

NFC Voucher Demonstrator

Scope

Many companies nowadays are using meal vouchers for their employees. At present, these are issued in a paper version only, which has some disadvantages. Printing and processing (collection, reading, clearing) are time-consuming processes and consequently quite costly. Moreover, there's an ecological impact as well. Such difficulties can be tackled using a NFC-enabled mobile phone as storage medium for digital meal vouchers.



Near Field Communication (NFC) is a promising technology using short-range, wireless connectivity technology enabling data exchange between electronic devices. It allows consumers to perform secure contactless transactions and access digital content with the simplicity of a single touch.

The IBBT project will analyze thoroughly the possibilities of NFC handsets to replace paper meal vouchers. During the course of this project the impact and the different aspects of the introduction of a new communication means for the meal voucher concept will be investigated: the business model, usability, security, NFC application, legal aspects, impact on terminal and host, etc. The scope of the project will not be limited to meal vouchers but will also look to gift vouchers (given by employers to employees at special occasions), partner vouchers (issued by partner, eg. Carrefour) and coupons (giving some commercial advantages to the beneficiary).

Benefits of using Near Field Communication Technology

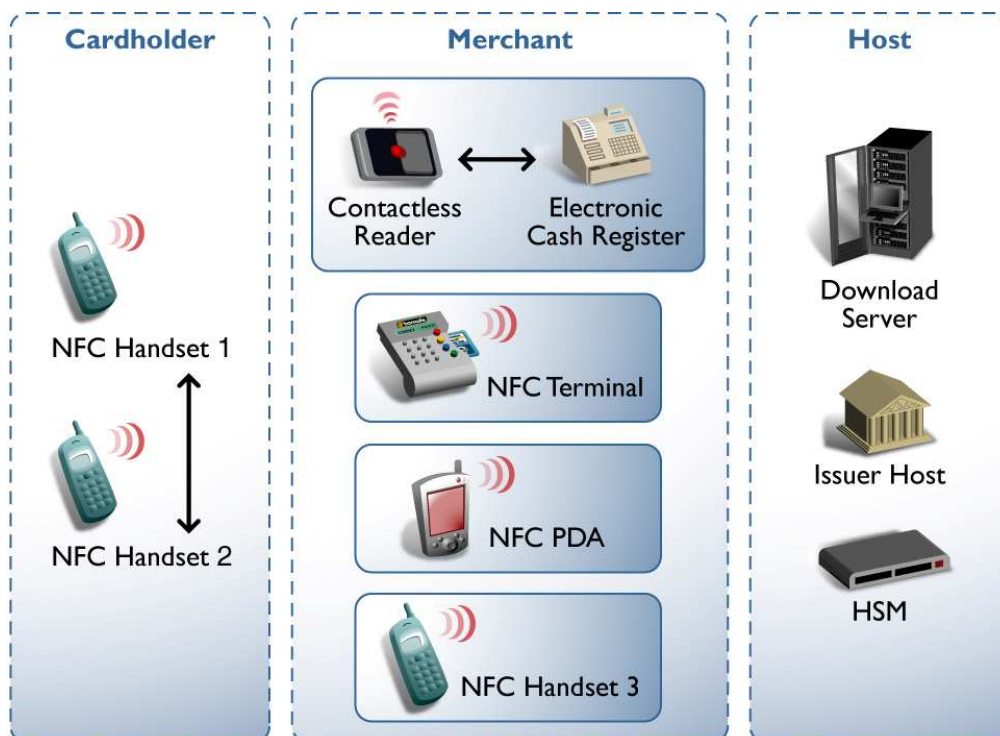
Issuing vouchers using NFC technology will simplify and influence consumer behavior.

- **User-friendly:** convenient mobile payment "tap-and-go"
- **Flexible:** usable wherever NFC terminals are ready to accept your mobile phone
- **Mobility:** handsets are portable and always at hand
- **Speed:** contactless payment is fast
- **Balance is consultable** at any place, any time, via an Over-The-Air (OTA) connection that a handset has the issuer host.
- NFC vouchers can easily be transferred from one user to another

Additionally, migrating the system of paper vouchers using NFC technology solves several existing problems:

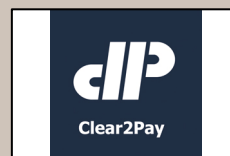
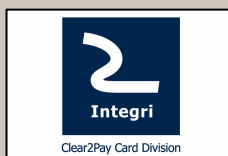
- Electronic vouchers cannot be lost as they are kept on a central place with the issuer of the vouchers.
- Clearing and settlement is done in a completely automated way i.e. the merchant initiates an online request to the issuer to close the logs that he has collected

Components



- **Cardholders**
NFC Handset – 1: used for payment
NFC Handset – 2: optional for exchange of NFC-Vouchers
- **Merchants:** components used to accept NFC vouchers payments.
Electronic cash registers, NFC terminals, NFC PDA's or NFC Handsets
- **Components belonging to the host**
Issuer: Responsible for the issuing of NFC-Vouchers.
HSM: Hardware Security Module which is responsible for security
Download Server: The NFC application on handsets is pushed from here

In cooperation with



IBBT Research Groups

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 VUB – SMIT

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