Behavioural Security Group
Code Reviewing as Methodology for Online Security Studies with Developers – A Case Study with Freelancers on Password Storage

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Security Developer Studies

- Programming tasks
  - Time consuming
  - High cost
  - Small sample sizes

Our approach: **New methodology**

Reviewing code snippets
Please review this code snippet

Password Storage Code Snippet

N = 44
Developers

Functionality first

Security second

Prompt half the group for security

Naiakshina et al. [CHI’20, CHI’19], Danilova et al. [SOUPS’20]
Fiverr freelance developers (n=44)

Participants get **one** out of three insecure snippets from prior password storage studies.
Results
What did the freelancers look for?

- Functionality
- Logic
- Maintainability
- Performance / Efficiency
- Error Handling
Regarding the password storage issue....

13 of 44 found password storage issue

2 (of 13) were not prompted
Password related issues

- Secure password storage
- Password validation
- Password encryption
- SQL and JAR injections
- Password storage to complex
Takeaways
Thank you for your attention!

Questions?

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