SEI Bulletin

Redemption Tool Automates Code Repair from Static Analysis Alerts

June 18, 2024—Static analysis tools analyze a program's source code and alert users to potential errors and vulnerabilities. These tools are critical to software development, but their high number of false positives force engineers to fix only the most critical issues and overlook others. The SEI's new open-source Redemption tool automatically repairs code errors found in static analysis alerts.

"By reducing the number of false positives, we estimate organizations can save around seven and one-half person-years in identifying and repairing security alerts," writes David Svoboda, a software security engineer in the SEI's CERT Division, in a blog post about the tool.

The Redemption prototype is available in the SEI's GitHub repository. The tool is also the subject of a recent SEI Podcast.

[Read the blog post »](#)

[Listen to the podcast »](#)

Get the tool »

📰 SEI News

AI Trust and Autonomy Labs Fill the Gap Between AI Breakthroughs and DoD Deployment

SEI researchers are helping the defense sector solve the toughest challenges in the space between humans and artificial intelligence.

Nominations for Humphrey Software Quality Award Open Through September 1

The award recognizes improvement in an organization's ability to create and evolve high-quality software-dependent systems.

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🖥 Latest Blogs

Software Cost Estimation Explained

Anandi Hira explains software cost estimation, presents estimation tools, and examines inherent biases that exist in software cost estimation models.

Redemption: A Prototype for Automated Repair of Static Analysis Alerts

David Svoboda introduces Redemption, an open source tool that uses automated code repair technology to repair static analysis alerts in C/C++ source code.

See more blogs »

🎙 Latest Podcasts

[Automated Repair of Static Analysis Alerts](#)

David Svoboda discusses Redemption, a new open source tool that automatically repairs common errors in C/C++ code generated from static analysis alerts.

[Cyber Career Pathways and Opportunities](#)

Randy Trzeciak discusses his career journey, resources for pursuing a career in cybersecurity, and the importance of building a diverse workforce.

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▶ Latest Videos

[Secure Systems Don't Happen by Accident](#)

Timothy A. Chick discusses how security is an integral aspect of the entire software lifecycle.

[Can You Rely on Your AI? Applying the AIR Tool to Improve Classifier Performance](#)

SEI researchers discuss a new AI Robustness (AIR) tool that allows users to gauge AI and ML classifier performance with confidence.

Latest Publications

[Software Bill of Materials (SBOM) Considerations for Operational Test & Evaluation Activities](#)

This white paper looks at the background and history of SBOMs as well as the general questions and challenges for use with operational test and evaluation activities.

[Reachability of System Operation Modes in AADL](#)

This report presents an algorithm that constructs the set of reachable system operation modes for a given Architecture Analysis and Design Language (AADL) model and the transitions between them.

📅 Upcoming Events

Webcast - Generative AI and Software Engineering Education, June 27
Three experts in software engineering discuss how generative AI is influencing software engineering education.

Secure Software by Design, August 6-7
Collaborate on improving software security with two on-site days of panel discussions and presentations plus two optional on-site days of training.

DevSecOps Days Washington D.C. 2024, September 18
This free, in-person event in Arlington, Virginia, will teach how to integrate security into DevOps practices and transform DevSecOps journeys.

International Conference on Conceptual Modeling (ER 2024), October 28-31
The SEI will host the main international forum for discussing the state of the art, emerging issues, and future challenges in research and practice on conceptual modeling.

👤 Upcoming Appearances

Emerging Technologies for Defense Conference & Exhibition 2024, August 7-9
Visit the SEI at booth 316.

27th Annual Systems & Mission Engineering Conference, October 28-31
Visit the SEI booth at this event.

Upcoming Training

[Developing a National or Government CSIRT](#)
October 8-9 (SEI Live Online)

[Insider Risk Management: Measures of Effectiveness](#)
October 29-31 (SEI Live Online)

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Employment Opportunities

[Senior Embedded Software Engineer](#)

[Cyber Readiness Infrastructure Engineer](#)

[Software Measurement and Estimation Analyst](#)

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