BUILD IT BREAK IT FIX IT

a security-oriented programming contest

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Next contest: Spring 2015
Sign up at builditbreakit.org

About

How should we teach secure coding?

Goal Improve software security education by adding *evidence* to our understanding of what tools, techniques, and other factors best contribute to writing secure code

Existing competitions like CTF encourage *breaking*, not building

We are running a *new programming contest*

Making the goal of building secure software central in the participants' minds, not an abstract and distant concept

Providing us with data we can analyze to find what methods yield the most secure code

Who can participate?

- We will be running contests twice a year that will be open to all students for remote participation
- We also welcome professional teams (no prizes)
- We will also be running the contest as part of our undergraduate and Coursera course projects

Contest Details

Three phases on consecutive weekends

1. Build-It

- Teams build a software system of moderate complexity
- Can use any language, platform, or tools they want
- Must meet predefined functionality requirements to qualify

⊕ *Gain* points for performance: encourages efficient code

⊖ *Lose* points for vulnerabilities found: encourages secure code

2. Break-It

- Teams perform vulnerability analysis on Build-It teams' code
- Submit test cases exposing vulnerabilities (and other defects)

⊕ *Gain* points for bugs found

÷ *Share* points for finding the same bug: encourages coverage

3. Fix-It

- Build-It teams receive the test cases from Break-It teams
- For each test case, they can submit a "single fix" to show that multiple bugs are "morally the same"
- Partially automated judging, but real judges get the final say

⊕ *Restore* points for unifying multiple bugs into one

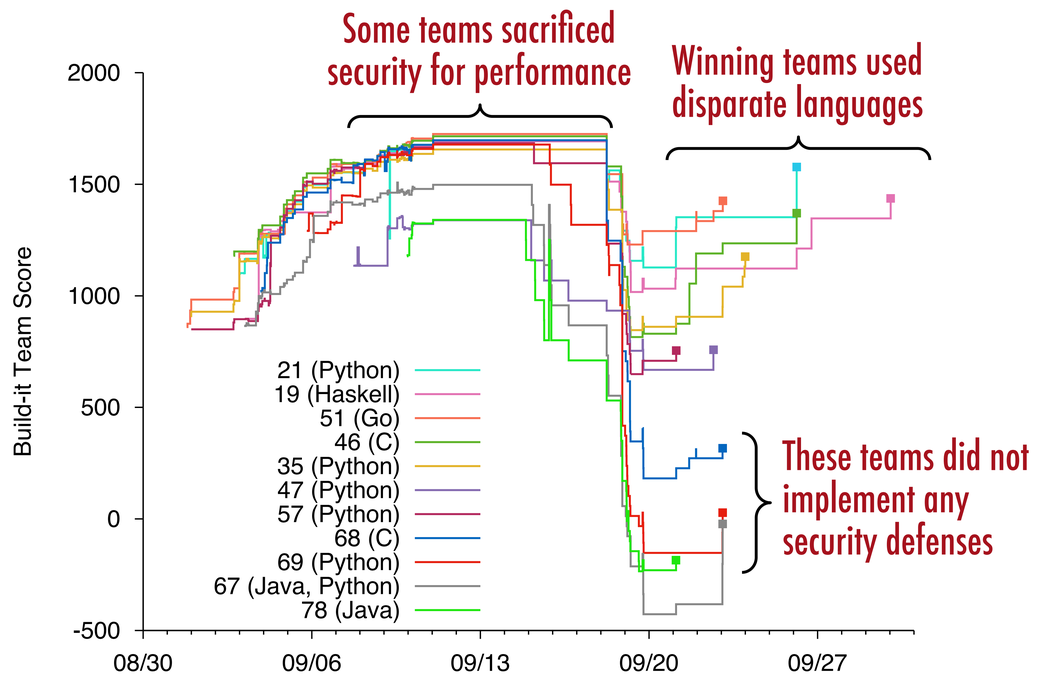
Results from First Contest

August 28 – September 23, 2014

Task Implement a *secure log* to describe activity within an art gallery as guests and employees enter and leave various rooms

90 teams formed (166 people)
- 11 Build-It teams qualified; 7 Break-It teams + 2 professional teams (Not eligible for prizes)

178 unique bugs found
- Teams mostly used manual testing; 2nd place also used static & fuzz



$13,000 Total awarded to first and second place Build-It and Break-It teams

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