Lehrstuhl für Sicherheit in der Informatik
Prof. Dr. Claudia Eckert

Announcement: Student job in cooperation with Fraunhofer AISEC, Garching

Development of a Decentralized BLE-based Communication Protocol for Smartphones

Fraunhofer AISEC develops a *communication protocol* and a corresponding *messenger App* for smartphones to enable secure and convenient message exchange also in environments without Internet connection. Examples of such environments are natural disaster and conflict areas, unpopulated regions, or temporary faults of the connection infrastructure. To allow message propagation involved devices are connected to an ad-hoc Bluetooth Low Energy (BLE) based network.

Task Description

- Empirical evaluation of protocol solutions and parameters based on network simulation with OMNET++ software. Employed simulations should include several scenarios with varying number of communication nodes, their spacial distribution and movement. This should allow to compare different protocol designs and tweaking of parameters.

- Further development of the mobile app. The app is being developed using Ionic Framework with React. Its functionality is to be extended and tested.

The monthly working time is 40 hours and can be increased if desired.

Prerequisites

The candidate should fulfill the following requirements:

- Good knowledge in computer networking and security
- Knowledge in network simulation and preferably experience with OMNET++
- Mobile/Web development skills with React

Contact

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