User privacy in the age of smartphones

Master Thesis project in Kista or Lund.

Smartphones are everywhere, and so are the “apps”. And apps are no longer restricted to a few large and well-known companies. Your bank has an app, your grocery store has one, your pizza place requires you to use their app for ordering and probably your hair stylist will soon follow. At the same time, installing an app on your personal phone is similar to inviting an unknown person into your house. So you should ask yourself if the app you just installed will be a well behaving guest in your digital home. And if not, is it due to incompetence, malice or just bad luck? Is it by the hand of the developers or due to a rouge third-party framework, library or service?

In this thesis we will examine a number of mobile apps to see how they are built with respect to security and privacy. RISE SICS will provide background information and the necessary guidance during the course of the thesis. The tasks of the Masters student for this thesis are:

1. Understanding the Android permission and security system.
2. Examining and possibly reverse engineering a number of selected apps. This could include binary inspection but also network traffic analysis.
3. Interviewing the people responsible for these apps, including first and third party developers and service providers.
4. Producing a written report

Competence
We are looking for a bright and motivated MSc student who has fulfilled the course requirements and have some knowledge or interest in the following areas: security analysis, reverse engineering, Android, Java and Linux.

Application
Applications should include a brief personal statement, CV, and a list of grades. In the application, make sure to mention previous activities or other projects that you consider relevant for the position. Candidates are encouraged to send in their application as soon as possible. Suitable applicants will be interviewed as applications are received.

Start time 2018 Q1-Q2
Location Stockholm or Lund

About RISE SICS
RISE SICS is a leading research institute for applied information and communication technology in Sweden, as a non-profit research organization owned by the Swedish government. The mission of RISE SICS is to contribute to the competitive strength of Swedish industry by conducting advanced and focused research in strategic areas of computer science, and actively promote the uptake of new research ideas and results in industry and society at large. RISE SICS is an active participant in collaborative national, European, and other international Research & Development programs.

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