# Discovering Software Vulnerabilities through Interactive Static Analysis

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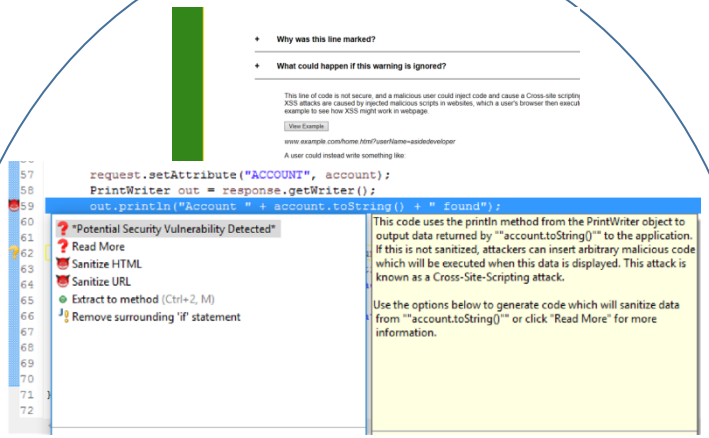
## Challenge:

- Software vulnerabilities are a major source of security problems
- Programmers need tools to help them detect and mitigate security vulnerabilities during development.




**ASIDE: Application Security in the IDE.**
Prototype interactive static analysis tool. Provides security vulnerability warnings in the IDE, explanations of the vulnerability and how to prevent it, and automatic code generated for sanitization.

## Scientific Impact:

- Informs design of security tools based on user studies of developers.
- Provides an open source static analysis tool that can be utilized by developers and extended by the research community.

## Solution:

- Understand how developers diagnose security warnings
- **Interactive static analysis** in the IDE to increase awareness and practice of secure programming.

## Broader Impact:

- Reduces the security vulnerabilities that programmers implement, in turn will reducing the security risks for users of those applications.
- Demonstrates a new paradigm of vulnerability detection which can be incorporated into commercial tools.

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