1. Project goal

Ultrasonic communication (UC) is increasingly used for data exchange between mobile phones and other devices, as well as for location-based services. UC is attractive because it is inaudible and very low-threshold in terms of the hardware required (only microphone and speaker required). Today, there exist several proprietary solutions for UC on the market, which are developed by companies in a closed source form, which raises questions regarding the protection of users' privacy, since it is not clear which data is actually sent, when and to whom.

SoniTalk is a novel open and transparent protocol for ultrasonic communication between devices such as smartphones, TVs, and IoT devices. Thereby SoniTalk gives the user full control over her privacy by a fine grained permission system.

The project was pursued by Matthias Zeppelzauer, Alexis Ringot and Florian Taurer at the Media Computing Group of the University of Applied Sciences in St. Pölten. In the future, SoniTalk could benefit various industries as well as end consumers with new communication possibilities.

2. Final project results

1	Intermediate project report	CC-BY SA	https://www.netidee.at/sonitalk
2	Final project report	CC-BY SA	https://www.netidee.at/sonitalk
3	Developer Documentation	CC-BY SA	https://www.netidee.at/sonitalk
4	User Documentation	CC-BY SA	https://github.com/fhstp/SoniTalk
5	Project OnePager	CC-BY SA	https://www.netidee.at/sonitalk
6	External Communication Documentation	CC-BY SA	see final project report under: https://www.netidee.at/sonitalk
7	Literature research	CC-BY SA	https://www.netidee.at/sonitalk
8	SoniTalk protocol and SDK	LGPL	https://github.com/fhstp/SoniTalk
9	SoniTalk demonstrator	GPL	https://github.com/fhstp/SoniTalk
10	SoniTalk Specification	IETF TLP	https://www.netidee.at/sonitalk

3. Planned activities after netidee project end

We plan a number of extensions and further development of SoniTalk that shall be subject of follow-up projects and master theses at our university (e.g. porting to other platforms, implementing additional networking functionalities and the integration of the ultrasonic firewall "SoniControl" into the protocol (http://sonicontrol.fhstp.ac.at)

4. Ideas for further development by third persons

SoniTalk establishes the foundation for innovative applications and services, such as secure authentication, mobile payments, smart home control, mobile money transfer, second screen services, location- and proximity-based services, near-field peer-to-peer communication, and ad-hoc networking.