ID WORLD Conference
Retail @ ID WORLD

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EU Project StoLPaN:
The Integration of NFC into Stationary Retail
University of St. Gallen

• founded in 1898
• 30 institutes
• largest management faculty in D/A/CH
• 4000 undergraduate & 1000 graduate students

ETH Zurich

• founded in 1855
• 380 professor in 17 departments
• 10000 undergraduate & 2800 graduate students
M-Lab References

- Retail
  - MIGROS

- Industrial
  - Gillette Company
  - Novartis
  - HARTMANN
  - SIG
  - Volkswagen

- Financial / Insurance
  - UBS
  - Basler Versicherungen
  - Swiss Re
  - Die Mobiliar

- MNOs
  - swisscom mobile
  - Deutsche Telekom

- Technology
  - SAP
  - Infineon
  - NOKIA
M-Lab Demonstrators and Prototypes

- Smart Toolbox
- Ubiquitous Payment Prototype
- Smart Tool Inventory
- Product Authentication
- Smart Surgical Kit
- Soft Identification
- Smart Medicine Cabinet
- Weight Sensitive Foam
- Digitally Augmented Reality
- Appliance Interaction Device
- 1D and 2D Barcode Scanning
The Partner-Labs (Auto-ID Labs)

Business Processes & Applications
Envision and evaluate fundamentally new business processes and industries, e.g. payment, leasing, insurance, quality management and anti-counterfeiting

Software & Network
Develop future architecture of the EPC Network

Hardware
Next-class tags which include memory, battery, sensors and actuators
Improving reading rate
StoLPaN - Store Logistics and Payment with NFC

- 6FP IST EU-Project
  - Duration: 3 years (2006-2009)
  - Total budget: 9 million €
  - Funding from the EU: 4.9 million €

- Goal: Introduce NFC devices into the Customer Shopping Process to create an intelligent Retail Environment.

- Objectives
  - Technical model and business model for mobile NFC applications
    - From multi-platform single-application to single-platform multi-application
  - Development of HOST application
  - Porting of NFC applications
  - Elaboration of NFC based shopping process
  - Demonstration of new solutions
  - Contribution to standardization
StoLPaN‘s Focus...

...lies on Interoperability and Security related R&D.

The StoLPan phone application should be able to:

- run on phones manufactured by different manufacturers,
- hold various types of payment card profiles,
- hold various service profiles / loyalty cards,
- share loyalty card content to offer customized services, and
- to fulfill all security & privacy requirements.
The StoLPaN Consortium
The StoLPaN Retail Track - General Idea

• Introduce NFC into the Customer Shopping Process to create an intelligent Retail Environment...
  – to improve the customer’s shopping experience
  – to increase store capacity (faster check-out)

• The Check-Out and Payment Processes have priority...
  (Highest added value → speed, cost, convenience)
  – Payment
  – Loyalty
  – Coupons

• ... however, other NFC supported applications are in scope.
  – Product Information
  – Multimedia Advertising

• Integrated Architecture
  – Device software, shopping cart/PSA, back-office, security
Near Field Communication (NFC)

Payment
Connection Setup
Field Force Solutions
Ticketing
Access / ID
Read/Write
State of the Art: Check-Out Solutions (2006)

Barcode based Self Check Out (NCR)

Barcode based Self Scanning (Wincor-Nixdorf)

Source: Auto-ID Lab St. Gallen
Event: EuroCIS 2006
State of the Art: Payment Technologies

cash

NFC
cards contactless
Smart Tag based Product Information (1/2)

- Additional Product Information through
  - Kiosk based solutions
  - Mobile device based solutions

- Auto-ID Technologies
  - Barcodes
  - 2D Barcodes
  - Smart Tags
Smart Tag based Product Information (2/2)

• Additional Product Information
  – Ingredients
  – Production Process
  – Pedigree
  – Availability
  – Recipes
  – Complementary Products

• Benefit
  – Emphasis on Quality
  – Increase Revenues
  – Strengthen Customer Relationship

• Direct Means of Communication between Producer and Consumer at the POS

Quelle: http://picturesofspain.info
Shopping Processes: Status Quo and the Future

Supermarket

Book Store

Pharmacy

Gas Station

Apparel
Interviews with European Retailers (1/2)

General Feedback concerning the Project

- Retailers are interested in the reduction of infrastructure cost enabled through the leveraging of features on their customers’ mobile phones
- Retailers welcome the idea of a modular implementation approach

Feedback on NFC

- Supermarkets and drugstores see the biggest potentials of NFC in improving the check-out and payment processes
- Apparel retailers are more focused on the potentials for product related services to increase their customers’ shopping experience

Feedback on Item Level Tagging

- Supermarkets and drugstores plan to use barcode identification for customer services in the short to mid term
- In contrast to that, the apparel and book retailers plan much shorter delays for the introduction of item level RFID
Interviews with European Retailers (2/2)

Process Improvement: The Shop Floor
- The smart poster application is of interest to retailers so as to provide them with new possibilities for product advertisement.
- To ensure the customers’ privacy, smart kiosk applications have to be separated from the loyalty card services.
- Dynamic pricing based on product status and the customers’ loyalty card profile could become an important mean to establish closer relationships with customers.

Process Improvement: Check Out & Payment
- Improving the check-out process is the main focus for supermarkets and drug-stores.
- To create an optimized check-out process flow the separation of check-out and payment is planned by several retailers.
- Retailers are looking for RFID enabled check-out solutions in the long term.
Upcoming Demonstrator: StoLPaN PSA

Welcome to your supermarket!
Please log in with your loyalty card.

- Personal Shopping Assistant (PSA)
  - Self Scanning
    - Barcode
    - RFID-Tags
  - Loyalty Card Log-In
    - Barcode
    - Smart Card & NFC
  - Shopping List Function
    - Internet
    - NFC P2P function
  - e-Coupon Function
    - Barcode
    - NFC P2P function
  - NFC-Payment

- Low target price of 50€
- Prototype late 2007 early 2008
Thank You!

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