

i-Tour

intelligent Transport system for Optimized URban trips

Key Facts

Start date: 1 February 2010

Duration: 36 months

Partners:

- FORMIT Servizi S.p.A.
- GraphiTech Foundation
- University College London
- Technische Universiteit Eindhoven
- MAGMA S.r.l.
- ELASIS S.C.p.A.
- PTV Planung Transport Verkehr AG
- Cadzow Communications Consulting Ltd.
- FORMIT Foundation

Grant agreement n°: 234239

Funding scheme: Seventh Framework Programme (FP7)

Website:

<http://www.itourproject.com>



1 Year of i-Tour

The i-Tour project has just completed its first year. In this issue of the newsletter, we report on the major achievements obtained thus far and the events that have occurred. We take a look at how the broader intelligent transport system community has evolved, and look forward to what is expecting us next.

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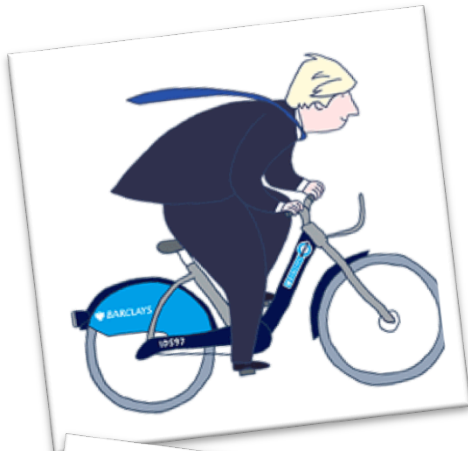


Hot Topics in ITS

Barclays Cycle Hire

During the summer 2010, London has launched its public bicycle sharing scheme (called Barclays Cycle Hire). At launch there were 315 bicycle docking stations and 5,000 bicycles, covering pretty much all of London zone 1. The scheme is very simple to use: after becoming a member online, you just take a cycle, ride it where you like, then return it, ready for the next person. Available 24 hours a day, all year round. It's self-service and there's no booking. Just turn up and go. The scheme aims to provide an affordable, sustainable and environmentally friendly transport network across the capital, introducing people to a more active life and one of the cleanest, greenest and quickest ways of navigating the city. To find out more, visit

<http://www.tfl.gov.uk/roadusers/cycling/14808.aspx>



New High-Tech Transit Study @ UC Berkley

How can we make commuters use public transport more often? A new pilot project by transportation researchers at the University of California, Berkeley, tries to determine whether commuters will use transit more often if they are provided with accessible, current and information-rich transit, parking and traffic options before they start their journeys. The pilot was launched on August 31, 2010, and it allows travelers between San Francisco and San Jose to select the best commute option based on personalized priorities of cost-efficiency, time-efficiency or a low-carbon footprint. To find out more, visit

<http://www.networkedtraveler.org/>



WiFi Reaches London Tube



A six month trial of WiFi at Charing Cross station, covering both platforms and ticket halls, was launched on 1st November. BT's service will piggy-back onto an existing wireless network, currently used by TfL staff, giving commuters with a WiFi-enabled smartphone, laptop or other device to read travel information for free. The mayor of London has pledged to enable wireless service across the whole Tube network in time for the Olympic Games in 2012.

Metro Paris Subway Application for iPhone

Locals and tourists alike can now enjoy a new iPhone/iPod Touch application in Paris. Notable features include:

1) Augmented reality that enables you to see the nearest stations and POI with iPhone's camera live view. Elements located at a distance less than 1km (0,621miles) only will be displayed. 2) Journey planner with real-time updates, multi-modal transport, and user-input preferences. 3) User-editable POI database/map-POI locator. To find out more, visit <http://www.metroparisiphone.com/>



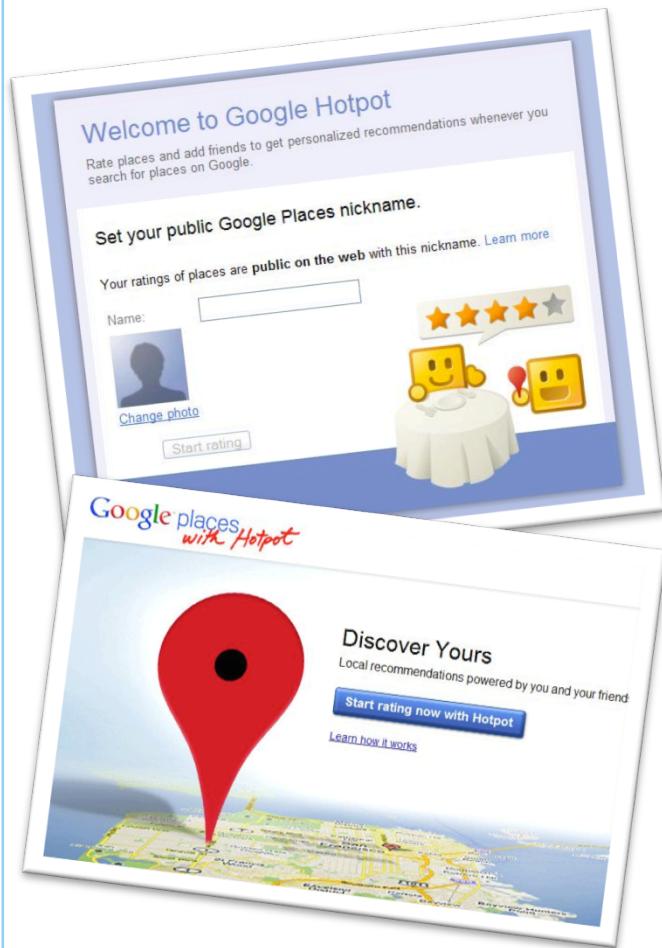
New ITS Reaches Taipei



A new public transportation system in Taipei, Taiwan helps commuters get real-time bus information. Based on WebGIS technology, it provides commuters with easy-to-use interfaces to query real-time bus information, thereby facilitating them in planning their route. The information provided is collected through devices on the buses, which record movement information such as coordinates, speeds, directions, time, etc. The technology is expected to support not only users and tourists in planning the best route more conveniently, but also government sector in designing and planning better urban transportation.

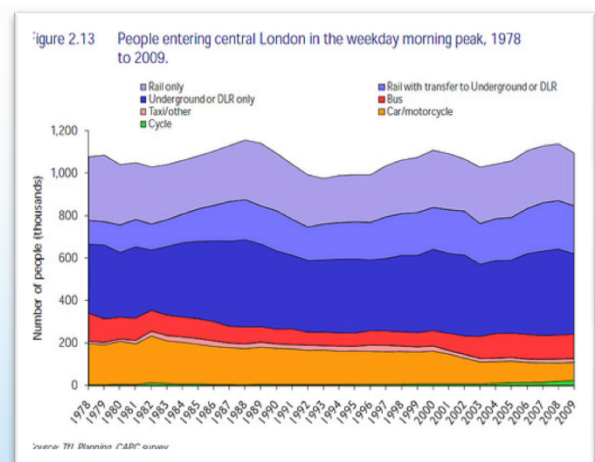
Google launches Hotpot

In November 2010, Google has launched Hotpot, a new recommendation engine for places. The aim of Hotpot is to make local recommendations more personal and relevant, by recommending places based on your ratings and the ratings of your friends. Rather than relying on ratings and reviews from third party websites, Hotpot uses an in-house recommendation engine, which exploits not just location information, but also preferences you share with you friends. Hotspot has both a web-based and an Android app, with an iPhone app coming soon. It allows you rate places and invite friends to share those ratings with. As you rate sites via Hotpot, the service will recommend other similar places that you might also like. And as you can share your recommendations with others, you can also see which spots your friends prefer. Recommendations are directly visible on a Google map, when you use Google's Place Search. Find more at www.google.com/hotpot



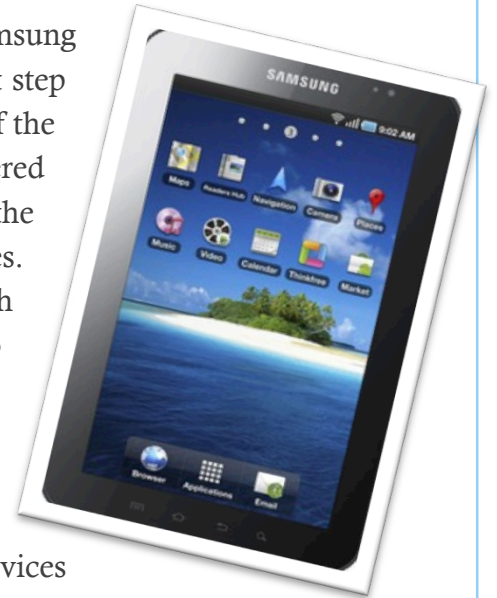
10 Years of London Public Transport Travel

Transport for London has released a 290 page PDF document with facts and figures about actual usage of the multi-modal network of public transports in London and their performance. Some key insights on changes occurred over the last 10 years: passenger journeys on the London Underground have increased by 10% going from 970 million in 2000 to 1100 million in 2009. Journeys on the DLR increased by 82% going from 38 million to 69 million in 2009, which reflects the development of the network with increased station numbers & train lengthening. The Tube is still the main mode of transport for people getting into central London each weekday morning. Read more at <http://www.tfl.gov.uk/assets/downloads/corporate/travel-in-london-report-3.pdf>



Samsung Galaxy Tab, the First Android Tablet is Out

After the first press release on September 2nd 2010 in Berlin, the Samsung Galaxy Tab has been finally released to the market. This is a significant step towards the large diffusion of tablet computers started with the release of the Apple iPad. The Samsung Galaxy Tab is one of the first Android-Powered Tablet bringing the entire feature available on Android smartphones to the tablet environment, without the limitation we can find on other devices. Its technical specifications talk about a 7 inches Android 2.2 device with 1 Ghz processor and 16/32GB of internal storage, not to mention a 3 Mega pixels (MP) camera with Auto Focus and LED flash and a 1.3 MP front camera for video telephony.



The development of the i-Tour mobile platform will be performed also on this model to ensure the compatibility with Android enabled tablet devices like the forthcoming Dell Streak, LG Optimus Tab and other tablets presented at the Consumer Electronic Show 2011.



Windows Phone 7 Mobile Platform, a New Frontier for i-Tour

The new mobile operative system developed by Microsoft has been released to the developers and to the final users through the launch of new Windows enabled phones, like the LG Optimus 7. Despite the initial lack of functionalities (single thread, no copy-and-paste) and the limits of the first release of the Application Programming Interface (e.g. no direct access to the camera) the innovative user-centered interface based on the concept of Hub can potentially change the use of smartphones as it has been conceived until now, and can also be a potential platform for the i-Tour services.

Technical Achievements

Mining Public Transport Usage For Personalised ITS

Traveller information, route planning, and service updates have become essential components of public transport systems: they help people navigate built environments by providing access to information regarding delays and service disruptions. However, one aspect that these systems invariably lack is a way of tailoring the information they offer in order to provide *personalised* trip time estimates and relevant notifications to each traveller. Mining each user's travel history, collected by automated ticketing systems like the London Oyster card, has the potential to address this gap. In the i-Tour project, we have analysed one such dataset of travel history on the London underground. We have then proposed and evaluated methods to (a) predict personalised trip times for the system users and (b) rank stations based on future mobility patterns, in order to identify the subset of stations that are of greatest interest to each other and thus provide useful travel updates.



Recommending Social Events from Mobile Phone Location Data

A city offers thousands of social events a day, and it is difficult for dwellers to make choices. The combination of mobile phones and recommender systems can change the way one deals with such abundance. Mobile phones with positioning technology are now widely available, making it easy for people to broadcast their whereabouts; recommender systems can now identify patterns in people's movements in order to, for example, recommend events. To do so, the system relies on having mobile users who share their attendance at a large number of social events: cold-start users, who have no location history, cannot receive recommendations. In collaborations with University of Cambridge UK and the Massachusetts Institute of Technology, we set out to address the mobile cold-start problem by answering the following research question: how can social events be recommended to a cold-start user based only on his home location? We carried out a study of the relationship between preferences for social events and geography, the first of its kind in a large metropolitan area. We

sampled location estimations of one million mobile phone users in Greater Boston, combined the sample with social events in the same area, and inferred the social events attended by 2,519 residents. Upon this data, we tested a variety of algorithms for recommending social events. We found that the most effective algorithm recommends events that are popular among *residents* of an area. The least effective, instead, recommends events that are geographically close to the area. This last result has interesting implications for location-based services that emphasize recommending nearby events.



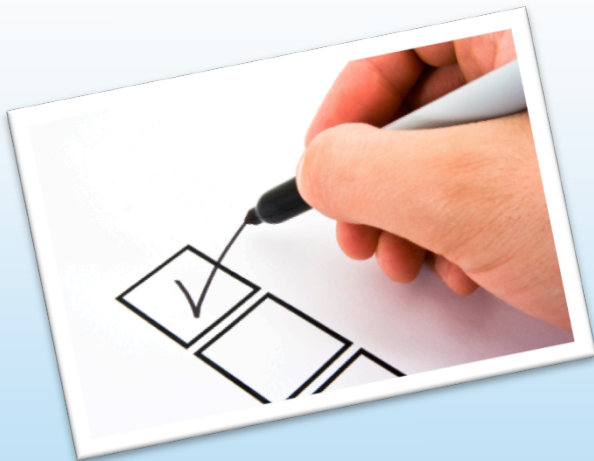
Publications

Accepted

1. J. Zhang, T. Arentze, H. Timmermans. "Making our mobility more intelligent- a framework of a personalized multimodal traveller information system". In 12th WCTR. Lisbon, Portugal. July 2010
2. R. De Amicis, G. Conti, S. Piffer, F. Prandi. "Service Oriented Computing for Ambient Intelligence to Support Management of Transport Infrastructures". In International Conference on Ambient Systems, Networks and Technologies. Paris, France. November 2010.
3. G. Conti and R. de Amicis. "Geospatial Technologies and Their Benefit for Ecosystem Services and Human Welfare". P. H. Liotta, W. G. Kepner, J. M. Lancaster and D. A. Mouat eds. Amsterdam, Netherlands : IOS Press. 2010. pp. 225 - 237
4. D. Magliocchetti, G. Conti and R. de Amicis. "I-Move: A framework for Interoperable Mobile 3D Geobrowsers". In Proceeding of the IDMME Virtual Concept Conference 2010, Bordeaux, France. 2010.
5. D. Quercia, N. Lathia, F. Calabrese, G. Di Lorenzo, J. Crowcroft. "Recommending Social Events from Mobile Phone Location Data". In 10th IEEE International Conference on Data Mining (ICDM 2010). Sydney, Australia. December 2010
6. N. Lathia, J. Froeclhich, L. Capra. "Mining Public Transport Usage For Personalised Intelligent Transport Systems". In 10th IEEE International Conference on Data Mining (ICDM 2010). Sydney, Australia. December 2010

Under Submission

1. R. de Amicis, G. Conti, S. Piffer, F. Prandi, M. Calderan. "A 3D Client to Improve Management of Motorways: a Single Point of Access to a Complex Spatial Data Infrastructure". V1 Magazine. 2010. Technical Magazine. Submitted.
2. R. de Amicis, G. Conti, S. Piffer and F. Prandi. "Service Oriented Computing for Ambient Intelligence to Support Management of Transport Infrastructures". Journal of Ambient Intelligence and Humanized Computing. International Journal. 2011. Submitted



Milestones & Deliverables



WP4 – User-Friendly Travel Information Portal

The work on WP 4 has already produced the first deliverable related to task T.4.01 “Design of the interface Structure” as a video showing a mockup of the user interface both for the mobile and the web client.

During the process of interface design, particular attention has been devoted to the organization of the menu structure which has resulted in a simple and small hierarchical tree and to bring the most common and frequent functionalities and notifications (alerts, quality of service, weather, etc.) available through a unique home screen.

The interface has also been contextualized by adopting a set of graphical objects related to street and transport environments, to make users comfortable with the use of i-Tour during the day, while the number of text messages has been reduced and substitutes with icons to break language and communication barriers, improving the usability of the system (icon selection is easier than text selection).

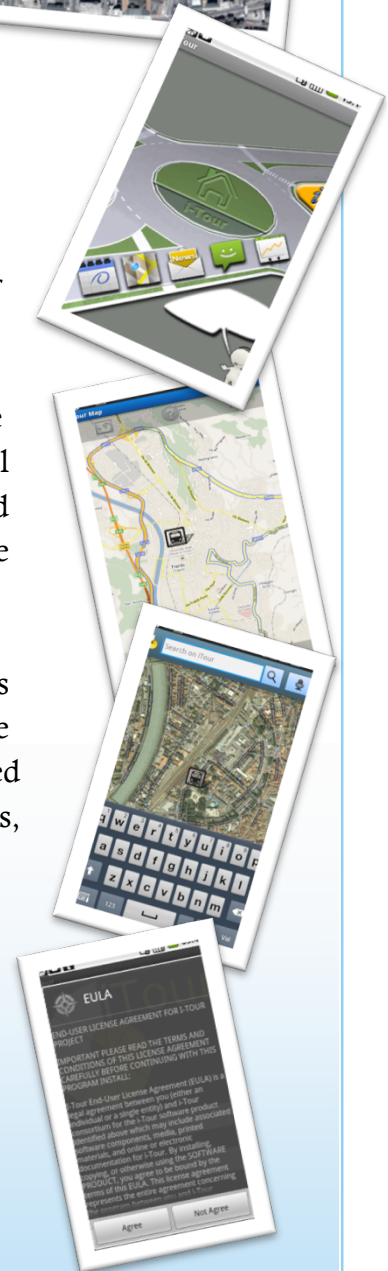
The development for the first prototype of the i-Tour mobile and web platform has already been started, running in parallel with the video mockup production and is almost ready for the first integration attempt with the remote i-Tour services.

For more information please have a look at the videos at:

<http://www.youtube.com/watch?v=PpSZqYFwnoU>

<http://www.youtube.com/watch?v=U7grMtn8E6A>

<http://www.youtube.com/watch?v=brH3KuYgTvA>



WP8 – Dissemination, Exploitation and IPR Management

The work on WP8 has produced a variety of deliverables that we briefly summarise here.



D.8.01 – the project web site has been launched on the first month of the project, with public and private sections. The web site is used, in its private section, as a documents repository for all partners. Access to Project Stakeholders is given in the Project Stakeholders Board meetings section. The public section is updated with news and events, both focused and of general interest of the project.



D.8.02 – The newsletter has come to the second issue, publicly available from the project website. The newsletter enjoys contributions from all partners.



D.8.03 – A dissemination plan has been released at month 6, with an overview of the dissemination strategy and with details on dissemination plans (workshops, events, publications, etc.) of each involved partner. The dissemination plan is updated every six months. In this first year the first i-Tour workshop has been organised, at ELALIS premises, as a Cooperative day of Adaptive trAvel information (CAAR). During the event, the first issue of the newsletter, together with the i-Tour brochure, has been distributed to all participants. The project brochure has been designed for all events, which i-Tour partners will organise and in which they will participate.



D.8.04 – The task related to this deliverable (“Copyright and software licensing model”) has been agreed to start sooner to ensure that an IPR statement and declaration be added to documents and presentations.

D.8.05 – A first version of the business plan is being released for the EC approval. The business plan is updated every 12 months, after sharing it with project Stakeholders. At month 36, there stands milestone M.8.01, set for the delivery of the final version of the business plan.

D.8.06 – At the end of the project, an international conference will be organised with the aim to present the project results and the i-Tour system. EU conference proceedings will be available on the project website.

From the Stakeholders...

Brief Description of the Stakeholders



Autostrade Meridionali (SAM) manages the Italian motorway A3, from Naples to Salerno, passing by Pompei. The motorway is 52 Km long, in each traffic direction.



Circumvesuviana (VES) manages railway and cable car service. Railway network, at narrow gauge, is long Km 142,705 km, 63 of which on double track. The lines are Naples – Sorrento; Naples - Ottaviano – Sarno; Naples - Scafati – Poggiomarino; Naples - Nola – Baiano; Naples - Pomigliano – Acerra; Naples - San Giorgio (via Centro Direzionale), all starting from the terminal station of Naples-Porta Nolana.



Provincia Autonoma di Trento (PAT) is the public administration that manages the Province of Trento territory. From the beginning of 2009, PAT has constituted a public company, Trentino trasporti esercizio S.p.A., for the management and provision of the Province of Trento public transport services.



Provincia di Bologna (PDB) is the public administration that manages the Province of Bologna territory. PDB is listed among Italian best practices in terms of access to Geographical Information through web-services.



Transport for London (TfL) controls an extremely wide transport network in London including: Tube (11 lines, 465 Km, 268 stations with additional 7 location served by bus line extension, more than one billion passengers per year), Buses (over 6,800 scheduled buses on over 700 different bus routes, carrying over 1.5 billion passenger per year), DLR (Docklands Light Railway), River, Coaches, Trams and Rail.



TTS Italia, the Italian Association for Telematics for Transport and Safety, has the purpose of contributing to the improvement of efficiency and safety in the national transport system. TTS Italia is part of the ERTICO network.



Thales Group, with operations in 50 countries and 68,000 employees, is a world leader in mission-critical information systems for defence and security, aerospace and transportation. Thales Italia, part of the Thales group, is a Thales competence centre for urban transport, operative control centres, on-board solutions, broadband WLAN solutions for communication between train on-board and ground, ticketing systems.

New Stakeholders Entries!

Since the start-up of the i-TOUR project, some stakeholders have shown interest to be part of the Project Stakeholders Board and have access to the state of the art of Intelligent Transport Systems. Companies like Thales Italia, Flotta Lauro and public administration like Provincia di Napoli asked to be part of it. If you are interested in knowing how to join the Project Stakeholders Board as a member, please write to info@itourproject.com.

Second Project Stakeholders Board Meeting

Taking advantage of the first i-Tour workshop, a second meeting of the Project Stakeholders Board has been organised in which already involved Stakeholders (i.e., Provincia Autonoma di Trento (PAT), Circumvesuviana (VES), Società Autostrade Meridionali (SAM)), participated together with Thales Italia, as an observer, having expressed interest to become a member. The objectives of this 2nd meeting were to review the project progress, to collect end users' requirements and expectations, to proceed with the planning of dissemination activities. Each Stakeholder has been asked to give an insight on user technologies and on the technology market, on user markets and on the market in general, on funding opportunities (regional, national, European), and, finally, on its networking opportunities. These are some of the comments from our Stakeholders:

Circumvesuviana (VES) *“The i-Tour added value is to give dynamic, not only static, information to passengers, to improve the level of quality perceived by the customer, providing real time information for railway service and showing possible alternatives to facilitate travelling. For Circumvesuviana, the i-Tour project will complete the framework of activities aimed at improving its systems for public utility”*

Provincia Autonoma di Trento (PAT) *“In line with i-Tour results, Provincia Autonoma of Trento expects to use i-Tour system to improve many aspects of service and to design a better technology; in a second time, this will be particularly useful to promote the Trentino region all over the world and give a more powerful and complete vision about the tourism of this wonderful piece of paradise”*

Società Autostrade Meridionali (SAM) *“The expected project results are to have real time information about size and type of demand for traffic in different motorway entry points; to manage activities optimization with reference to the demand for mobility in the area; to show service improvement through identification of customers target and routes requested; to improve the current monitoring system”*

Next i-Tour Workshops

We are planning a variety of other i-Tour workshops for the coming year. These are some proposed events and dates:

1. i-Tour Workshop at the ISO/ITU-T ITS Event coordinated by C3L during the ITS world congress, end of October 2011 in Orlando, Florida
2. i-Tour Workshop on Trust & Reputation in Transport Systems organized by UCL (two options):
 - a. IFIPTM (International Conference on Trust Management), end of June 2011 in Copenhagen
 - b. RecSys (International Conference on Recommender Systems), end of September 2011 in Chicago
3. i-Tour Workshop on “ambient intelligence at the service of info-mobility and critical transportation networks” organized in the context of 2nd International Conference on Ambient Systems, Networks and Technologies (ANT-2011)
4. i-Tour Workshop at 60th UITP - World Congress and Mobility & City Transport Exhibition organized by FFO (Genève - May 2013)

New Data Available From Providers

MITT (Mobilità Integrata dei Trasporti in Trentino - Integrated Mobility for Transports in Trentino), one of i-Tour data providers, has given access to the transport datasets used to manage the local transport system. In particular, we are referring to an Oracle® database dump including, among the others, the following tables:

- Points: with all the terrestrial reference points used by the system;
- Courses: with all the paths followed by the local busses;
- Routes: with a list of all the paths connecting two contiguous bus stops;
- Requirements: with a list of user categories;

In addition to this information, the local transport system has also provided a subset of the real time data sent by each active bus to the central station, with details about the model, the course, the position and the covered distance. In this way the partners involved will be able to create a simulation scenario to test the first prototypes of the i-Tour System. All this data will be exposed through an OpenLS compliant service.



Meetings & Events

First i-Tour/ATA Workshop – CAAR 2010



Key Facts

When: 5th November 2010

Where: Pomigliano d'Arco (Naples), Elasis headquarter

Participants: public and private transport operators; infrastructure managers; public and private research centres

The 3rd edition of the CAAR workshop took place on November 5th 2010 at ELASIS premises. The whole workshop was devoted to the i-Tour project. The opening was made by several important figures in ITS, including ELASIS and ATA CEO, an Advisor for the Campania Region, the Councilor for Transport of the Naples Province and a delegate for the Agency for the Promotion of European Research - APRE). The workshop was then divided into three main sessions, covering research approach, the ITS contribution, and the end users view.

Session 1 - Adaptive travel information systems for a new generation of sustainable mobility

The University of Naples and Rome presented their research approach to ATIS (Advanced Travel Information System). An introduction to the i-Travel project (another EU project co-founded in the VI Framework programme) was also made, together with a comparison against i-Tour project were done. Technical presentations by i-Tour partners then followed, focusing on routing models and the "prosumer approach".

Session 2 - Intelligent Transport Systems & Adaptive Travel information: the directive 2010/40/EU

During this session, various companies, including Magneti Marelli, Project Automation, Elsag Datamat, and Mizar Automation, presented their approach from different points of view: automotive, telematic, logistics.

Session 3 – End-User Roundtable

The third and last session consisted of a roundtable, mainly driven by Naples end users (public and private transport operators): Circumvesuviana, Autostrade Meridionali, Naples Province, and Lauro Shipping.

Overall, the workshop attracted about 100 participants, with various competences and specialisations: university, public and private operators, students, private company. The workshop theme of "Adaptive Travel Information for the multimodal transport" engaged participants in lively discussions, and provided an opportunity to point out the i-Tour research approach, its aims and objectives, to show the technologies available and to receive feedback from the stakeholders. The workshop was a valuable opportunity to strengthen mutual cooperation to efficiently contribute to the multimodality in the transport field.

The successful collaboration built during the CAAR workshop hopefully will continue among the researches, companies and stakeholders involved to effectively contribute to sustainable mobility using information exchange between different transport modes.

You can access the workshop programme from the ATA web site, where you will also find papers and a demo video (link: <http://www.ata.it/en/convegni/view/83/i-tour-ata-workshop/>). The password to access all material is CAAR2010.



Upcoming Events

Second Steering Committee Meeting

When: 18 February 2011

Where: Cambridge, UK

Participants: all i-Tour project partners

The second Steering Committee Meeting, chaired by Scott Cadzow from C3L, will take place at King's College in Cambridge on February 18th, 2011. The event will be preceded on February 17th by a technical meeting of the i-Tour partners at the same venue. The intense 2-day event will provide an opportunity to review the progress of i-Tour against the annual Implementation Plan, as well as review and approve the budget and accounts to date.

Feedback

We would love to hear your comments and suggestions. If you have a few moments to share your thoughts about the project with us, please get in touch: info@itourproject.com

The i-Tour team

