# PrivAid: Differentially-Private Analytics for Android Apps

Challenge:

- Mobile apps gather detailed information about user behaviors, but without privacy protections
- Data sent to analytics servers (e.g., Google Analytics)
- *Can we introduce meaningful privacy without sacrificing analysis accuracy?*

Solution:

- *Differential privacy (DP)*
- New DP algorithms for software analysis in real-world app analytics infrastructures
- Software libraries and code transformations for event randomization and sampling

Current mobile app analytics

App analytics with differential privacy
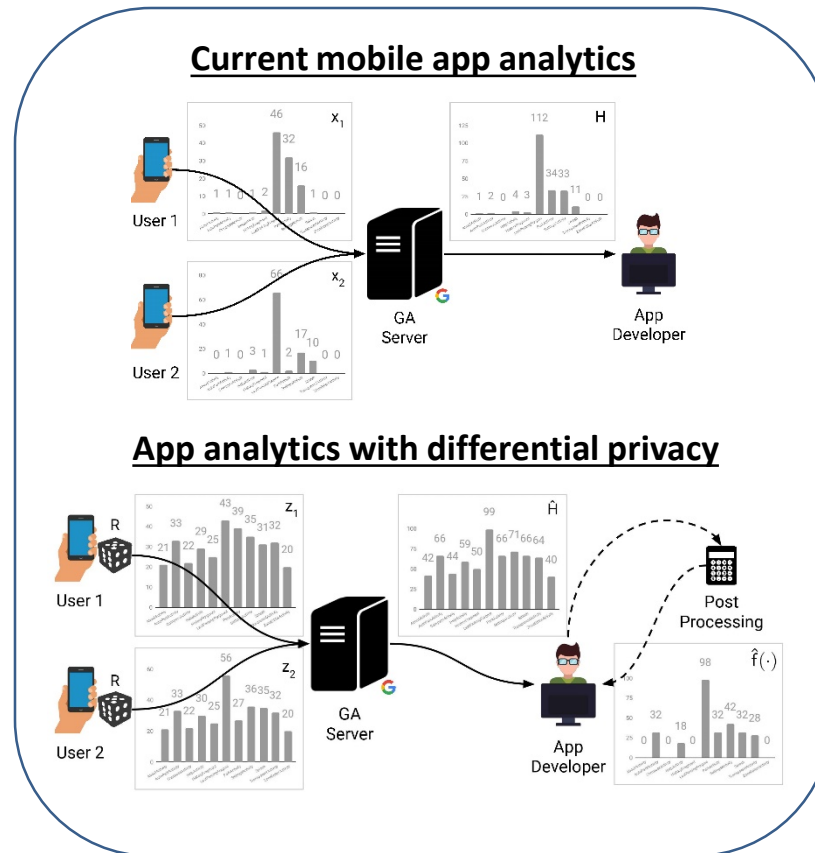
Scientific Impact:

- New privacy-preserving remote analyses of deployed software
- Software control-flow profiling with privacy
- New insights about trade-offs between analysis privacy, accuracy, and cost

Broader Impact:

- Quantifiable privacy for millions of mobile app users
- Software libraries and tools to easily add privacy to existing apps
- Education for mobile app development and practical DP uses