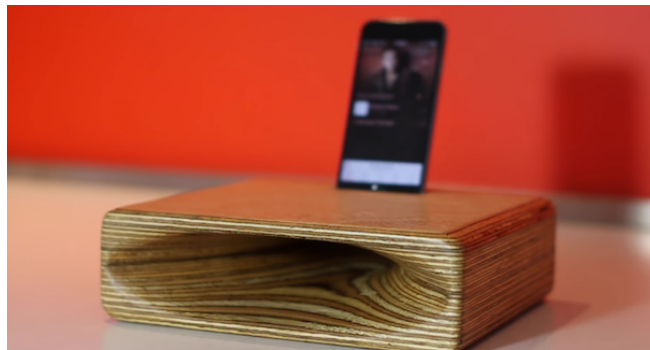




Imperceptible Audio Communication

Most people carry their smartphones in their pockets wherever they go. These smartphones come equipped with speakers and microphones. There is a potential in exploiting these components to transfer data between devices. This could be used to share a link with everyone in the room or maybe to chat with people on the same train. In these situations it would be useful to have an easy way to communicate between closeby smartphones. Other existing technologies such as NFC, Bluetooth and Wifi also allow local communication, but often are not available on all devices or require setup by the users.

Ultrasonic signals can be used to transmit data without disturbing the users. However the speakers and microphones in smartphones are not optimized for this frequency range and therefore only achieve communication over short distance. In this thesis we want to investigate the transmission of data in the audible frequency range by hiding the data in music or background noise.



The goal of this thesis is to evaluate different methods to transmit data in the audible frequency range and implement a prototype Android app.

Requirements: Programming experience is an advantage. There will be weekly meetings with your supervisors to discuss the progress and open questions.

Interested? Please contact us for more details!

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