



What is the UAF-SpringBoard Software Test Bed and how can it help?

The Computer Science Department of the University of Alaska–Fairbanks (UAF) is partnered with the SpringBoard program to operate an information assurance software test bed to evaluate and add value to DoD-developed software. The test bed conducts a rigorous process that includes a review with the intent of identifying potential security vulnerabilities and related defects in the DoD software. Vulnerabilities are identified and provided along with recommended remediations to the DoD lab to assist DoD in developing more secure applications.

**ORTA
SUPPORT**

Software Test Bed

Software Test Bed services are offered on a no-cost basis to DoD code development groups through the technology transfer vehicle of an Educational Partnership Agreement (EPA) executed between the laboratory and UAF. Labs work directly with UAF students, with oversight from faculty.

Methodology of the Software Test Bed

The standard approach applied to the analysis of DoD software considers factors relevant to the unique attributes of the particular software. Examples of these generic factors may include:

Functionality (exterior quality)

- Correctness
- Reliability
- Usability
- Integrity

Design and Engineering (interior quality)

- Efficiency
- Testability
- Documentation
- Structure

Adaptability (future quality)

- Flexibility
- Reusability
- Maintainability

Key Benefits

By using specialized tools that perform static code analysis, many common programming errors and security vulnerabilities may be detected. At the end of a predetermined test period, the code is returned to the laboratory of origin, along with a report describing error identification and recommendations for remediation.

Some of the key benefits to such an assessment are:

- Improvement of software quality from a “product” perspective
- Detection of potential security vulnerabilities
- Assessment of security risk across, multiple code bases, components and files, etc.
- Performance of a full code review
- Adherence to internal coding standards
- Proper API usage
- Adherence to industry standards and best practices

About the UAF Computer Science Department

UAF is a National Security Agency/Department of Homeland Security Center of Academic Excellence in Information Assurance Education, and home to the Advanced System Security Education, Research and Training (ASSERT) laboratory. This lab, located within the Computer Science department, provides an isolated networked computer environment suitable for information assurance and computer security education, research, and training.

The UAF Department of Computer Science offers accredited undergraduate and graduate degrees in computer science and software engineering. Research interests include computer security, computer graphics, parallel computation, databases, expert systems, software engineering, simulation, networks, formal language theory and computability.

For more information about working with the software test bed:

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