



MobiWallet



Italian Pilot Overview

December 2015



Italian Pilot Overview



Where: Pisa and Scandicci (Florence) – Tuscany - Italy



Partners:



Letters of support:



Modes involved:



Key Technologies: Web, QR-code, SMS, credit cards, mobile credit, PayPal



Specific Objectives & Challenges



- The pilot aims to propose an integrated platform which allows end-users to access a wide-set of transport services and related payment modes
- Target users: commuters and tourists in Pisa and Florence
- Users can buy public transports tickets as well as share their private cars with other registered users through an innovative car-pooling functionality
- Several payment modes available (PayPal, user's mobile credit, credit cards etc.), different technologies (web, Android apps) and different types of tickets (SMS, QR-code)
- The platform is web based and provides payment services either directly (via a common browser) or through specific Android apps developed by Italian partners
- The platform integrates also value added service like traffic flow control and statistics retrieved during trial phase



Baseline & impact on approach



Urban bus – Bike sharing (Pisa)

- Integrated existing payment solution based on SMS (bus) or credit card (bike sharing)
- Mobiwallet introduces additional services in order to improve the overall quality of service. (i.e. trip planning, offline bus timetable, reduction of ticket time, bike stations located on SIMIS map)



Park & Ride service (Scandicci)

- Full intermodal solution which integrates public and private transport modes
- Car parking area near Resistenza tram bus stop deployed in Scandicci (Florence)
- Car parking payment via PayPal/QR-code
- SMS tram ticket via mobile credit/PayPal

NEW



Car-pooling

- Registered users can share their car with other MW users.
- Includes user's feedback which allow to select the best travel option
- Several options which extends service's usability (i.e. max delay)
- Reimbursement to driver via PayPal

NEW

Interoperability Solutions: Key Elements implemented



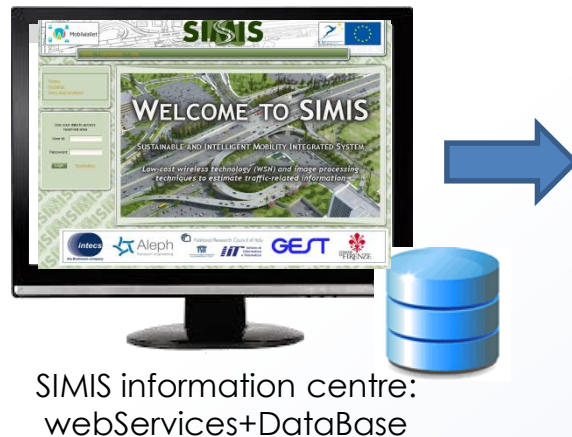
Medium



Medium:

- User's device is the medium itself
- Allow payments through the apps provided by MW partners/3rd party (or SIMIS itself) and stores the e-tickets

Platform



SIMIS information centre:
webServices+DataBase

Core of the Platform: Common point of access to users and applications

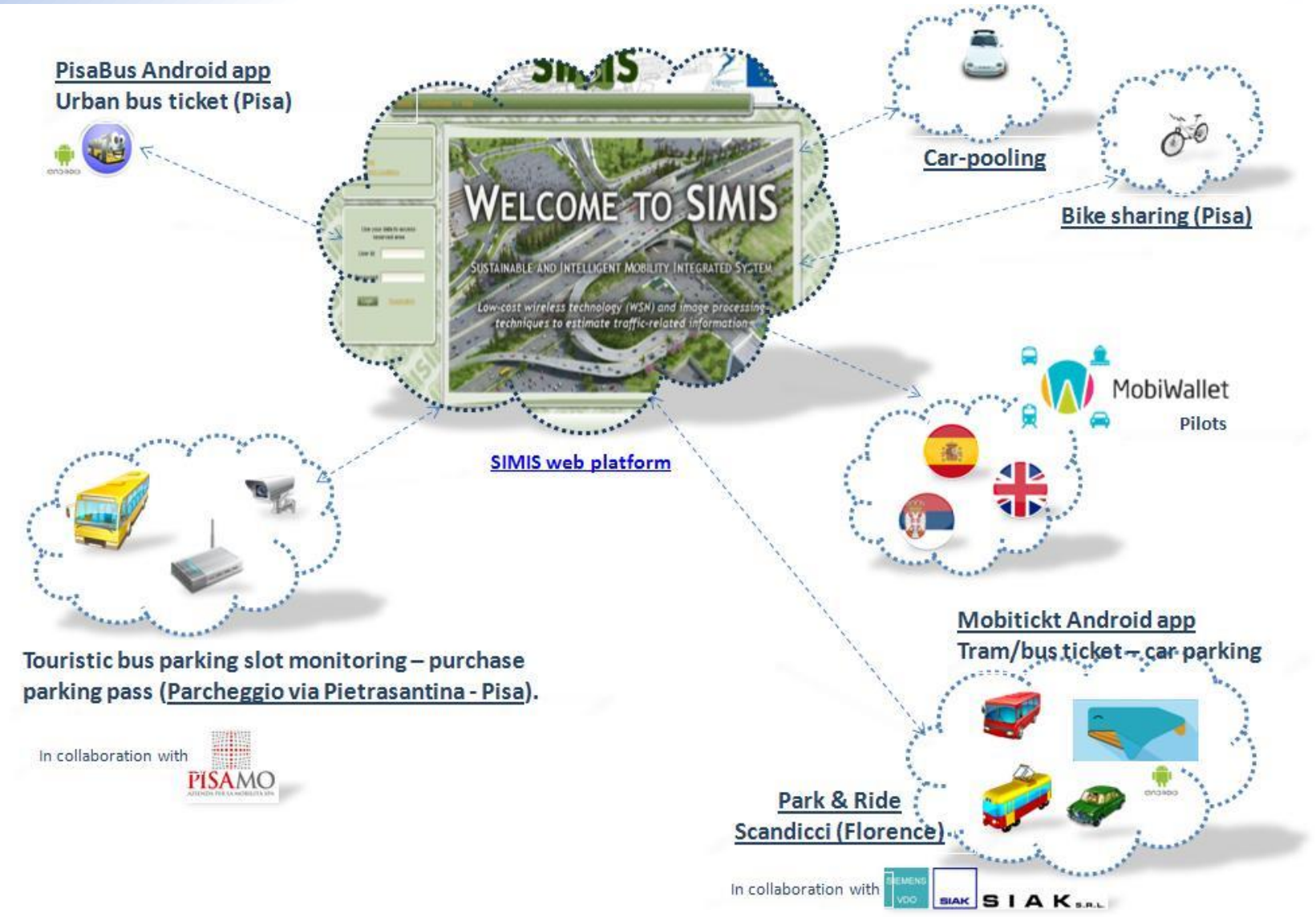
- Stores user's data, transactions and services utilization and displays related statistics
- User's management
- Car-pooling functionalities (search, share, reimburse).
- Integration with additional services (traffic flow monitoring, trip planning)
- Data adaptation for interoperability with MW pilots
- REST API for data exchange with 3rd party applications



Interoperability Solutions (1/2)

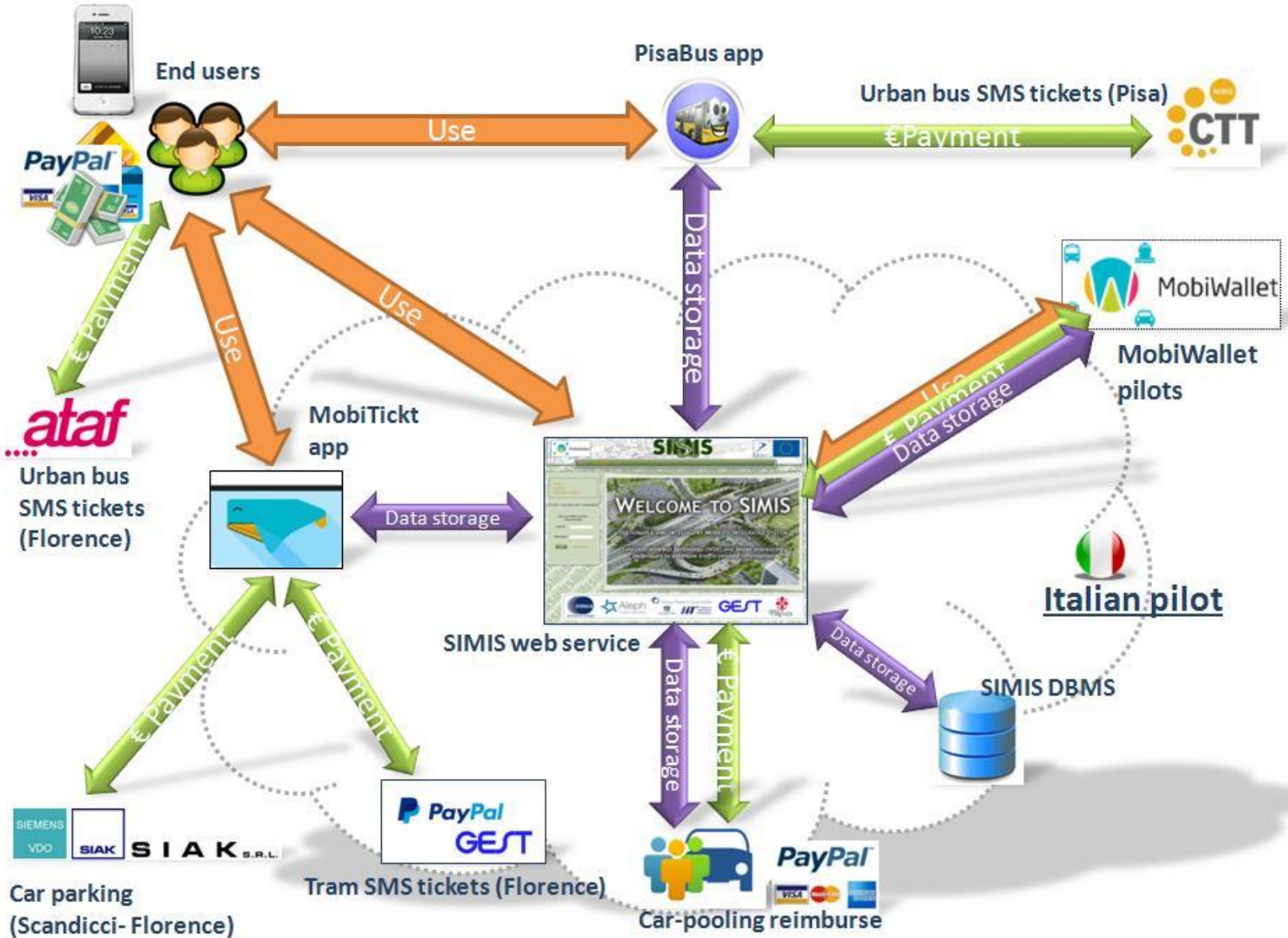


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Interoperability Solutions (2/2)





Services



Core Services (Fare management and validation)

Top-up & clearing

Validation

Fare Calculation

Interfaces

Additional Services

- Touristic bus traffic flow monitoring (Pisa)
- Trip planning.
- Statistics.

Integration with existing Services/APP

- Pisa bus Android app.



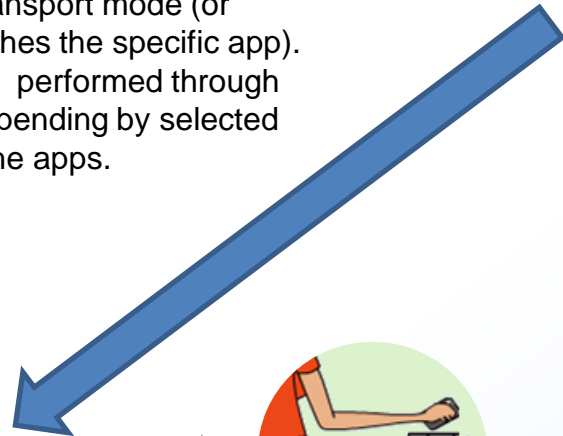
Top-up & clearing

Core Services



User tops up his/her **Smartphone**, logs in SIMIS and plans a journey selecting the appropriate transport mode (or alternatively launches the specific app). Payment could be performed through SIMIS itself or, depending by selected service, through the apps.

Payment by PayPal merchant account with **Credit Card or mobile credit (cash as well).**



Bus, tram, car-parking: User receives the ticket (SMS, QR-code) on his/her mobile.

Use transport mode. **Bike-sharing:** service provider's card is mandatory.



Clearing process provided by entities not included in the cluster (i.e. PayPal, mobile operators, transport companies) or user's PayPal account (car-sharing)...



(Some) transaction data are stored in SIMIS DBMS (*).

(*). i.e type of ticket, date&time, userId etc. **IMPORTANT: No financial data is stored in SIMIS** (ie.bank account, PayPal passwords, PIN codes etc.).



Validation

Core Services

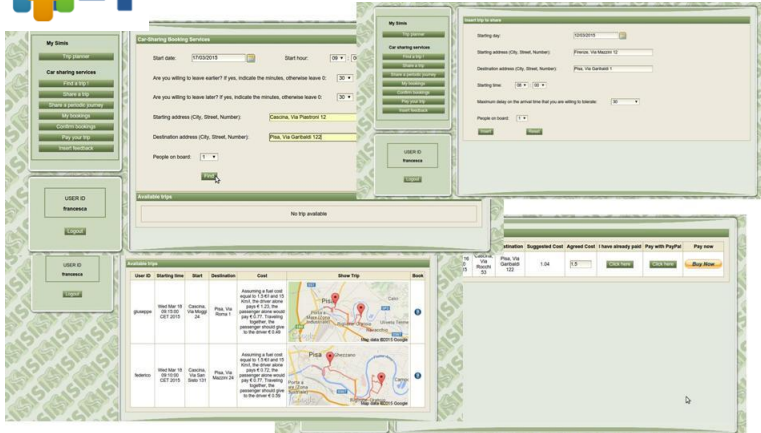


User taps "Buy" button from *SIMIS*, launches *PisaBus* app and pays the ticket with his/her mobile credit

Ticket is validated once received by user



SMS ticket is verified by ticket inspector once user is on-board



User shares his/her car or finds a user who already shared a journey and joins a shared travel

Reimbursement can be performed through PayPal (or by cash)





Validation

Core Services



SMS tram ticket is purchased through *MobiTickt* app



Driver pays parking time to PayPal merchant account through *MobiTickt* app or via the signage totem deployed in the car-parking area in Scandicci

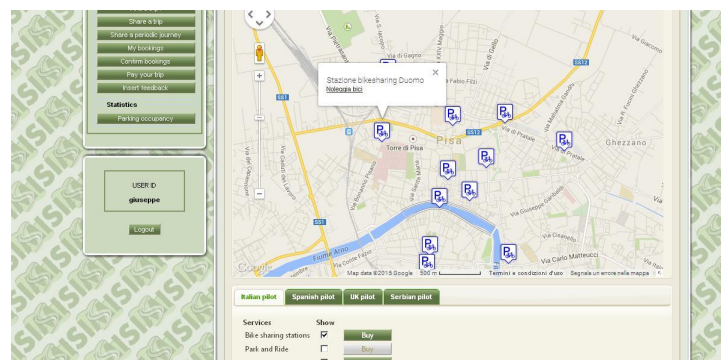


Car's plate is stored in parking operator system once user registers to the service

Payment is verified by parking staff through a version of *MobiTickt* app which checks car's plate



Service is integrated within *SIMIS*. User rents the bike through his/her credit card on service provider's payment area





Core Services



Fare Calculation

- Public transports: fares are set by transport companies
- SIMIS proposes an estimated cost which is automatically calculated when a user joins a car-sharing journey
- The estimation cost takes into account distance, number of passengers on board and (estimated) price for fuel (€/lt.)
- However, since car pooling is based on a private agreement between users, the actual price agreed between the subjects involved (driver and passengers) could be different than the proposed cost



Core Services



Interfaces

Traveller Interface: SIMIS web platform



The collage displays four screenshots of the SIMIS web platform interface:

- Top Left:** A sidebar menu with options like "Find a trip", "Share a trip", "Share a period journey", "My bookings", "Compare bookings", "Pay your trip", "Event tickets", and "Statistics". Below the menu is a "USER ID" field with the value "user" and a "Login" button.
- Top Right:** The main header area featuring the "SIMIS" logo, "MobiWallet" branding, and a "WELCOME TO SIMIS" banner. The banner text reads: "SUSTAINABLE AND INTELLIGENT MOBILITY INTEGRATED SYSTEM" and "Low-cost wireless technology (WSN) and image processing techniques to estimate traffic-related information". It includes a search bar for "User ID" and "Password", and a "Login" button.
- Bottom Left:** A similar sidebar menu with options like "Share a trip", "Share a period journey", "My bookings", "Compare bookings", "Pay your trip", "Event tickets", and "Statistics". Below the menu is a "USER ID" field with the value "giuseppe" and a "Login" button.
- Bottom Right:** A map view showing a route in Florence, Italy. A pop-up window displays "Stazione bike-sharing Duomo (Notasah Bike)". The map includes various icons for bike-sharing stations and parking areas.



Core Services



Interfaces

Traveller Interface: car pooling



The interface is divided into several sections:

- My Stats:** Trip planner, Car sharing services (Find a trip!, Share a trip, Share a periodic journey, My bookings, Confirm bookings, Pay your trip, Insert feedback), USER ID francesca, Logout.
- Car-Sharing-Booking Services:** Start date: 17/03/2015, Start hour: 09:00. Are you willing to leave earlier? 30. Are you willing to leave later? 30. Starting address: Cascina, Via Piastroni 12. Destination address: Pisa, Via Garibaldi 122. People on board: 1. **Find** button.
- Available trips:** No trip available.
- Insert trip to share:** Starting day: 12/03/2015. Starting address: Firenze, Via Mazzini 12. Destination address: Pisa, Via Garibaldi 1. Starting time: 08:00. Maximum delay: 30. People on board: 1. **Insert** and **Cancel** buttons.
- Available trips table:**

User ID	Starting time	Start	Destination	Cost	Show Trip	Book
giuseppe	Wed Mar 18 09:15:00 CET 2015	Cascina, Via Moggi 24	Pisa, Via Roma 1	Assuming a fuel cost equal to 1.5 € and 15 Km, the driver alone pays € 1.23, the passenger alone would pay € 0.77. Travelling together, the passenger should give to the driver € 0.49		
federico	Wed Mar 18 09:10:50 CET 2015	Cascina, Via San Sisto 131	Pisa, Via Mazzini 24	Assuming a fuel cost equal to 1.5 € and 15 Km, the driver alone pays € 0.72, the passenger alone would pay € 0.77. Travelling together, the passenger should give to the driver € 0.59		
- Summary Table:**

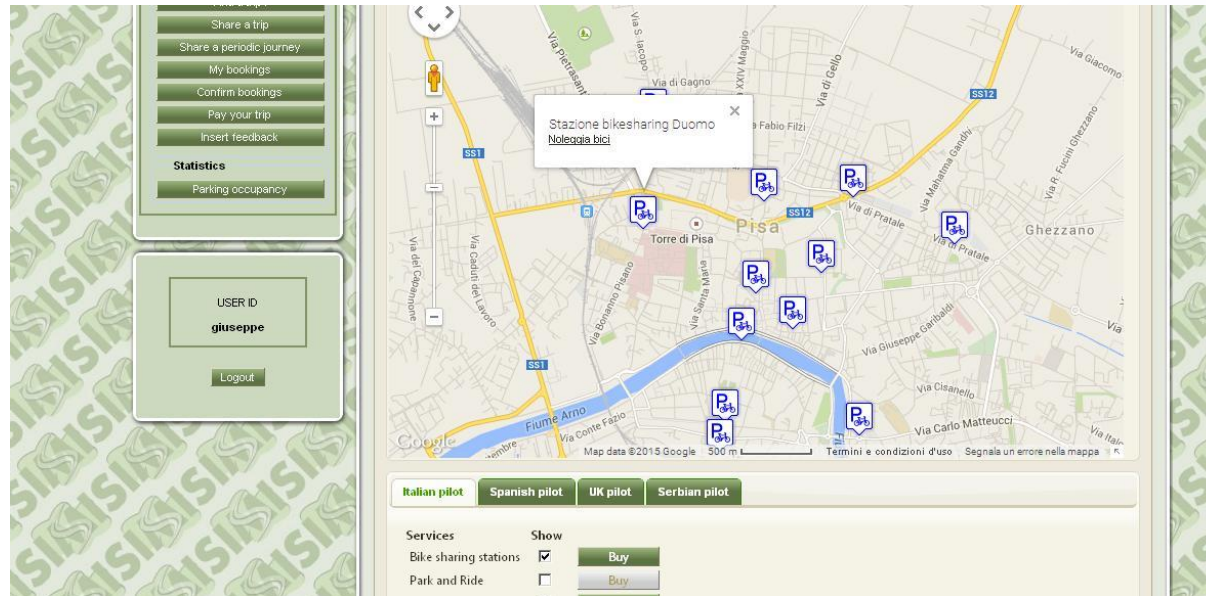
Destination	Suggested Cost	Agreed Cost	I have already paid	Pay with PayPal	Pay now
Cascina, Via Rocchi 53	1.04	1.5	<input type="text"/>	<input type="button" value="Click here"/>	<input type="button" value="Buy Now"/>



Core services



Traveller Interface: Bike sharing service (Pisa)



- Bike sharing service is available on SIMIS Trip planning
- User can display station's location on trip planning map
- Payment could be performed through the service provider's payment web area and credit card
- Planned improvements: Council aims to propose "one ticket" for urban bus & bike
- No card required for bike

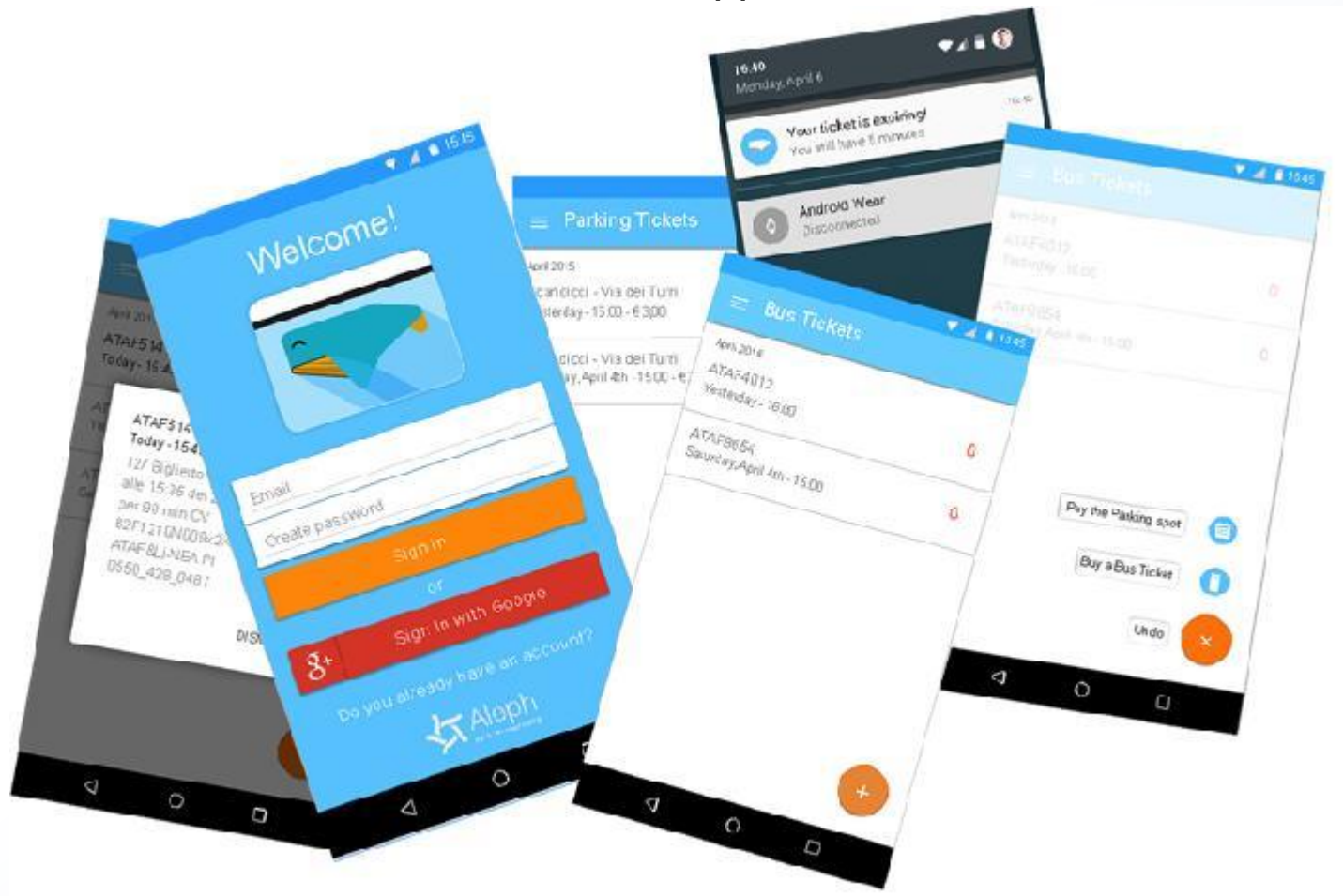


Core Services



Interfaces

Traveller Interface: “Park & Ride” MobiTickt app





Core Services



Interfaces

Other interfaces: Web REST APIs

- SIMIS provides a **full set of functionalities** in order to allow 3rd party application to **easily access to Italian pilot services**
- Available functionalities include:
 - User registration
 - User's feedback about the transport service
 - Notification of purchased ticket (in case the end-user have bought the ticket via his/her mobile's credit)

All data exchanged with SIMIS are secured (via https) and also available in JSON format



Core services: Park & Ride area (Scandicci-Florence)



Resistenza tram stop



Signage totem deployed in car-parking

In collaboration with





Additional Services: bus traffic flow monitoring (Via Pietrasantina park-Pisa)



- Intermodal area (car-parking, urban bus stop, touristic parking slot and several facilities for tourists)
- Technologies: traffic sensors, M2M GW, real time image analysis
- Scope: Touristic bus traffic flow monitoring for parking occupancy estimation. Parking pass payment via credit card through parking manager's web site
- Planned improvements: dynamic fare management depending of parking occupancy

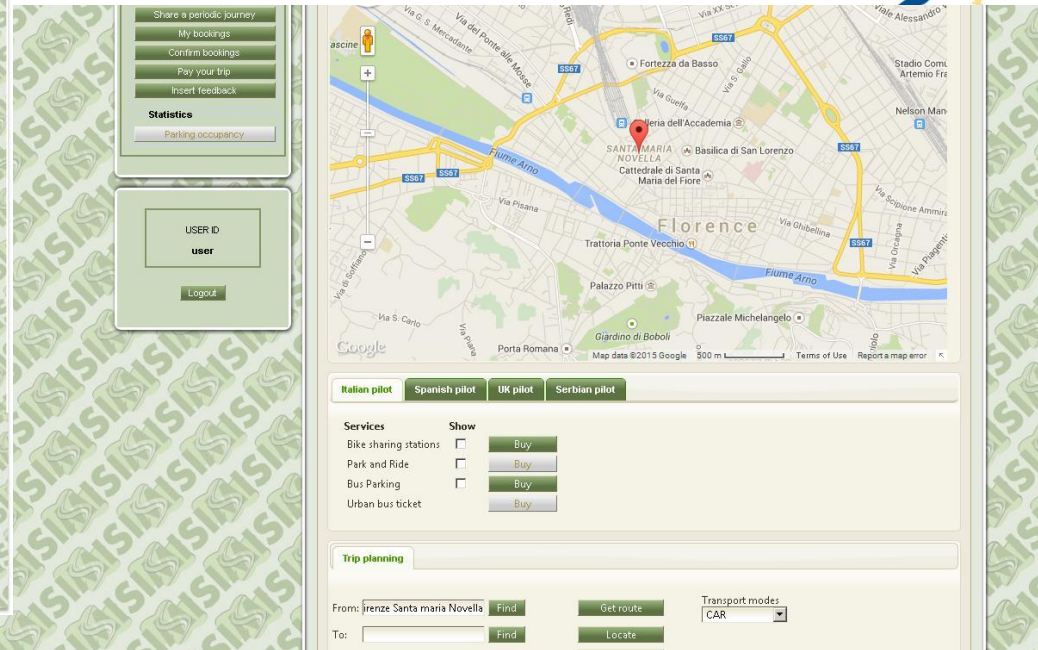
In collaboration with



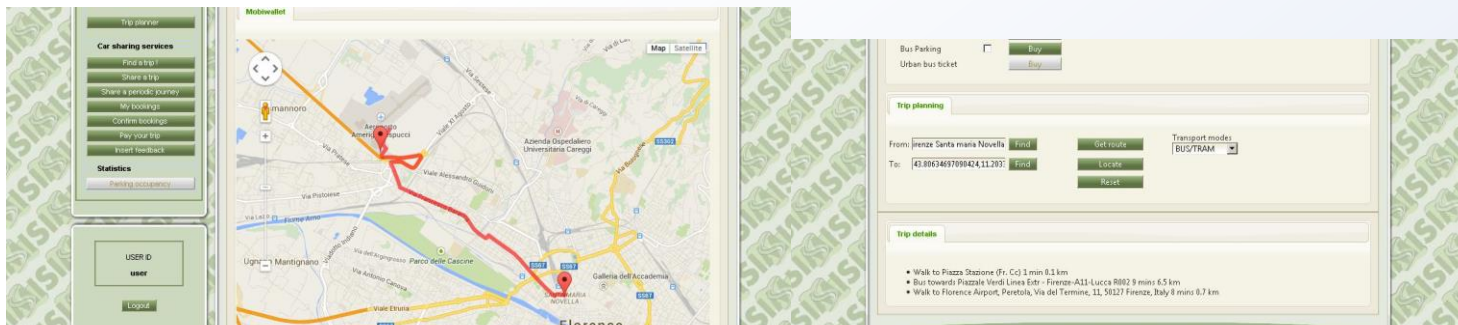
Additional Services: trip planning



Step1 – Launch Trip planning from SIMIS main page



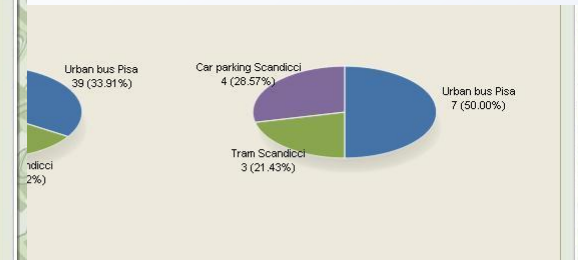
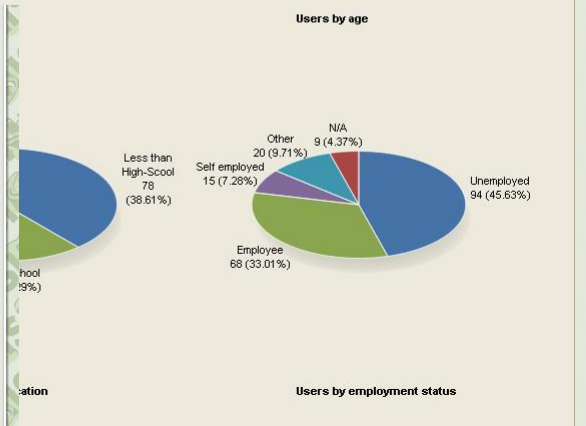
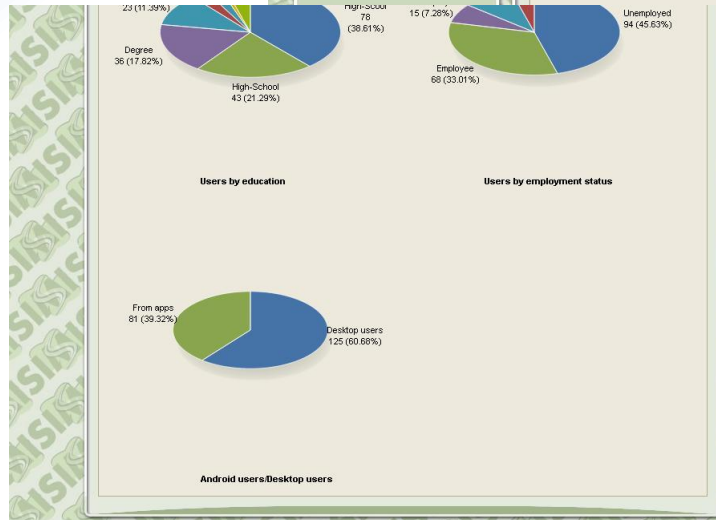
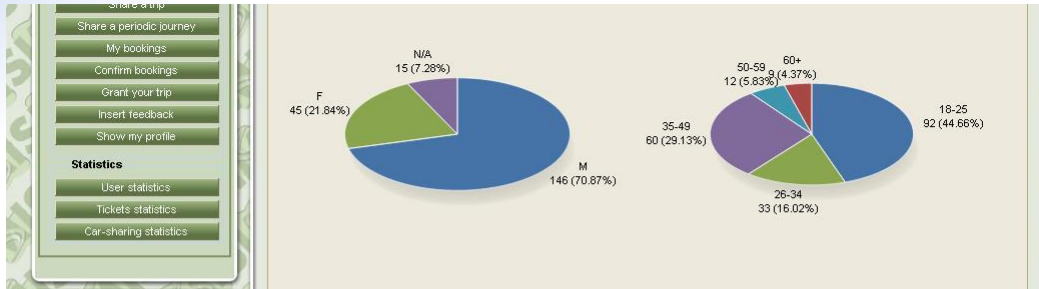
Step 2– Set starting destination addresses and transport mode



Step 3– Route details

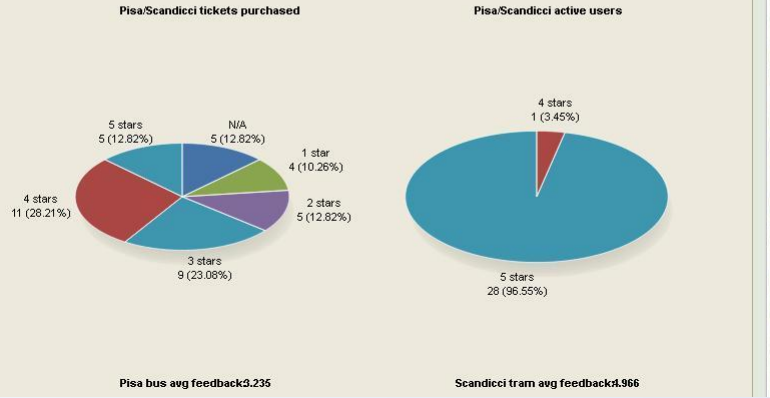


Additional Services: statistics



Available functionalities:

- User's statistics (n. of users, statistics about sex, age, education etc.)
- Ticket's statistics (tickets purchased in Pisa, & Scandicci, user's feedback etc.)
- Car-pooling statistics (shared km, agreed costs, user's feedback etc.)
- Planned improvements: interoperability tickets. Tickets purchased within a range of dates etc





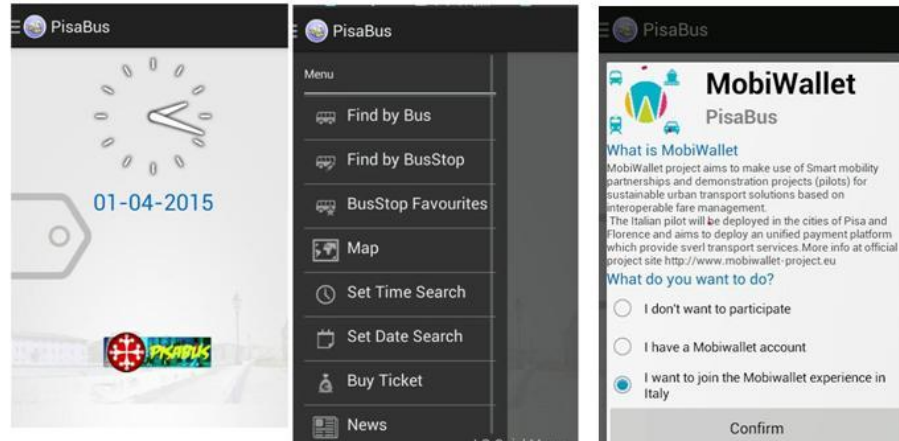
Integration with existing APP/Services



MobiWallet



PisaBus Android app



Pisa Bus (Offline)

Intecs SPA

3 PEGI 3

UNINSTALL

OPEN

1

THOUSAND

Downloads

4.4

★★★★★

49

Users



Transport



Similar

Bus timetable Pisa

READ MORE





Users recruitment



- Initial group of (about) 20 users performed first tests on implemented functionalities
 - All users have been involved within the Italian cluster
- The initial phase has been followed by a recruitment campaign conducted mostly through social networks
 - This phase involved about 100 users (most of them external to Italian cluster)
- Third phase (on-going): involvement of users from existing apps and increase of dissemination through social networks
 - Current number of registered users is beyond 200
- Initiatives to increase users and pilot's popularity: "*tell to a friend*", transport tickets for free during cultural/sport events in Pisa and Florence



Forthcoming actions



- Further increase the number of registered users
- Increase number of transactions (purchased tickets, car-pooling reimbursement) in all transport modes proposed by the Italian cluster
- Increase project's popularity



Stay tuned!



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