

Call for Papers

First International Workshop on Software Architecture Metrics (SAM)

in conjunction with WICSA 2014, Sydney, Australia

<http://www.sei.cmu.edu/community/sam2014/>

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Important dates

Submission: January 12, 2014
 Notification: January 27, 2014
 Camera-ready: February 10, 2014
 Workshop: April 7, 2014

Proceedings published by



Architecting complex software systems faces the challenge of how best to assess the achievement of quality attributes and other key drivers, how to reveal issues and risks early, and how to make decisions on architecture improvement. Software architecture quality has a large impact on this effort but is usually not assessed with quantitative measures. As the pace of software delivery and technology churn increases, organizations need guidance on how to meet business goals (e.g., time to market, cost, productivity, quality) of their software. There is an increasing need to provide ongoing insights into the quality of the system being developed. Additionally, it is highly desirable to accelerate the feedback loop between development and deployment through measurable means for intrinsic quality, value, and cost, and how they vary over time. There is also increasing attention to other fields (such as software analytics as well as empirical software engineering and measurement) that can provide the theory, tooling, or inspiration to develop measurement and analysis frameworks for software architecture. The software engineering community has an opportunity to improve the way architecture is measured reliably, consistently, and with repeatable results.

The goal of this workshop is to discuss progress on architecture metrics, measurement, and analysis; to gather empirical evidence on the use and effectiveness of metrics; and to identify priorities for a research agenda. The workshop addresses both academic researchers and industrial practitioners for an exchange of ideas and collaboration.

We are seeking papers on practical experiences and research approaches to evaluate and manage architecture through metrics including, but not limited to, the following topics:

- Proposing and validating new metrics
 - architecture quality, value, cost, and uncertainty
 - architecture properties: understandability, maintainability, evolvability
 - architecture models and views: completeness, consistency
 - traceability: the connection between architecture and other artifacts
 - architecture knowledge and decision models: confidence, completeness
- Creating and validating tools and techniques
 - eliciting and visualizing architecture metrics
 - composing architecture metrics by aggregating or combining code-level metrics
 - associating multiple views and quality concerns with metrics
- Using architecture metrics
 - application to software evolution, maintenance, refactoring, or software aging
 - analytics on software architecture data for managers and software engineers
 - support for project management with data such as velocity, scrap and rework
 - use by product management for the software business case
 - input to economic models: technical debt management, real option analysis
- Principles and practices
 - Creating principles for industrial software architecture metrics
 - Executing empirical studies on how architecture metrics are used in practice

We invite submissions of papers in any areas related to the themes and goals of the workshop in the following categories:

1. research papers – innovative and significant original research in the field (up to 8 pages)
2. industrial papers – industrial experience, case studies, challenges, problems, and solutions (up to 8 pages)
3. position and future-trend papers – ongoing research, new results, and future trends (up to 4 pages)

Papers must be original and not under consideration for publication elsewhere. All submissions will be reviewed by members of the program committee for quality and relevance. Accepted papers will become part of the workshop proceedings and published in the WICSA companion proceedings.