

Accountability and Traceability in Global Software Engineering (ATGSE2007)

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Abstract

An Overview of the new workshop on Accountability and Traceability in Global Software Engineering (ATGSE2007) will be introduced here.

1. Introduction

This workshop will explore approaches to collecting, analyzing, and reporting software engineering metrics in projects that may be globally distributed, involve multiple offshore companies, and use combinations of open source and proprietary software components.

While many companies and academic software engineering researchers have explored ways to collect and analyze empirical software metrics within a company, the reality of modern software development involves outsourcing, offshore development, and integration from multiple sources. Unfortunately, corporate concerns often limit the availability and use of empirical data outside the project or company, which can make providing accountability and traceability for such projects difficult.

This workshop will examine the status of efforts to collect and report software engineering metrics in various Asian-Pacific countries, and some possible approaches to extending the availability and use of this information to suit the global outsourced software engineering world.

2. Topics and Approach

The workshop will address several topics:

1. Status of empirical software engineering efforts in various Asian-Pacific areas:

Offshore development in Asia-Pacific areas is becoming very popular, and quality of the software products developed by remote development sites is

one of the major concerns of customers. Empirical software engineering is considered to provide useful information and evaluation of the remote development sites and their products. Methods and approach to use the empirical software engineering for such environment will be discussed.

2. Empirical data collection methods and specifications:

Simple mechanisms to feedback raw empirical data would not be sufficient for the global development, since the details of the development sites are not known for the remote sites. Some abstraction mechanisms to encapsulate the details of the collected empirical data will be explored.

3. Software development environments, including global outsourcing and use of components from multiple vendors:

Remote development with different time zones and cultures would cause various issues on the progress of software development. Mechanisms to share the development information with different environments will be discussed.

4. Tools for collection and analysis of empirical data:

Versioning and configuration management systems such as CVS, Subversion, and Visual SourceSafe are major resources of empirical data, together with issue tracking systems such as GNUTS and Bugzilla, and other mail and log archives. These tools and other tools for the analyzing the collected data will be discussed, from the view point of the global development.

5. Visualization of empirical data and software engineering processes:

Intuitive presentation of the current status of the remote development would be essential for the customer of the global development. Various

techniques for visualize process and product data will be presented.

6. Possible approaches to accountability and traceability for offshore development based on software engineering metrics:

In the case of controversy between the customer and vender, some validation method of the empirical data will be needed. The idea of "Software Tag", which contains various empirical data for validating appropriateness and properness of the remote software development, will be presented and discussed.

7. Social and economic impacts of accountability and traceability in offshore development:

Non-technical issues such as cultural differences and management issues such as cost control will be discussed.

8. Research and collaboration possibilities to explore concepts of accountability and traceability in offshore development:

Researches on the global development essentially need a collaboration of both customer side and developer side researchers. Further topics for joint research works will be discussed.

3. Prospect Results

The key result of the workshop will be a report mapping the status of empirical software engineering efforts in the Asian-Pacific areas and possible approaches to accountability and traceability. The report will also list necessary research areas dealing with this.

This workshop has implications for software maintenance and evolution, global software development outsourcing, software metrics and measurement, empirical software engineering, software

process improvement, quality management, and testing, verification and validation among other topics of interest to the APSEC 2007 community.

As embedded, ubiquitous software becomes an increasingly important part of our lives, effective accountability and traceability will become necessary. This workshop will begin to build the necessary foundations for this work.

4. Workshop Organization

- General Chair: Michael Barker (NAIST/MIT)
- Program Chair: Katsuro Inoue (Osaka University)
- Program Committee:
 - Marcus Ciolkowski (Fraunhofer IESE)
 - Hajimu Iida (NAIST)
 - Pankaj Jalote (IIT Delhi)
 - Ross Jeffery (NICTA)
 - Philip Johnson (University of Hawaii)
 - Dehua Ju (East China University of Science and Technology)
 - Shinji Kusumoto (Osaka University)
 - Shuji Morisaki (NAIST)
 - Tien Nguyen (Iowa State University)
 - David Notkin (University of Washington)
 - Ken-ichi Matsumoto (NAIST)
 - Harvey Siy (University of Nebraska)
 - Yulin Wang (Wuhan University)