

SANTANDER (Spain)



Key concepts:

Unique user APP providing all features



Scan QR codes



NFC
MIFARE CLASSIC
1k

Unique user account linked to a Virtual Wallet:



Top-up wallet with credit card through the APP, use credit available for pre/post payment of transport services



User and wallet info stored and accessible online



Payment gateway implemented. Clearing process to distribute payment among operators



Scan for more info!



TUS
ALL urban lines (>60)

- ❑ Uses the equipment available in the buses
- ❑ Uses same technology (NFC MIFARE Classic 1K) and TUS card map

1 Top-up Bus Bono sticker using credit available in Virtual Wallet (pre-paid bono)

2 Validation equipment reads the information existing in the sticker card map (user ID, type of bono, credit available)



Accepts payment and writes on the sticker (subtracts credit)

3 Not all phones are NFC-compatible: use a totem for writing pending recharges on the sticker



NFC -
Read/write on
the sticker



Los Reginas
1dock, 15 boats

- ❑ Traditional business. Allows only cash and credit card. A paper ticket is needed to allow traveller to go on board
- ❑ Equipment developed to incorporate NFC for payment and ticket purchase
- ❑ MobiWallet solution based on NFC stickers linked to a unique user ID

1 The equipment reads the ID of the sticker and connects to MW Platform to identify user and credit available in the virtual Wallet



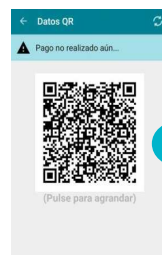
2 User selects the tickets to purchase and perform the payment with the credit available. User virtual wallet is updated in the Platform data base and ticket is printed to travel.



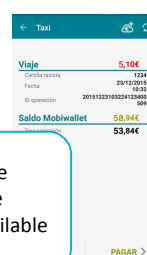
TeleTaxi &
RadioTaxi
> 25 volunteer
drivers

- ❑ Not feasible to provide all taxi drivers with dedicated equipment for payment
- ❑ A mobile application has been developed for drivers to manage MobiWallet transactions

1 Taxi drivers log in the application with their license information. Generate a QR code with payment information



2 User scans QR code with MobiWallet APP, validates the information and confirms the payment using the credit available in the Virtual Wallet



Empark
3 parkings

- ❑ Not possible to integrate with existing equipment
- ❑ A mobile application has been developed for operators to manage payments

1 Operator process the information from the car park ticket. Insert duration and cost of the service in their own MobiWallet application and generate a QR code with information encoded

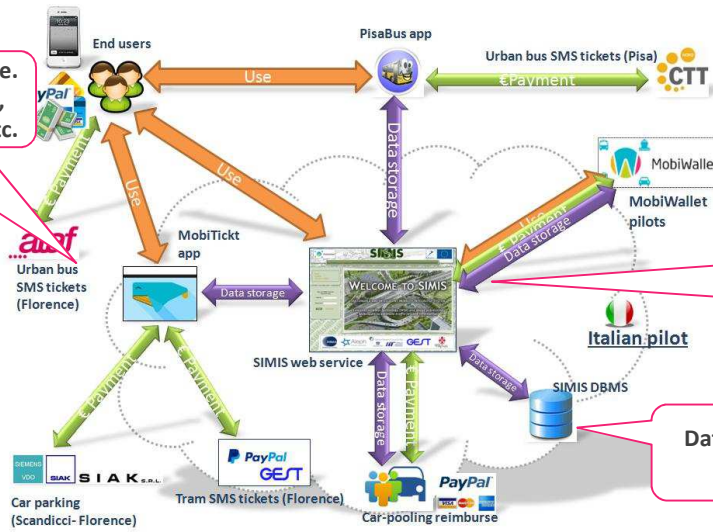


2 User scans QR code with MobiWallet APP and confirms the payment using the credit available in the Virtual Wallet



Key concepts:

Ticket format: SMS, QR-code.
Payment methods: Paypal,
credit card, mobile credit etc.



Specific apps available for urban transport payments

Web server which provides value added services to users and implements interoperability with the other pilots

Data storage and statistics about services



PISA & FLORENCE (Italy)



Pisa: Urban bus

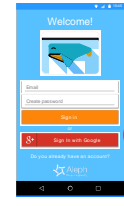


- 1 User taps "Buy bus ticket" button from SIMIS, launches the PisaBus app
- 2 User purchases the ticket via mobile credit.



- 3 User receives the SMS ticket on the mobile. Ticket details are stored in SIMIS

Scandicci-Florence: Park & Ride



- 1 User taps "Park&Ride" button from SIMIS, launches the Mobiticket app
- 2 User purchases a ticket (SMS) via mobile credit



- 3 Drivers pay parking time to PayPal parking manager account via the signage totem deployed in the car-parking area
- 4 Payment is verified by parking staff through a version of Mobiticket app which checks car's plate

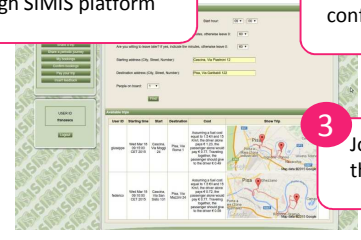
Touristic bus traffic flow monitoring

- Parking occupancy estimation
- Parking pass payment via credit card through parking manager's web site.
- Dynamic fare management calculation depending on occupancy

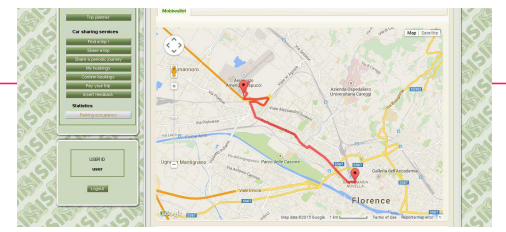


SIMIS: Car pooling & trip planning

- 1 User shares his/her car or searches journeys shared by other users through SIMIS platform
- 2 Search results. Journey confirmation
- 3 Journey reimbursement through PayPal



SIMIS also offers extra functionalities such as statistics and trip planning



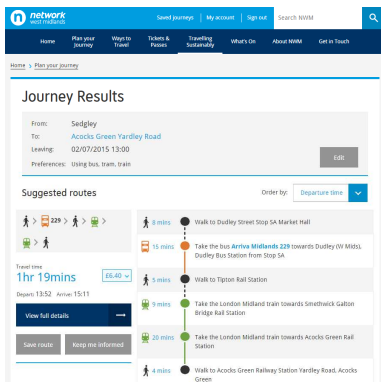
WEST MIDLANDS (UK)



Centro aims to develop a fares management engine that will support customers in selecting the most appropriate fare for the specific journey needs, increasing smart mobility, journey planning and integrated ticketless travel across the conurbation.

Journey Planner & Intelligent Ticket Options: 'MobiWallet Engine'

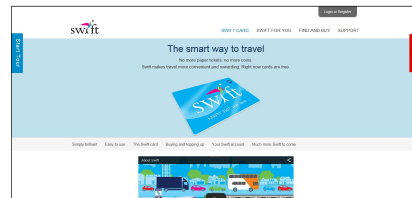
1 User Plans a journey using our enhanced journey planner



2 MobiWallet engine provides intelligent list of ticket options based on the user journey planned

Registration & Payment Gateway:

3 User selects tickets, registers on Swift Portal & CMS and perform the payment via credit card



8 Post Journey Intelligent Feedback: a user statement is produced based on user travel history for that period, the Mobiwallet engine will recommend the best ticket based on previous user travel undertaken.

Key concepts:

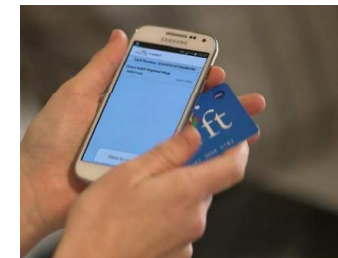
- The development of a fares management system that helps the passenger choose the best fare for the public transport journey
- The development of an integrated mobile application 'front end' solution data feeds, fares data and other data feeds.
- The development of the NFC communication solution capable of transferring purchased tickets electronically, through contact, to an ITSO enabled smartcard.
- The pilot solution will link in seamlessly with delivered smartcard and intelligent information solutions so that the user truly feels that the combined services are integrated.
- This pilot will provide invaluable insight into delivering NFC solutions, maximizing the delivery of enhanced products and services to West Midlands public transport users.



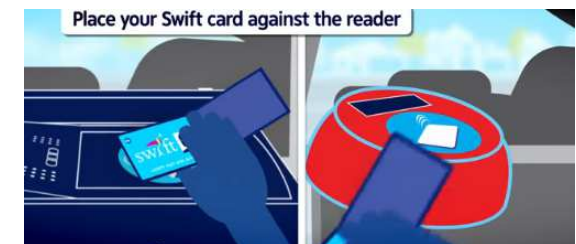
Fulfillment and validation: Swift Smartcard



6 Use NFC-enabled phones to load the ticket into the Swift card



7 Use on board Electronic Ticket Machines (readers) to validate the ticket for travel. Operator is reimbursed through reimbursement system/model



5 Once users have selected and purchased the ticket via the Swift registration and payment portal (Gateway), they select preferred fulfilment option

6 Use remote collectors installed through the city



NOVI SAD (Serbia)



Key concepts:

Unique user APP providing all features

QR code, optical validation and augmented reality supported user interface

Online ticket purchasing using different payment channels: prepaid vouchers, Telekom Operator, premium SMS

Added value services: bus arrival times/positions in real time, tourist information, real time information on air pollution, info on bike rental points



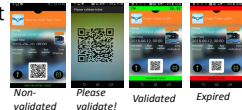
Scan for more info!



Augmented Reality interface for enhanced and immersive user experience

- QR codes at the bus stop allows to access MobiWallet services:
 - Bus arrival times and position
 - Maps with real time bus positions
 - Environmental data
 - Tickets purchase

- Tickets purchase: QR code based travel tickets provided in a PkPass format

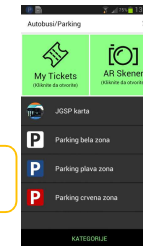


- A QR code based validator is printed and placed inside each bus. Validation of the QR code based m-ticket is optical and requires internet connection.



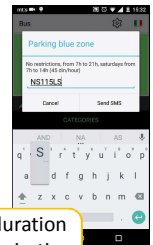
Parking payment

- Access to parking payment for different zones
- Integrate Payment via sms



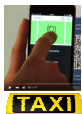
- Info on parking price and service duration is provided in the confirmation sms sent to the user's app

- Information on service duration and sms reminder about expiration



Taxi payment

- QR sticker in the vehicle
- Once the ride is completed, application scans the code
- User enters the price and initiates the payment
- Driver receives the notification



Sticker with QR code placed on each rental bike station

Providing info on/distance from the bus stops as well as bike rental stations' locations

Display rental bike stations on the city map



Other services

Scanning the 2D bar code at the traveller's location will also provide information related to tourist landmarks and attractions on a map.



Information on air pollution and quality in real time:

- Devices with sensors measuring and sharing the information on air pollution and other atmospheric conditions.
- Augmented Reality pollution information provided through the APP

