel activities. Specifically, I introduce Palantír, a workspace awareness tool that warns developers of potential conflicts while conflicts are still emerging. Palantír informs developers about artifacts that are being changed in parallel, the magnitude of these changes, and the effect of these changes on the current work. This provides developers the opportunity to self-coordinate and reduce the number and magnitude of conflicts.

Bio:

Anita Sarma is completing her Ph.D. in Information and Computer Science at the Donald Bren School of Information and Computer Sciences at University of California, Irvine, where she is advised by Professor André van der Hoek. She holds a B.S. and M.S. degrees in Management from Birla Institute of Technology and Sciences, Pilani, India and a M.S. degree in Computer Science from UCI. Her research interests are at the intersection of Software Engineering, CSCW, and HCI, and focus on the study, design, implementation, and evaluation of coordination tools that facilitate distributed software development.