

SOFTWARE IMPROVEMENT GROUP

ENSURE DIGITAL SECURITY & PRIVACY



Eliminate hidden security and privacy risks
in your software applications



SOFTWAREIMPROVEMENTGROUP.COM



Eliminate hidden security and privacy risks in your software applications

How do you know if security and privacy are properly built into your software? The only surefire way to find out is by looking at the source code and design itself. It contains all decisions made by architects and programmers, allowing you to earlier identify and address weaknesses that late-stage approaches, such as penetration testing, aren't able to detect.

Sigrid

Intelligent technology, human expertise

Sigrid, the software assurance platform from SIG, combines leading scanning tools and methodology with the knowledge and experience of certified professionals working for SIG, its partners, or clients.

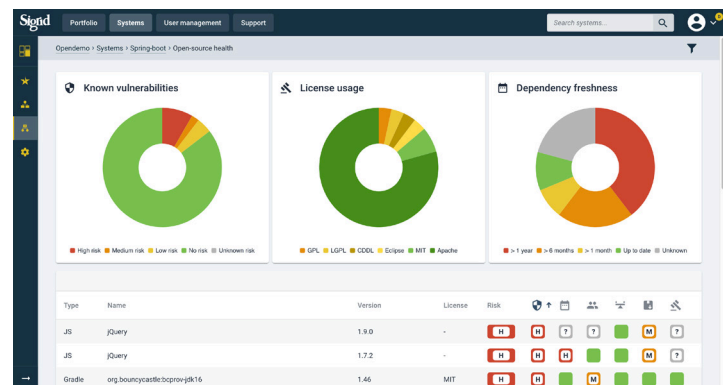
That means all aspects of your software quality, security and privacy are managed within a single platform, and practical guidance is provided in the jungle of standards, technologies and best practices.

Sigrid provides engineers and all organizational stakeholders with a clear overview of the health of your applications, timely signaling critical weaknesses for appropriate action.

With Sigrid, you get efficient and effective access to leading tools and experts who provide review, advice and support to your organization – eliminating expensive tool spread, issues with tool adoption and integration, and difficulties with finding and building the right expertise.

ID	Severity	Type	Status	Date	File	Component	Remark	Category	CWE
612435	High	OS_Access_Violation	To fix	Aug 28, 2018	...utils.py	swift-master/swift/common	The environment variable HOME is set and elsewhere we see business logs on it. Note that environment variables in OpenStack 3.1 library GPL license. Consider switching to Rhymon Threads rethefaces 0.5 has weakness CVE-20190630 - Information Disclosure due to error in UniqIt. Note: UniqIt is being...	Broken Access Control	CWE-77
807840	High	DEP: Unwanted open source license	To fix	Sep 10, 2019	.../init...py	swift-master/swift		Dependency license	
807841	High	DEP: Known weakness in library	To fix	Sep 10, 2019	.../init...py	swift-master/swift		Dependency vulnerability	
807816	High	MANUAL: Weakness in cryptography use	To fix	Sep 10, 2019	...recon.py	swift-master/swift/common	Files can be changed by attacker unrotated MD5 for detecting file changes is generally ok, but insufficient to detect...	Secure data storage	
612435	Medium	Privacy_Violation	To fix	Aug 28, 2018	...dispersion/report.py	swift-master/swift/ot	User account name is being used and stored. Necessary for purpose?	Sensitive Data Exposure	CWE-350
612436	Medium	Privacy_Violation	To fix	Aug 28, 2018	...dispersion/report.py	swift-master/swift/ot	User account name is being used and stored. Necessary for purpose?	Sensitive Data Exposure	CWE-350

Insights into various quality aspects are integrated and made available in a single platform - and instead of thousands of unclear findings, Sigrid provides a concise, prioritized overview of recommendations.



Sigrid provides continuous insight into your open source risks -- security, patching, activity, stability and legal.

```
def group_privileges(user, call_setid=True):
    """
    Sets the user/groupID of the current process, get session leader, etc.
    """
    (python user: user name to change privileges to)
    context
    if os.getuid() == 0:
        groups = [g for g in grp.getgrall() if user in g.gr_mem]
        user = pwd.getpwnam(user)
        os.setgid(user.gid)
        os.setuid(user.uid)
        os.seteuid(0)
        if call_setid:
            try:
                os.setsid()
            except OSError:
                pass
        os.umask(0) # if it is zero you need to modify it where you stored the domain
        os.umask(0x22) # ensure files are created with the correct permissions
    """
def capture_stdin(logger, **kwargs):
    """
    Log unhandled exceptions, close stdin, capture stdout and stderr.
    """
    stream_logger = Logger object to use
    # Log uncaught exceptions
    sys.excepthook = lambda *exc_info: \
        logger.getChild("UNCAUGHT_EXCEPTION"), exc_info=exc_info
    # collect stdin file desc not in use for logging
    stdin_files = [sys.stdin, sys.stdout, sys.stderr]
    console_file = [x.filename for _, x in logger.get_logger().console_handler.handlers]
    stdin_files = [x for f in stdin_files if f != (x, console_file)]
```

Sigrid drills down to the code level, providing a detailed view of a single security issue.





Security and privacy risk assessments

In addition to providing continuous software assurance, the Sigrid platform is used by SIG security experts and certified professionals to perform one-time risk assessments, analyzing your system's source code, configuration and design in depth to evaluate various quality aspects, including security and privacy.

These assessments include detailed risk analysis and actionable recommendations to address root causes and can be applied to:

- surface hidden risks and opportunities during IT due diligence engagements
- evaluate the quality of supplier output
- show development teams what they're doing right and where they can course correct for higher quality and more efficient software delivery

A security and privacy risk assessment may be followed by continuous software monitoring with Sigrid to track and steer on progress.



Manage your application security and privacy risks from the inside out

Sigrid combines leading technology with leading expertise to ensure the right security and privacy controls are built into your IT – minimizing the risk for new development mistakes and safeguarding confidentiality, integrity and availability.

Leading Tools:

- scan your software source code for security vulnerabilities, including third party (open source) dependencies.
- analyze your software to measure ISO25010 maintainability, which determines how efficiently you can make changes without introducing (security) mistakes.
- report all outcomes in dashboard and list overviews for all stakeholders – including developers and senior leadership – to gain control and collaborate.

Security experts working for SIG, its partners, or clients:

- review and analyze your software source code based on the ISO25010 security and ISO29100 privacy frameworks.
- filter and prioritize findings and add explanations as well as recommended actions.
- guide engineers and organizations to improve through coaching and training.
- provide guidance on dynamic testing tools and penetration testing, evaluating your system against threats from the outside in.

For more information: www.softwareimprovementgroup.com/security



About SIG

Software Improvement Group (SIG) helps business and technology leaders drive their organizational objectives through fundamentally improving the health and security of their software applications. SIG combines its proprietary tools and benchmark data with its consultants' expertise to help organizations measure, evaluate and improve code quality - whether they're building, buying or operating software.

As an independent organization, SIG has the largest benchmark in the industry with more than 36 billion lines of code across hundreds of technologies. The expert consultants at SIG use the benchmark to evaluate an organization's IT assets on maintainability, scalability, reliability, complexity, security, privacy and other mission-critical factors. The SIG laboratory is the only one in the world accredited according to ISO/IEC 17025 for software quality analysis.

Founded in 2000 as a spinoff from the University of Amsterdam, the SIG approach remains strongly rooted in academia. The company collaborates continually with universities and research institutes to develop upon its software quality evaluation models and R&D efforts.

SIG is headquartered in Amsterdam and New York with regional offices in Copenhagen, Antwerp and Frankfurt. Learn more at www.softwareimprovementgroup.com/security.



Fred. Roeskestraat 115
1076 EE Amsterdam
The Netherlands

www.softwareimprovementgroup.com
marketing@softwareimprovementgroup.com

Legal Notice

This document may be part of a written agreement between Software Improvement Group (SIG) and its customer, in which case the terms and conditions of that agreement apply hereto. In the event that this document was provided by SIG without any reference to a written agreement with SIG, to the maximum extent permitted by applicable law this document and its contents are provided as general information 'as-is' only, which may not be accurate, correct and/or complete and SIG shall not be responsible for any damage or loss of any nature related thereto. All rights are reserved. Unauthorized use, disclosure or copying of this document or any part thereof is prohibited.