

# Internship topic: a data management tool for privacy friendly analysis of smartphone data

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## 1 Context

Recently, internet companies collect huge amount of data of individual users. The central storage of this often sensitive data has been criticized due to the risks of abuse of the private information in a way which can't be controlled by the user.

An alternative paradigm is to avoid as much as possible to centrally collect data, while still providing similar services, while keeping the burden for the user minimal.

Important ideas there are to perform computations locally on mobile devices, and to communicate in a secure privacy-friendly way, avoiding to leak information which is not essential for the purpose of the communication.

## 2 Objective

In this project, we want to develop a basic tool for managing data on mobile devices and for interfacing with internet services in a transparent and privacy-friendly way.

## 3 More information

The project involves the following steps:

- refine the communication and privacy model underlying this strategy (especially the part relevant for the tool).
- develop a smartphone app
  - allowing the user to manage his data and his privacy requirements.
  - monitoring communication with external services
- set up a small app to demonstrate the concept, e.g. an app suggesting two friends to meet when they are in a small distance from each other without transmitting unencrypted location data.

## 4 Requirements

The project has a strong implementation component, knowledge of Android is desirable. Also, the project will involve some basic concepts in the domains of privacy, information theory, security and communication.