



Semester Thesis

## Near Field Communication

Near field communication (NFC) allows modern smartphones to exchange data in a fast and easy way. While one recent application is to use it for payment services, like Google wallet, it is also possible to read information from and write it to so-called NFC-tags. These can come in many forms and shapes. Since they are a specific subset of RFID-chips, NFC-tags do not need their own source of energy to function. The signal sent out by the smartphone is used for modifying and sending the data, allowing tags to be placed anywhere without special maintenance or their own power supply.

Passive NFC-tags are pretty cheap (less than 1 CHF) and can store a decent amount of data (up to roughly 1 KB). In a sense they are similar to QR-codes, but QR-codes cannot be modified and need to be captured well with a camera. Some simple ideas are already used in real-life, like activating a special profile when you enter or leave your house by holding your phone to a tag for less than a second.



However, these ideas are all pretty simple and are just simple if-then-cases. We are certain you can envision a more elaborate use-case that can capture this new fascinating technology. It can be a serious application, or also a fun game, depending on your ideas.

**Requirements:** Good programming skills (preferably in Java) are required. Some creativity and experience in Android programming are advantageous. The student(s) should be able to work independently on this topic.

**Interested?** Come to our office for coffee and a small chat or contact us by email/phone.

### Contact

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