C- / E-Thesis in Computer Science or Computer engineering: Monitoring App Behavior to Take Control of Privacy.

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The thesis outline is part of the KAUDroid research project. We can offer 15-point C-thesis and 30-point E-level thesis topics from the description below. Come talk to us! Supervision is available in Swedish and/or English.

What happens when we grant access to sensitive resources available for the apps on mobile phones? Numerous apps and services follow our on-line and off-line footprints around the clock, like a pack of hungry wolves! It is about time that we return the favor. This project will focus on investigation, implementation and documentation of app surveillance and control tool that visualizes app’s access to sensitive information on mobile devices.

As a thesis student, you will have the opportunity to be a driving force of this ongoing project. We developed a tool to document app’s resource access events. Now, it is time to unravel the sniffing behavior of privacy invasive apps. The thesis project will involve, dependent on level of the student and on agreement with the supervisors, one or more of these activities:

- Investigate, plan and design data collection scenarios.
- Collect, store and analyze data with preferred/developed tool.
- Design and develop data visualization tool for web and/or, mobile platform.
- Investigate and design an effective threshold mechanism to nudge/warn the user.
- Document the entire process and findings in the form of a master thesis.

**Project Description**

In Android, an app gets access to user data through an access control mechanism called permissions. In principle, apps are supposed to ask for minimal permissions to carry out their functionalities. Based on our primary study conducted here at Karlstad University, many of the apps are over-privileged and they have access to sensitive user data which is not required to deliver the services. The goal of this project is to develop transparency-enhancing tools to visualize resource usage statistics of Android apps in order to help users to make privacy-preserving decisions. Research outcomes of this project can be found here: [https://www.kau.se/en/researchers/nurul-momen](https://www.kau.se/en/researchers/nurul-momen)