

- 1) Design a malicious android app which works around Android security models to silently steal target user's permission-protected data. Describe functionality of app and conditions to successfully steal target user data. Implementation is not necessary. The app must:
 - a. Seem to perform some useful task that is not related to stealing the protected data
 - b. Extract user's protected data to an off-device location (e.g. email)
 - c. Does not use any root permissions or access
- 2) As a security conscious Android user, how would you detect the data theft? The application apk is available to you.

Resources:

- 1) <https://source.android.com/security/>
- 2) <https://developer.android.com/guide/topics/permissions/index.html>
- 3) <https://www.ibm.com/developerworks/library/x-androidsecurity/x-androidsecurity-pdf.pdf>
- 4) <http://itsec.rwth-aachen.de/publications/smattacks-draft.pdf>
- 5) <https://www.research-collection.ethz.ch/bitstream/handle/20.500.11850/69761/1/eth-4731-01.pdf>
- 6) <http://css.csail.mit.edu/6.858/2012/projects/ocderby-dennisw-kcasteel.pdf>