

Security and Privacy of Modern Web Browsers (CNS-1527086, CNS-1617593)

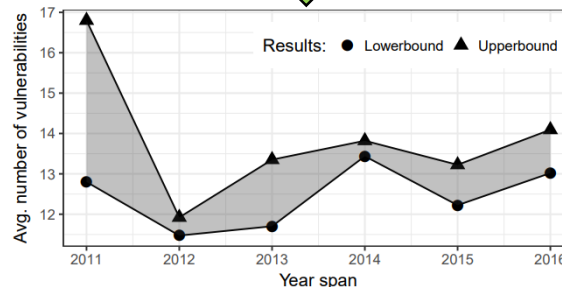
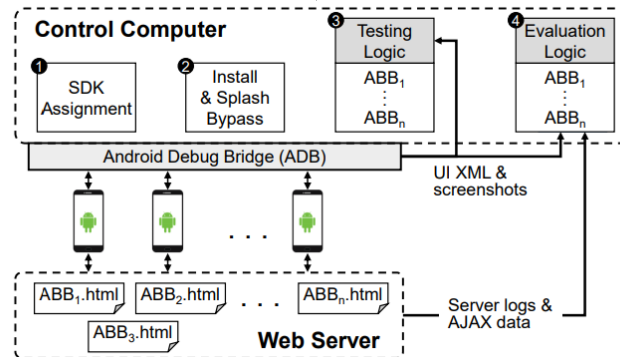
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Problem: Number and complexity of modern web browsers is ever increasing

- Desktop and mobile browsers keep on adding features to support the modern web
- There are hundreds of different families of mobile web browsers offering a wide range of features
 - Weekly updates quickly invalidate the results of prior testing
- Vulnerabilities increase as software becomes more complex
 - We focus on design vulnerabilities, not implementation bugs

Solutions:

- Automated detection of mobile web browser vulnerabilities (CCS 2017)
 - Mobile browsers are becoming less secure as time goes by
- Automated detection of PII leakage from browser extensions (WWW 2017)



Scientific Impact:

- Advance the community's understanding of mobile web attacks
- Detect unwanted online tracking
- Investigate the evolution of mobile web security
- Design lightweight countermeasures for the detected vulnerabilities

Metadata tag:

- www.securitee.org
- *Multiple top-tier papers published*
- *Ongoing work for measuring more security properties of mobile web browsers*
- *Privacy-preserving extensions developed and made available:*
 - <https://github.com/ostarov/Formlock>
 - <https://github.com/ostarov/PrivacyMeter>

