A Personalized Privacy Assistant for Mobile App Permissions
Bin Liu, Aerin Shikun Zhang, Norman Sadeh – sadeh@cs.cmu.edu

Motivations
• Mobile apps request access to increasingly diverse sets of permissions (e.g. user’s location, contacts list, photos, etc.)
• Because people have diverse privacy preferences, there are no good defaults for these settings
• With average users having 50 or more apps on their phones and many of these apps requesting 2 or 3 permissions, an average user may have to configure 100 or more permissions.

Personalized Privacy Assistant
• Our research group has shown that it is possible to use machine learning to predict a large percentage of people’s privacy preferences based on their answers to a small number of personalized privacy questions
• The Privacy Assistant operationalizes these findings and helps users configure their privacy settings
• Pilots with Android users have shown that people find the assistant to be very useful

Interactive Profile Assignment
• We generate questions for users in order to capture their app privacy preference and estimate their privacy profile assignment.
• The Assistant scans the apps on the specific device and generates between 3 and 5 questions designed to determine the privacy preferences of the user

Review Recommendations
• Based on the user’s answers, the Assistant assigns him/her to a profile of like-minded users
• The Assistant uses the assigned profile of the user to recommend a number of permission settings
• The Assistant also displays notifications with privacy recommendations for the user’s newly installed apps

* The Assistant is available as an app on the Google Play Store (for rooted Android 5 devices at this time)