

swat●engineering

software that works for you

Take back control of your software cost and quality

Your business depends more and more on software: to innovate, to support your staff, and to create value and deliver it to your customers. Growth in software, however, comes with rising costs and increasing risks. Generally, the larger your codebase, the more engineers are involved, and the more cost and quality depend on human factors. Software development and maintenance costs become unpredictable, and quality becomes erratic.

What if you could control these rising software costs better? Prevent bugs, or discover them before they result in expensive errors? What if you had better tools to manage and support the software development and maintenance process? That would shorten your time to market, lower the risk of running out of budget, and cut costs related to bugs and the damage they cause. It would give you back control over your software development cycle.

Simulation and automation

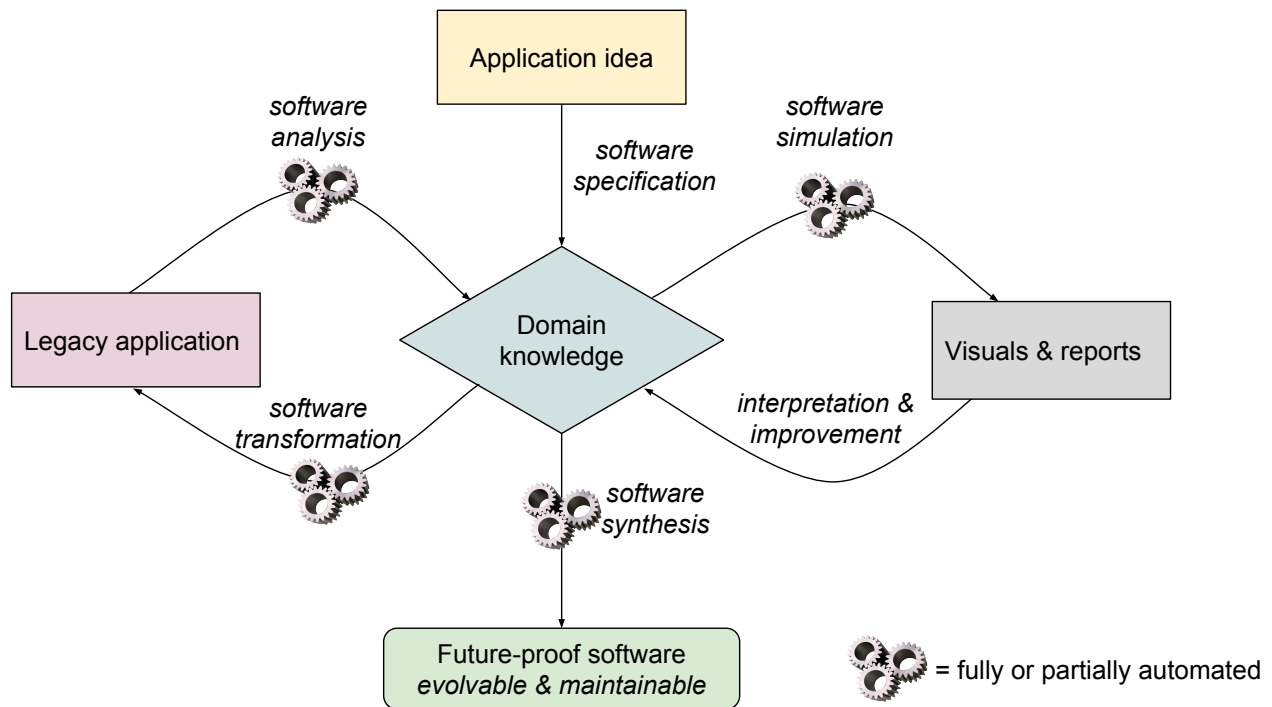
swat.engineering gives you more control over your software engineering process using simulation and automation. Simulating software before its production, and then automating software production and maintenance, brings huge benefits in terms of flexibility, cost, and quality of the end result.

Using cutting-edge techniques developed at the CWI research institute, complex software systems can be simulated before they are fully designed, implemented and tested. Later on, the same simulations can be translated automatically into production-quality software, including all the necessary tests. All you need to do is to put your domain knowledge to work using our analysis and transformation techniques.

Based on your domain knowledge

In our vision (see the diagram on the next page), your own domain knowledge is central to creating a future-proof software-based business. Domain knowledge may come from experience in your specific industry: finance, legal, or forensics, for instance. It may come from a fresh plan for a new product or service, or from analysing your legacy software.

We capture this domain knowledge in a dedicated, human-readable notation that allows for easy review on a business level. At the same time, it enables automated simulation, testing, and even synthesis of new software, and large-scale refactoring of existing software. After making your domain knowledge explicit in a high-quality specification, you can use it to control functional – does it what we want it to do? – as well as non-functional – is it secure? does it perform? – properties of the desired system.



Automated Software Analysis and Transformation

Automated Software Analysis and Transformation (swat) is the key to controlling your software development cycle. We apply cutting-edge research and technology to efficiently construct a tailor-made, domain-specific solution for simulating, automating, testing and synthesising your software. swat.engineering takes swat to the next level using tailor-made analyses and transformations developed in the context of your business. That is our solution to your need to take back control over the cost and quality of your software development and maintenance.

We offer:

- software simulation: assessing quality aspects before the system is actually built;
- knowledge recovery from source code: providing insight into existing code;
- legacy software migration: modernising important old systems;
- Domain Specific Languages (DSLs): dedicated notations used by our simulation and testing tools, which greatly increase quality and flexibility in domains like manufacturing, finance and government, and in companies with large software portfolios.

About swat.engineering

swat.engineering is a spin-off company of CWI in Amsterdam, the Dutch national research institute for mathematics and computer science. It originated from the swat team, which has a long track record in creating software inventions and solutions, and applying them to practical problems. The open-source metaprogramming language Rascal and the DSL technologies developed at CWI are key components in our toolbox.

Our mission is to help you solve your software problems using the best proven techniques for building, analysing and maintaining quality software.

The people behind SWAT.engineering

Prof. dr. Paul Klint has made many scientific and industrial contributions to software engineering. Widely known as a consultant and speaker, he is a founder of the Software Improvement Group (software quality measurement) and of Solid Sands (quality of compilers for embedded software). Dr. Davy Landman is a software engineering researcher with extensive experience in industry. Prof. dr. Jurgen Vinju is a well-known software engineering researcher with considerable industrial experience.

All three of us are ardent and prolific contributors to open source software, and have access to a large international community of software developers. Being strongly embedded in the international scientific community, we also have easy access to software experts worldwide.

For further information, visit <http://www.swat.engineering> or contact us at info@swat.engineering.