GPCE 2014

September 15-16, 2014 ● Västerås, Sweden
collocated with ASE and SLE

http://www.gpce.org

13th International Conference on Generative Programming: Concepts & Experiences

GPCE is a venue for researchers and practitioners interested in techniques that use program generation, domain-specific languages, and component deployment to increase programmer productivity, improve software quality, and shorten the time-to-market of software products. In addition to exploring cutting-edge techniques of generative software, our goal is to foster further cross-fertilization between the software engineering and the programming languages research communities.

Generative and component approaches and domain-specific abstractions are revolutionizing software development just as automation and componentization revolutionized manufacturing. Raising the level of abstraction in software specification has been a fundamental goal of the computing community for several decades. Key technologies for automating program development and lifting the abstraction level closer to the problem domain are **Generative Programming** for program synthesis, **Domain-Specific Languages** (DSLs) for compact problem-oriented programming notations, and corresponding **Implementation Technologies** aiming at modularity, correctness, reuse, and evolution. As the field matures **Applications** and **Empirical Results** are of increasing importance.

GPCE seeks contributions on all topics related to generative software and its properties. Topics of interest include, but are not limited to:

Generative software

- **Domain-specific languages** (language extension, language embedding, language design, language theory, language workbenches, interpreters, compilers)
- **Product lines** (domain engineering, feature-oriented and aspect-oriented programming, preprocessors, feature interactions)
- **Metaprogramming** (reflection, staging, partial evaluation)
- **Program synthesis**
- **Implementation techniques** and tool support (components, plug-ins, libraries, metaprogramming, macros, templates, generic programming, run-time code generation, model-driven development, composition tools, code-completion and code-recommendation systems)

Properties of generative software

- **Correctness** of generators and generated code (analysis, testing, formal methods, domain-specific error messages, safety, security)
- **Reuse** and **evolution**
- **Modularity**, separation of concerns, understandability, and maintainability
- **Performance** engineering, nonfunctional properties (program optimization and parallelization, GPGPUs, multicore, footprint, metrics)
- **Application** areas and engineering practice (distributed systems, middleware, embedded systems, patterns, development methods)

Empirical evaluations

- **Empirical evaluations** of all topics above (user studies, substantial case studies, controlled experiments, surveys, rigorous measurements)

We particularly welcome papers that address some of the **key challenges** in the field, such as, synthesizing code from declarative specifications ● supporting extensible languages and language embedding ● ensuring correctness and other nonfunctional properties of generated code ● proving generators correct ● improving error reporting with domain-specific error messages ● reasoning about generators ● handling variability-induced complexity in product lines ● providing efficient interpreters and execution languages ● human factors in developing and maintaining generators

GPCE encourages submissions about empirical evaluations of generative software, and such papers will be given special consideration during reviewing. See the web site for details.

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Submissions
Research papers: 10 pages (SIGPLAN style)
Tool demos and short papers: 4 pages

Submission of papers: **May 30, 2014**
Author notification: July 7, 2014

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