PEACOX – Persuasive Advisor for CO2-reducing cross-modal trip planning

Project Reference: 288466

FP7-ICT 2011: 6.6 Low carbon multi-modal mobility and freight transport

Project Duration: 1 Oct 2011 – 30 Sept 2014

D.8.2.1

Periodical Dissemination Report

TMX

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Executive Summary

The PEACOX project has the purpose to reduce CO_2 emissions by providing personalised multi-modal navigation tools for the travellers that allow, help and persuade them to travel and drive ecological friendlier. The PEACOX application will be piloted in the cities Vienna (AT) and Dublin (IRL).

This deliverable documents and describes work performed within WP8 Dissemination covering the first year of project duration. The part of this document is also dedicated to planned dissemination activities for the second year of the project.

The main goal of dissemination is to raise awareness of the project, from the concept to the final results, promote its adoption and gain publicity to PEACOX project purpose and results.

The PEACOX dissemination process is split into three subsequent phases: first PEACOX's activity targets mostly the R&D community, then project partners take a step further by extending promotion, building on available project results; finally PEACOX project should go on to introduction of project benefits together with activities using project results within endusers community.

The first dissemination phase covered gaining public awareness of the PEACOX project's existence, background, goals, concept, vision, expected impact and the collaborating group behind it. This first year dissemination – without demonstrable results just now – was promoted by delivering assisting materials including project design templates, logo, poster, press-releases, and presentation slides.

This issue of Dissemination Report covers first year in PEACOX project dissemination activities, reaching a group of interested communities and individuals, and gaining many feedbacks to performed work, which both should improve professional design process and dissemination strategy in the next two years.

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1. Introduction

1.1 Background

Work package WP8 encapsulates all the dissemination and exploitation activities that are conducted in the course of the project, including the definition of guidelines for the management of intellectual property rights.

Dissemination of the project results to wide public, industrial stakeholders and scientific audience will be accomplished through different channels, supported by means like posters, white papers, multimedia material or scientific papers. One important pillar is the project web site, serving at the same time as a means for internal communication purposes. Both the web site and all material are based on a uniform graphic layout.

The main goal of dissemination is to raise awareness of the PEACOX project, from the concept to the final results. A properly carried out dissemination promotes the PEACOX system and its adoption.

The dissemination process can be split to the following three phases:

1. To make PEACOX scientific results known among the scientific community. Beyond that, it also focuses on audiences that are open to an unfolding initiative.

2. To build on the first convincing results: specifications and initial end user software prototypes that will be already available to be disseminated and provided with means to approach a wider end users community, the consortium will undertake an aimed dissemination process.

3. As the PEACOX project starts delivering its final results, dissemination focus moves over to exploitability in the third phase. The consortium will put efforts to let the widest audience benefit from PEACOX results for sustainable use of PEACOX project results.

Each phase has different goals needing different approaches to achieve them.

The first phase was mainly achieved by certain offline activities (presenting the project on conferences, workshops, exhibitions and other events, using an introductory dissemination material set) along with means gaining online visibility (e.g. creating the official PEACOX website). The basis created will be used in the next phases by refining and undertaking our strategy according to a comprehensive dissemination plan and thus extending and improving our ways to reach the targeted groups effectively.

In the next chapters, the first dissemination phase results are reported.

1.2 Scope of the deliverable, main stakeholders addressed

This deliverable covers results from task 8.2 DoW Public and Scientific Dissemination Activities.

The dissemination report is delivered every year, providing an overview of the current status. The next dissemination report will already comprise a section about exploitation which will highlight particular activities undertaken towards the enduser community and further uptake of the PEACOX project results.

1.2.1 Scientific community, industrial stakeholders

These two parts of dissemination activities will be addressed by submitting papers to conferences and journals, accomplished mainly by academic partners, while fairs and other industrial networking events will be used to reach stakeholders and identify exploitation prospects.

1.2.2 Enduser community, wider public

Different dissemination tracks will use different channels. Awareness of the wider public regarding the technology will be raised through media like popular journals, magazines and well known web portals (e.g. YouTube, Facebook and similar).

1.2.3 Workshop

The consortium will also organize workshop during the third year of the project by inviting key stakeholders. This event will on one hand provide valuable feedback for the finalization of the user scenarios and on the other hand will prepare the ground for subsequent exploitation.

2. The First Dissemination Report

2.1 Objectives of the first year

There were set the following goals for the first year of the work:

- The PEACOX project's existence (background, goals, vision, concept, expected impact and the collaborating partners behind it) should be widespread known
- All tools that help to achieve the above goal should be prepared
- Project-relevant opportunities (e.g. conferences, press visibility) should be monitored and exploited

As we show in the following sections, the project consortium achieved the above goals with good results. PEACOX project is visible in multiple online and offline channels: press, forums, websites as well as conferences and workshops, where opportunity to show PEACOX concept at ITS World Congress could improve effort within dissemination activities.

PEACOX project consortium created dissemination materials to assist in dissemination activities, including the PEACOX website, a press release, a newsletter, a folder and presentation slides.

2.2 First year results

The dissemination activities in the first year of the project have been planned for the scientific dissemination and taking steps to gain publicity for the project among the enduser community and wider public.

As the project kicked off, the consortium started work by publishing a press release.

The press release was followed by work on dissemination materials, including the project logo, the design templates and the website, all materials were designed using the originally proposed official name of project Econav.

The Econav Pressrelease features 'static' information about project, the first page can be found in this document as Annex 6.1.

Figure 1: Econav logo

2.2.1 From EcoNav to PEACOX

Project promotion was interrupted when Crambo S.A. company from Spain sent official letter to PEACOX consortium leader CURE and informed them about Infringements of the rights held by in the ECONAV trademark.

Legal consultancy then proved the problem of infringement exists.

Based on this information consortium reduced dissemination activities and made these steps to avoid further problems:

- sent a letter of reaction to Crambo S.A.
- immediately ceased to use the term Econav in all of materials, project website, other websites etc.
- all the partners made the same in their individual materials
- ceased using the Econav domain name, that means the web presence was temporarily disconnected
- started to investigate new alternatives for the project naming
- consortium leader CURE started work at amendment to project agreement for changing official name of project

2.2.2 PEACOX dissemination materials, logo and templates

The Consortium proposed 25 new names for replacing EcoNav and “PEACOX” has been chosen. Then new logo has been prepared and all dissemination materials have been redesigned.

Figure 2: New PEACOX logo

Website - the launch of the project website (http://www.project-PEACOX.eu/) was also fast; it contains basic information about the project on its public interface, while the private area serves internal file sharing of delivered documents and templates. The PEACOX website will be adapted and updated throughout the duration of the project in order to present the latest project results, information about events and dissemination materials.

Figure 3: Screenshots from PEACOX website

Presentation - for visibility on conferences, the availability of a presentation slide set was an early needed. It contains basic information on the project and its environment: what is the main idea of PEACOX navigation, what are the main issues, how can PEACOX help end users and other stakeholders.

Figure 4: PEACOX presentation layouts

2.3 Dissemination activities during first year of PEACOX project

2.3.1 Conferences, workshops

Since the project was launched, consortium members attended and organized numerous events. The table below lists the significant events where the consortium either introduced the project as a dedicated part of the event (e.g. gave a presentation) or saw an opportunity for future exploitability of project results. A longer description of the most important events follows after the table. The attendance at ITS Vienna 2012 is also included in this list due to the fact that preparation for this event has been done from spring 2012.

Dissemination event	Date, place	Dissemination actions	Partners	Specific focus
Invited Talk	21/05/2012, Dublin	Presentation	ETHZ	Reconstruction of personal travel diaries from GPS traces
ITS World Congress Vienna 2012	24/10/2012, Vienna	Workshop	CURE	Introduction of PEACOX project

Table 1: PEACOX's attendance at conferences and workshops

Reconstruction of personal travel diaries from GPS traces

Nadine Schüssler gave a presentation at Trinity College Dublin on the reconstruction of personal travel diaries from GPS traces within the peacox project. She presented the overall approach to be taken in the project and discussed first results on the analysis of sample data with regard to correctness of detection.

EU Project Workshop – "User- and eco-friendly travelling solutions"

In the framework of the project PEACOX a workshop with related projects was organised and took place on 24 October 2012, during the ITS World Congress in Vienna. The workshop was planned, organised and led by CURE. The following projects were invited to the workshop (most of them funded by FP7 ICT 2011 6.6 call): CO-CITIES, DECOMOBIL, ECOMOVE, ERTICO, MODUM, ECODRIVER, AMITRAN, COSMO, ECOMPASS, REDUCTION, CARBOTRAF, ICT-EMISSIONS, SUNSET and some more.

9 participants from the following projects took place at the workshop: CURE, ECOMPASS, REDUCTION, CARBOTRAF, ICT-EMISSIONS, SUNSET.

The aim of the workshop was to share experience, to discuss and work together on common topics, such as usabiltiy of traffic information systems, future challenges and directions in ICT-based navigation and transport systems, requirements and environmentally awareness in travel contexts, possibilties for reducing environmental impact of personal transportation, platform architectures, a common book-publication

Each project was presented and subsequently discussed above. Furthermore a common book publication will be initiated by CURE, work on it will start in the next weeks.

With CURE the main ideas of the PEACOX project have been presented:

- Providing travellers with personalised tools that allow, help and persuade them to plan their travel in an environmentally friendly way
- Supporting the users in making eco-friendly travel decisions and give them feedback
- Considering the users situational and individual range of acceptable travel choices
- Facilitating eco-friendly driving behaviour by providing real-time feedback and instructions about driving
- Reducing of the carbon footprint without reducing quality of life and comfort for travellers

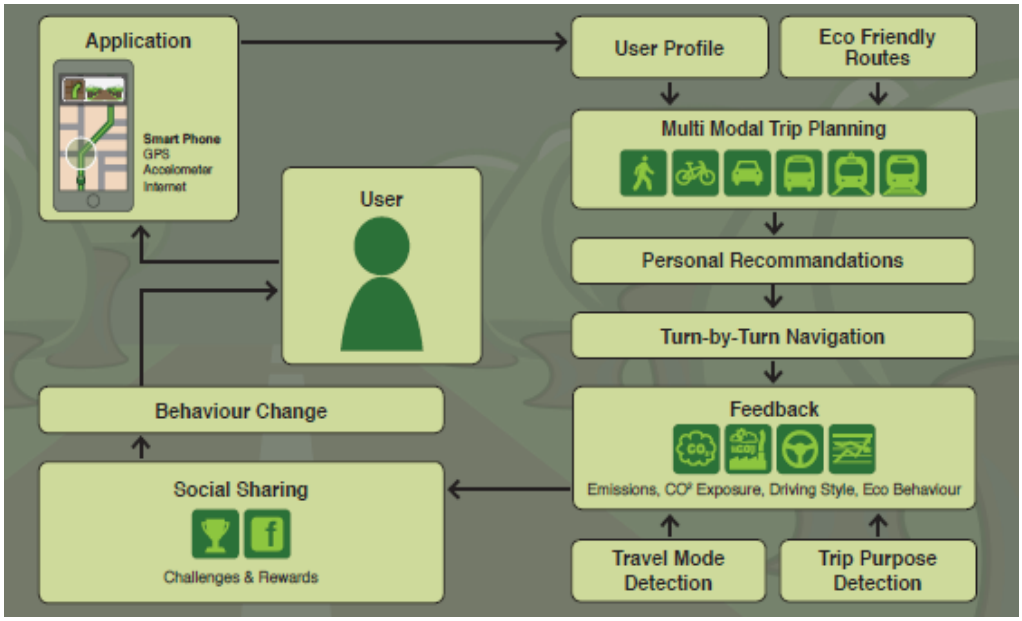

Figure 5: Part of PEACOX presentation at ITS Vienna 2012

Besides there were presented main available results (as of now):

- Identification of user groups
- Analysis of concepts that explain mobility behaviour
- Description of context and situational variables
- Questionnaire study on factors influencing travel mode choice
- Collection and analysis of persuasive strategies
- User interface design concept.

CURE will initiate a common book publication in collaboration with all projects participating at the workshop. Work on that book publication will start within the next weeks.

2.3.2 Scientific publications

As part of the year one dissemination activities of PEACOX, the consortium handed in and published scientific papers at different conferences (see below), and organized a workshop with related projects (see above). These publications target the trip mode detection, the optimal presentation of eco-feedback to the users and the design of recommender systems.

2.3.3 Online dissemination

Related to online dissemination the project website is of central importance. Current activities and news are continuously published on the PEACOX website www.project-peacox.eu. Interested persons can subscribe on the website for the PEACOX newsletter which is sent out regularly via email and additionally put on the website.

Further a PEACOX Facebook account has been established for network and dissemination activities.

Furthermore the project is disseminated through the websites of the consortium partners and some related projects.

2.4 Individual dissemination of partners

Below is a report summary on the partners' contribution to the first year dissemination results.

The dissemination activities of each consortium member are concluded in following tables:

Period: October 2011 – September 2012

Dissemination	Date,	Disseminati	Partners	Reason for	Specific focus

event	place	on actions		dissemination activity	
Press media	January 2012	Press release	CURE	WP1	Announce the project start, provide general information
Press media	February 2012	Press release	TCD	WP3	Announce the project start, provide information on planned work in WP3
ACM Recommender Systems 2012, 1st Workshop on Recommendation Technologies for Lifestyle Change	13/09/2012, Dublin, Ireland	Conference Workshop Paper presentation	ICCS	WP6 work	Recommender systems for lifestyle and behavioural changes
Press media	10/7/2012	Press release	TMX	WP8	Navigation available at Android platform
Paper	June 2012	13th International Conference on Travel Behaviour Research (IATBR)	ETHZ	WP4.1	Preparations for estimating public transport connection choice from GPS observations
Press media	August 2012	Newsletter	CURE	WP2	Results from User Research
Paper	August 2012	91st Annual Meeting of the Transportation Research	ETHZ	WP4.3	Identifying chosen public transport connections from GPS observations

		Board			
Irish Transport Research Network 2012	28/8/2012	Conference	TCD/ETH	WP3	Emissions model and behavioural model

Table 2: Individual dissemination activities of PEACOX consortium partners

3. Evaluation of the process and results

This Periodic Dissemination Report document closes the first of the three dissemination phases we described in Section 1.1 (Background – a quick overview on PEACOX's dissemination). Our three goals were

- drawing attention to the launch of the PEACOX project
- creating the first set of necessary dissemination tools
- monitoring and exploiting dissemination opportunities

These achieved results also provided important feedback which consortium will consider in planning future dissemination activities, including:

- dissemination should monitor and follow the continuous change of forums where our targeted groups communicate – e.g. social networks;
- scientific dissemination should foster interaction and discussions with experts in the field as well as collaboration with related projects
- to gain better acceptance by the wider public and get important feedbacks (also from end-users), it makes sense to create an active community around PEACOX, where we could effectively promote PEACOX navigation product. The same is valid for reaching media and other target groups

4. Planned dissemination activities

The dissemination strategy for next duration of PEACOX project will be based on:

- consortium's relevant experience from the first project year customized to PEACOX features
- achieved R&D results

- current tendencies identified with influence to markets and target groups associated to PEACOX
- common FP7 project dissemination practices

Consortium suppose, that first results of PEACOX system and the developed PEACOX client software will be presented to a wider public and according Google play platform will be available to enduser community.

Independently from the dissemination planning, partners also will regularly attend certain conferences, clustering events and workshops, which provide further opportunities for spreading the word of PEACOX. Some of these foreseen events are enlisted below:

Period: October 2012 – September 2013

Dissemination event	Date, place,	Dissemination actions	Partners	Reason for dissemination activity	Specific focus
eChallenges 2012	17/10/ 2012, Lisbon Portugal	Paper presentation	ICCS	WP6 work	Recommender systems for lifestyle and behavioural changes
Czech ITS general assembly	26/11/2 012	Presentation	TMX	WP8	General Introduction of PEACOX project
ITS World Congress Vienna 2012	October 2012	Conference	FLU	WP2, WP6	PEACOX project goals and status
Swiss Transport Research Conference (STRC)	May 2013	Paper	ETHZ	WP4.1	GPS signal loss: Using accelerometer data to fill in gaps
Still needs to be researched	2013	Paper	ETHZ	WP4.3	Trip purpose imputation for combined gps and accelerometer data
Transportation	January	Conference	TCD/ETH	WP3	Behavioural Model

Research Board	2013				
8th International Conference on Persuasive Technology April 2013, Sydney, Australia	2013	Paper	CURE	WP5	Developing Scales for Measuring Persuadability
Interact Conference, Cape Town	2013	Paper presentation	CURE, FLU	WP5	Persuasive Interface Concepts for Trip Planning
Springer	2013	Book publication	CURE and related projects	WP8	Eco-friendly travelling solutions
Transportation Research Board	2014	Paper Presentation	CURE	WP2	Advanced Trip Choice Model Considering Users Personality

Table 1: Individual dissemination PEACOX activities planned for next year

5. Summary and outlook

The first dissemination report described activities of PEACOX consortium within first year of project duration with small overlapping to October 2012.

The consortium had to solve problem with infringement of registered trade mark Econav and therefore increased effort was necessary with preparing project layout.

It is expected, that first real project results, like multimodal route planner and navigation, make easier communication with enduser community together with media channel. Besides, there are planned other activities for successful entry to enduser when final system will be developed.

6. Appendices

6.1 Appendix 1 –EcoNav Press release – January 2012

EU Project ECONAV Helps Plan Eco-Friendly Trips with Comfort

ICT Research Initiative aims to tailor trips for each traveller

The European Commission is funding the project *EcoNav – Ecological Aware Navigation – Usable Persuasive Trip Advisor for Reducing CO2 consumption*, which is lead by CURE – Center for Usability Research & Engineering, an independent Austrian research institute.

In our highly globalized world, mobility and transport are becoming increasingly important. This has a strong environmental impact, in particular in urban areas. A substantial part of emissions is related to traffic and mobility, and therefore it has become essential to support and guide users to behave in an ecologically responsible manner with regard to their travelling behaviour and decisions.

The EcoNav project aims to provide travellers with personalised mobile and web tools that allow, help and persuade them to plan their travel in an environmentally friendly way. In order to support the users in making this decision without feeling restricted, EcoNav considers their situational and individual range of acceptable travel choices. Furthermore, EcoNav facilitates eco-friendly driving behaviour by providing real-time feedback and instructions about driving. In this way EcoNav will contribute to achieving a significant reduction of the carbon footprint without reducing quality of life and comfort for travellers.

Eco-friendly Travel without Thinking

EcoNav will develop mobile and web applications that enable users on the move and at home to easily plan and organize their trip, no matter if they walk by foot or use public transport, a motorcycle, car or bike. In order to convince and stimulate users in behaving in a more environmentally friendly way while travelling, EcoNav will enrich trip planning and information system with features like personalised travel recommendations, automated trip purpose identification, emission modelling as well as eco-friendly driving advice.

To achieve maximum impact, EcoNav will provide situation- and location-based suggestions and information to users regarding travel choices and options. The calculation and presentation of options will take the current location of the users, their actual travel situation, their individual preferences as well as their travel mode choice and trip history into account.

EcoNav will reduce the need for explicit inputs by the user and thereby increase the user experience, comfort and desirability of use. Johann Schrammel, Senior Researcher at CURE and coordinator of the project, highlights the benefit of the expected results: "In contrast to existing trip planning and impact calculation services, EcoNav automatically keeps track of the user's prior travel decisions and tracks current travel decisions by use of GPS and automated travel mode detection. It identifies the current mode and purpose of a trip, and builds tailored models for each user."

EcoNav calculates the carbon footprint of a user's trip, taking into account the used means of transportation as well as dynamic variables influencing the actual emissions such as current traffic situation, and therefore can provide more accurate data than simplistic, static computation models. In addition to CO_2, the model will also consider additional emissions such as NOX, SO_2 and PM_{10}. Based on this information the ecological and carbon footprint will be computed. This accurate calculation of the average ecological footprint enables the presentation of detailed and exact feedback to the travellers, thereby fostering the targeted behaviour change.

CURE has set up a consortium composed of experienced, interdisciplinary experts in the needed areas of expertise, namely trip mode and purpose detection, detailed calculation of environmental impact and carbon emissions, human-computer interaction research, persuasive technology research and mobile and web application development. The project coordinator, Johann Schrammel, is confident that the project has all the ingredients needed for a successful EU project. He elaborates, "EcoNav's objectives require support from multiple partners assembling the appropriate mix of skills. With this highly experienced project team we are convinced that we will reach the project's objectives."

All research and technology development activities are centred on user needs. The project coordinator, CURE, has long experience with the application of user-centred methods. This will ensure that EcoNav's objectives stay aligned with user needs and that user-based requirements are specified in enough detail to be usable in the implementation phase. The Austrian software and design company Fluidtime are experts in the development of mobile and web applications in the context of real-time information, and additionally have very broad knowledge of involving users in the development phase. In cooperation with the Vienna Public Transport Service (Wiener Linien), Fluidtime have developed the highly popular mobile transport service application Qando.

ETH Zurich will contribute with expertise in the area of transportation research and will ensure that transportation modalities and purposes are identified by using available GPS and travel information data. Furthermore, they will provide their knowledge on transportation planning and data interfaces for transport information. ETHZ will work closely together with the Institute of Communication and Computer Systems (ICCS) of the National Technical University of Athens. The ICCS are experts on user modelling, personalisation and adaptive interaction development.

The required expertise for estimating environmental impact is contributed by the Trinity College of Dublin (TCD), who will be responsible for the behavioural analysis, the emission and exposure modelling as well as the eco-driving model. TCD is especially experienced in the field of CO2 calculation and savings possibilities, as well as in the area of researching the reasons for travel mode choices.

Expertise from the navigation industry is represented by the global industry player TomTom and the Czech software enterprise Telematix. TomTom is the market leader for navigation software, used by over 45 million people every day. Telematix has also developed widely used navigation software called Dynavix. Telematix will be a strong contributor in terms of system design and implementation. Together with TomTom they are highly interested in making use of advanced research outcomes for future product development.

The Austrian Partner ITS Vienna Region will be responsible for providing traffic information data in Vienna, where field trials will be held.

For further information about the project please visit: http://www.econav-project.eu

Project Facts

Project Title: EcoNav - Ecological Aware Navigation: Usable Persuasive Trip Advisor for Reducing CO2-consumption
Project Reference: 288466
Project Funding: Seventh Framework Programme, Area: Low-carbon multi-modal mobility and freight transport Future and Emerging Technologies (ICT-2011.6.6)
Total cost: 3.13 Million Euro
EU contribution: 2.35 Million Euro
Duration: 36 months (October 2011 – September 2014)

Not for publication

6.2 Appendix 2- PEACOX newsletter 1 – August 2012

EDITORIAL – WELCOME TO THIS PEACOX NEWSLETTER

The aim of this newsletter is to inform scientists, developers, experts working in the field of transport and the wider public about the achievements reached with the PEACOX project.

PEACOX – Persuasive Advisor for CO2-reducing cross-modal trip planning

In this newsletter:

- PEACOX user groups and travelling contexts
- PEACOX questionnaire
- PEACOX user, stakeholder and technical requirements
- PEACOX first milestone reached

Project PEACOX has started at 1 October 2011. The project will run for 36 month finishing in September 2014.

Project partners:

1. CURE - Center for Usability Research and Engineering
2. FLUIDTIME Data Services GmbH
3. TMX - Telematix Software a.s.
4. ETHZ – Swiss Federal Institute of Technology Zurich
5. TCD – Trinity College Dublin
6. ICCS – National Technical University of Athens
7. ITS- ITS Vienna Region
8. TOMTOM INTERNATIONAL BV

"PEACOX – Persuasive Advisor for CO2-reducing cross-model trip planning" is an international collaboration between eight organisations from six various countries and is supported by the EU under Framework Programme 7.
In our highly globalised world, mobility and transport are becoming increasingly important. This has a strong environmental impact, in particular in urban areas. A substantial part of emissions is related to traffic and mobility, and therefore it has become essential to support and guide users to behave in an ecologically responsible manner with regard to their travelling behaviour and decision making.

The project aims at:

- providing travellers with personalised tools that allow, help and persuade them to plan their travel in an environmentally friendly way
- supporting the users in making eco-friendly travel decisions and give them feedback
- considering the users situational and individual range of acceptable travel choices
- facilitating eco-friendly driving behaviour by providing real-time feedback and instructions about driving
- reducing of the carbon footprint without reducing quality of life and comfort for travellers

USER GROUPS AND CONTEXT ANALYSES

In order to get a detailed overview over user groups and travelling contexts a comprehensive literature review was carried out. Different typologies of user groups were collected, compared and analysed.

For a deeper understanding of travel behaviour, individual preferences and motivations of travellers an extensive questionnaire was set up. The questionnaire was sent out via internal mailing lists, forwarded to different selected institutions and persons for further distribution and posted in the internet (Peacox website, Facebook, different online platforms).

The specific interests of the questionnaire were: (1) To specify user groups and their requirements; (2) To learn about travel habits and preferences; (3) To learn about specific aspects of the users' needs in which Peacox can offer information and support; (4) To learn about environmental awareness of users.

We collected data from 366 participants. The mean age of participants was 37 years. The sample is overrepresented by high educated participants (about 80 % named A-Level, Bachelor's degree, Master's degree or PHD as highest completed education).

The usage of public transportation is much more important than the car to go to work (83 % don't use the car to go to work, but public transport, bike or walk). 64 % of the participants have a pass for public transport and most of the people (93 %) are convinced, that they are well informed about public transport.

Factors that influence travel mode:

Participants had to state which factors are mostly important for their trip mode choice. Cost, travel time, frequency of public transport, start and finish of the trip, number of transfers and comfort are the most important factors for trip mode choice from their point of view.

Influence of context on choice of travel mode:

Each participant was given three situations (Trip to work/school/university, trip for daily errands, Leisure trip). Participants had to rate different factors (frequency of public transport, cost, travel time, energy use, origin and destination, number of transfers) with regard to their influence on the trip mode choice in each special situation. The stated energy use and number of transfers as mostly important. The total travel time was estimated as less important than cost, and the origin and destination of trip.

PEACOX USER, STAKEHOLDER AND TECHNICAL REQUIREMENTS

Requirements for the Peacox project were analysed from all relevant perspectives (user, stakeholder and technical perspective). A detailed overview of the requirements you find in the **Deliverable D2.2 Requirements Document**.

User requirements

A detailed identification of user requirements for the PEACOX application was carried out. The results contain a description of the user requirements and expectations for the PEACOX application.

The main results of the identified user requirements in relation to needed information are summarised as follows:

- **Direct factors** which influence the user's trip mode choice are: Duration/time of trip, distance, comfort, availability, reliability, costs, changes, accessibility, environmental impact, weather. There is a lot of **information** wished by the users: Time and duration of trip, length of route, real-time-information and capacity (parking, sharing items), prices of tickets, route overview and details, emissions, weather forecast, routing information.
- **Emotional factors** have also an important influence on trip mode choice. The most important emotional factors are: Comfort, effectiveness, privacy, experience, autonomy, fitness, status, safety, personal history, environmental friendliness. **Information** needed includes: Amount of changes, weather forecast, purpose, duration, availability, time usage, usability, changes, occupancy, scenery of route, flexibility, calories burned, lifestyle, traffic, trip-recordings, cost, and amount of emissions.

Stakeholder and technological requirements

In order to analyse the (potential) stakeholders as well as their aspirations and expectations towards the Peacox application the following tasks have been performed:

- Assessment of the Peacox value network, involved stakeholders and their roles.
- Assessment of stakeholder aspirations

Stakeholders relevant for the provision of the Peacox application are Local Authority and Association, Linked Transport System, Data / Content Provider, Service Provider and Application Provider.

Additionally, the technological requirements for the overall project were analysed. By setting a common set of technical requirements, documenting the specific requirements for different functional components and assigning the responsibilities for each partner.

PROJECT PEACOX REACHES FIRST MILESTONE

The first project milestone, the definition of requirements (user, stakeholder and technical requirements) was finished! An important basic document for the analysis of requirements was the Deliverable **D2.1 Description of User Groups and Travelling Contexts**. The requirements have been collected and documented in the Deliverables **D2.2 Requirements Document** and **D2.3 Stakeholder and Technical Requirements**.

Contact to the Peacox project

For more information about the Peacox project take a look at the project website at http://www.project-peacox.eu or contact the project administrator.

Project administrator:
Johann Schrammel, E-mail: Schrammel@cure.at
CURE - Center for Usability Research & Engineering

Please do forward this newsletter to people that might be interested in the project!

6.3 Appendix 3 – PEACOX Newsletter 2 - October 2012

Study: Presentation of Carbon Dioxide Emissions Information for Smartphone Applications

Mobile journey planners offer information related to potential trips, suggested routes, trip costs, real-time public transport information, information about carbon emissions and environmental inpact of a trip. It is important that there is:

- no information overload for the user
- information on emissions have to reach the user's attention
- emissions information is clearly presented and easily understood
- information must be personally relevant for the user

A study was carried out to examine how carbon emissions information could be integrated into a smartphone-application. Four different methods of presenting trip information were examined, a survey was conducted in form of an online-questionnaire (457 responses were received, sample was not representative).

Method 1: „Basical Numerical Method": Simple numerical information regarding the emissions (presented in terms of kilograms of C02) with no additional information. Result: This method was easiest to understand.

Method 2: „Light Bulb Method": Same information as method 1, as well as additional information (to help respondents to put their emissions into a context), accompagnied by images of lightbulbs which increased together with emissions. Result: This method was also easy to understand.

Method 3: „Carbon Budget Method": Same information as method 1 as well as additional information regarding a daily carbon budget. Result: This method was also easy to understand.

Method 4: „Traffic Light Method": Same information as the previous three methods, but information on carbon emissions was omitted. Method 4 provided respondents with a traffic light colour coding system with red (highest emitting mode), yellow and green (lowest emitting mode) lights. Result: This method was hardest to understand for the users.

Presenting information on carbon emissions in a simple numerical form appears to be the method that is the easiest one to understand and has also the most influence on individual's behaviour (Method 1). There is also a high level of practability for methods that help respondents to put their emissions into context (Methods 2 and 3). If there is less information given to the user a method might be hard to understand (method 4).

Authors: William Brazil, Brian Caulfield, Nadine Rieser-Schüssler (2012). Presentation of Carbon Dioxide Emissions Information for Smartphone Applications.

Contact to PEACOX project

For more information about the PEACOX project take a look at the project website at http://www.peacox-project.eu or contact the project administrator.

peacox

Project partners of the PEACOX project are:

1. **CURE - Center for Usability Research and Engineering (A)**
2. **FLUIDTIME Data Services GmbH (A)**
3. **TMX - Telematix Software a.s. (CZ)**
4. **ETHZ – Swiss Federal Institute of Technology Zurich (CH)**
5. **TCD – Trinity College Dublin (IRL)**
6. **ICCS – National Technical University of Athens (G**
7. **ITS- ITS Vienna Region (A)**
8. **TOMTOM INTERNATIONAL BV (NL)**

Project administrator:
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Please forward this newsletter to people that might be interested in the project!

6.4 Appendix 4 –PEACOX Folder

User centered design

The PEACOX system design will focus on the user and his needs. The aim is to enable users to make all necessary decisions without any prior knowledge or experience. This will be reflected in the research of user requirements, the creation of personas, use cases, scenarios and usability tests.

Expected results

- Integrated system that supports end-users in engaging in sustainable travel behaviour. The system provides all information needed to achieve eco-friendly behaviour and attitude change.
- An automated model for analysing and predicting movement patterns, transportation means and trip purposes by use of available location and spatial (e.g. GPS) data.
- An advanced model for the prediction of carbon emission and exposure levels and exposures of routes, also taking into account dynamic data like traffic situation, weather, etc.
- Innovative persuasive strategies and interfaces targeted to the needs of ecological trip planning and selection.
- Guidelines for the implementation of persuasive strategies targeting behaviour change and sustainable travelling.

Project Partner

- CURE - Center for Usability Research and Engineering (A)
- FLUIDTIME Data Services GmbH (A)
- TMX - Telematix Software a.s. (CZ)
- ETHZ – Swiss Federal Institute of Technology Zurich (CH)
- TCD – Trinity College Dublin (IRL)
- ICCS – National Technical University of Athens (G)
- ITS- ITS Vienna Region (A)
- TOMTOM INTERNATIONAL BV (NL)

cure · Fluidtime · telematix software a.s. · ETH · Trinity College Dublin · ITS Vienna Region · TOMTOM

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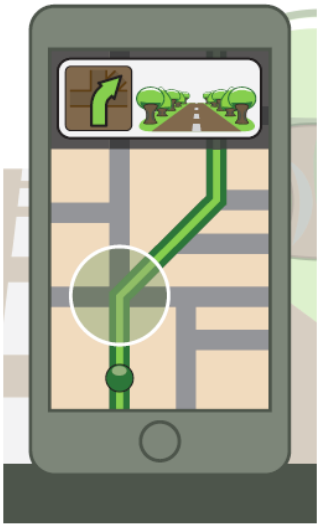
Project Reference: 288466
Project Funding: Seventh Framework Programme, Area: Low-carbon multi-modal mobility and freight transport Future and Emerging Technologies (ICT-2011.6.6)
Duration: 36 months (October 2011 – September 2014)

peacox

Persuasive Advisor for CO2-reducing cross-model trip planning



What is Project PEACOX?

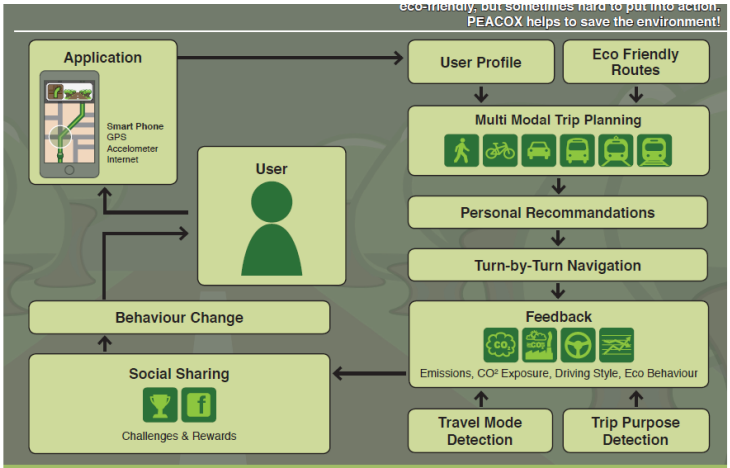
PEACOX - Persuasive Advisor for CO2-reducing cross-model trip planning - is an international collaboration between eight organizations from six different countries aiming to provide travellers with personalised multi-modal navigation tools that allow, help and persuade them to travel and drive ecological friendlier. PEACOX enriches navigation systems with innovative approaches and features. PEACOX developes an environmentally-friendly smart phone application that focuses on minimizing energy consumption and pollutant emissions. The project is supported by the EU under Framework Programme 7.

Why is it important to promote eco-friendly travel behaviour?

In our highly globalised world work and leisure life are often geographically widely distributed. Increasing mobility and traffic results in a strong environmental impact, in particular in urban areas. Personal transportation is one of the greatest contributors of CO2 emissions. More people are becoming increasingly concerned with rising fuel costs and pollutant emissions. Strategies are urgently needed to promote environmentally friendly transport behaviour.

PEACOX offers

- Mobile smart phone application
- Eco-friendly route planning and navigation
- Eco-friendly travel suggestions with comfort
- CO2 feedback for selected routes and means
- Detection of individual travel patterns
- Personalised and green travel suggestions
- Real time traffic information service (e. g. weather, traffic situation)



User Stories

Emily: "With PEACOX I can rediscover the city by bike."
"It was a sunny day and I was riding my bike to University. After the lecture I decided to visit a friend, who recently moved to a new flat. Although I know the city well, I don't always know the best or most comfortable route for bicycles, especially if it's a place I haven't been to before. Recently I downloaded the PEACOX app onto my smartphone, because it nicely integrates trip planning for bikes and public transport. I tried PEACOX to see if there was an alternative route to my friend. PEACOX suggested a very nice route I have never taken before!"

Michael: "I use P+R in combination with PEACOX more frequently!" - "I was on the way to work, when I was stuck again in heavy traffic. I started the PEACOX app which offers turn-by-turn navigation and live traffic data. I was thinking it would guide me around the traffic jams but suddenly it pointed out a P+R facility a few blocks down the road. PEACOX estimated that switching to subway there would save me at least 15 minutes. I never tried P+R before, but was intrigued to do so, considering the time savings. Once at the P+R PEACOX told me which train to take to my compan's headquarter. At the end of the day, I took the same connection back to the P+R and from thereand from there drove my car home, avoiding 5 o'clock rush hour. Now I use P+R in combination with PEACOX more frequently!"

6.5 Appendix 5 – PEACOX Facebook account