Capturing People's Expectations of Privacy with Mobile Apps

Carnegie Mellon University

Challenge

- Many smartphone apps use lots of sensitive personal data
- How to quantify mobile device security & privacy?
- How to quantify app security & privacy?

Solution

- Combine crowdsourcing with automated analysis (PrivacyGrade.org)
- Tools for analysts (Gort)
- Elastic pathing: Knowing just starting location and speed enough to track where you drive

PrivacyGrade.org analyzes 1M+ apps

Gort app analysis tool to inspect app behaviors

RUTGERS
School of Engineering
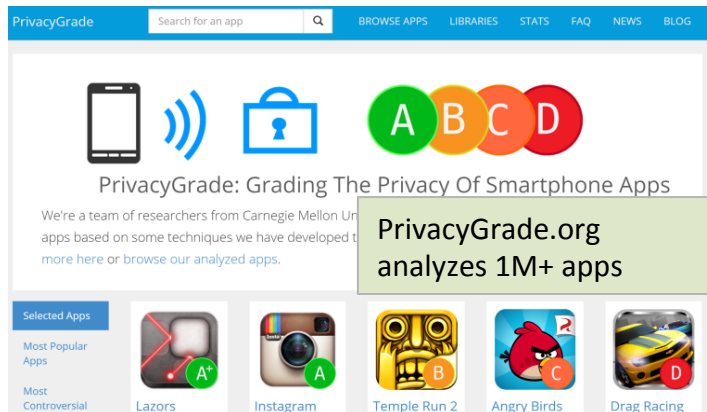
Scientific Impact

- New and scalable way of using crowdsourcing to analyze app privacy
- New tools for app analysis
- Best paper nominee at UbiComp'14
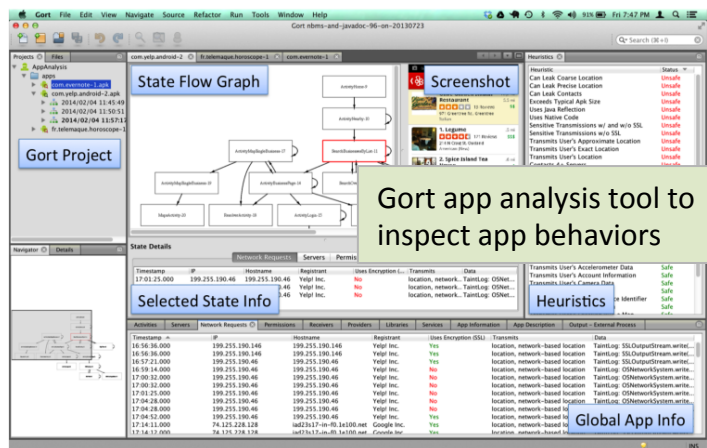
Broader Impact

- PrivacyGrade.org analysis of 1M+ apps, data shared with Google, FTC, others
- Mentions in NYTimes, BBC, CBS, CNN, Slate, more
- Showed usage-based auto insurance schemes not privacy-preserving
- New classes at Rutgers: Mobile App Engineering and User Experience; Security Engineering