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

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D8.4.2 Recruiting Strategies

[TMX]

Author(s)

Sebastian Prost (CURE)

Johann Schrammel (CURE)

Tomáš Tvrzský (TMX)

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1. Introduction

1.1 Background and Scope of the Deliverable

The goal of this task is to define the strategy and the steps for motivating end-users for participating in field trials. As described in the Description of Work, the consortium recruited 25 test-users in Vienna for field trial I in 2013 and aims to recruit 25 users in Vienna as well as 25 users in Dublin for field trial II in summer of 2014.

The main objective of this deliverable is to describe the PEACOX's consortium strategy for reaching reasonable number of suitable participants from different user groups. These participants have to be recruited for both test cities, Vienna and Dublin.

The first version of this deliverable (D8.4.1) included the recruitment strategies for the first user trials to be held in Vienna. The second version (D8.4.2,) includes the strategies for the second user trials to be held in Vienna and in Dublin.

2. Ethical Issues, Legislation and Regulations

In PEACOX ethical issues play a major role since the project follows a user-centred design approach and involves the participation of many potential end-users. For assessing studies in the context of ICT usage directly, there exists no dedicated commission in Austria. Apart from following the laws and regulations listed in the following sections for the preparation and conduction of the PEACOX Field Trials, for the ethical approval of the PEACOX Field Trials the ethics advisor of the project, the experience and expertise of CURE in ethical issues, as well as the advisory board, will be consulted.

2.1 Laws and Regulations

2.1.1 European laws and regulations on data security, privacy and ethical issues

European Parliament and Council Directive 95/46/EC [4] on the protection of individuals with regard to the processing of personal data and on the free movement of such data will be taken into account for the main guidelines. This is a directive on European level and includes guidelines related to the:

- Quality of data and data processing,
- Legitimacy and categories of data processing,
- Right of access to the personal data,
- Subject's right of information and objection,
- Confidentiality and security of processing

Full text of this directive and a short summary can be found on the official website of the European Union [4].

2.1.2 Austrian laws and regulations on data security, privacy and ethical issues

In Austria, the following legislation will have to be taken into account:

- Datenschutzgesetz (DSG 2000), BGBl. I Nr. 165/1999 [1]: This act regulates the protection of personal data in Austria (i.e. the Austrian implementation of the European directive on data protection).
- Informationssicherheitsgesetz (InfoSiG 2002), BGBI. I Nr. 23/2002 [2]: This act regulates basic rights of data privacy and the duty to give information.

- Wiener Antidiskriminierungsgesetz (LBI 35/2004) [3]: This act regulates the abatement of discrimination referring to the access to social, health and education as well as public services. It focuses on the non-discrimination and equal treatment regarding sex, age, disability, ethnic group, religion, ideology and sexual orientation.

2.2 Handling of Ethical Issues in the PEACOX Field Trials

2.2.1 Data Protection Plan

Research in PEACOX Field Trials revolves around information about persons – their travel profiles, lifestyle, behaviours and other personal data – drawn from records, scientific studies, surveys and interviews. These types of information are private and sensitive, although attitudes and expectations vary widely.

The protection of the privacy of participants is a responsibility of all persons involved in research with human participants. Privacy means, that the participant can control the access to personal information and is able to decide who has access to the collected data in the future.

Due to the principle of autonomy the participants have to be asked for their agreement (see Appendix A Informed Consent) before private and personal information is collected. It shall be ensured that all persons involved in research studies understand and respect the requirement for confidentiality. The participants should be informed about the confidentiality policy that is used in this research project.

Privacy plays a major role in the PEACOX field trials and will be addressed as following:

- Publications: Hints to or specific personal information of any participant in (scientific) publications will be omitted. It should be prevented to reveal the identity of participants in research deliberately or inadvertently, without the expressed permission of the participants.
- Dissemination: Dissemination of data among partners. This relates to access to data, data formats, methods of archiving (electronic and paper), including data handling, data analyses, and research communications. Restricted access to private and sensitive information within the partner organization must be guaranteed.
- Protection: The organization is responsible for the protection of the participant's privacy within the organization (e.g. employers, etc.) throughout the whole PEACOX project process like, communications, data exchange, presentation of findings, etc.

- Control: Furthermore the participants have to be able to control the dissemination of the collected data. The investigator is not allowed to circulate information without anonymisation. This means that only relevant attributes, i.e. gender, age, etc. are retained. Another possibility is to keep the identity of the participants, but only with prior consent of them.
- Information: As already mentioned above, the protection of the confidentiality implies informing the participants about what may be done with their data (i.e. data sharing). Human individuals that participate in any study shall have the right to request and obtain free of charge information on his/her personal data subjected to processing, on the origin of such data and on their communication or intended communication.

During the field trials, participants will receive a generic user ID to identify them in the system and to anonymise their identities. Special care is given that the ID cannot be connected to real names. No full names will be stored anywhere electronically. The only personal data stored on the users' smart phones will be these login credentials. All other data will be stored at the PEACOX server database. All gathered personal data will be password protected and encrypted. Users' personal data have to be safeguarded from other people not involved in the project.

2.2.2 Ethical Principles and Documents

Informed Consent (See Appendix A) and Information Sheet (See Appendix B) are the two important documents provided to the potential field trial participants. In order to be able to participate in the PEACOX field trials all potential participants will have to read and sign an informed consent form before starting the participation. These documents aim to inform the participants fully about the PEACOX Field Trials and make all parts of the field trials clear.

Informed consent is the process by which a participant is fully informed about the research study in which s/he is going to participate. It originates from the legal and ethical right that the participant has to be informed what happens to his/her personal data and from the ethical duty of the researcher to involve the participant in the research. This means that the individual subject has the right to be informed about the research process and outcomes.

The aim of the information sheet is to provide basic information about the study and the project in order to guarantee that participants have basic information to make decision about whether to participate or not in the PEACOX field trials. It includes a summary and

schedule of the PEACOX field trials, the objectives and descriptions of the PEACOX system and its components.

For the field trials conducted in Vienna, CURE will use translated versions of both of these documents in order to provide basic information for potential study participants in German. All participants have the right to receive a copy of both of the documents. The users are also informed that they can abort their participation in the trial at any time.

For any question related to ethical issues that will arise during the PEACOX field trials the project partners can consult the ethics advisor of the project as well as CURE (as WP7 Lead).

3. Recruitment Strategies for Trial 2

Prior to the start of the field trials, CURE will conduct expert and user-based usability evaluations of the applications developed in PEACOX to ensure most usability problems can be avoided before users get a hand on the application for a longer period of time. About five users will perform given tasks and test the application, before they will be asked about their impressions and experiences. Interviews and questionnaires, such as the HED/UT-Scale (Van der Heijden & Sangstad Sorensen, 2002) and the System Usability Scale (SUS; Sauro, 2011) will be used.

For the second field trials, CURE is responsible for the recruitment of participants for the PEACOX Field Trial in Austria and TCD is responsible for the recruitment in Ireland. Selected users will be invited to participate in the evaluation activities. All participants in Vienna will be recruited from CURE's internal database of study participants. This database contains about 2000 people with various demographical differences, backgrounds, level of education and more.

As TCD cannot rely on a test participant database, other recruitment strategies will be explored. Following the completion of an on-line survey in late 2012, respondents were asked to indicate whether they would be willing to take part in a field trial of a PEACOX-like application. Currently TCD has a database of 70+ potential field trial participants. Further recruitment will be undertaken both within the student and staff population of Trinity College (population circa 20,000) and externally via existing relationships with public and private sector organisations. During all this activities the ethics advisor will be informed of the regarding activities in order to ensure a process in accordance with good practice.

3.1 User Participation Criteria

The following specifications should be met for recruiting the participants:

Age	-	18 or older
Sex	-	50% male, 50% female
Education and Occupation	-	*No constraints*
Residence	-	Living and working/studying in Vienna/Dublin or surrounding suburbs (within Vienna/Dublin region)

Skills & props	- User of an Android smart phone for at least 3 months - Smart phone must at least be running Android OS 4.0 - User must have a data plan (min. 500 MB per month) - Owner of a Facebook account or willingness to create and use one during the field trials - Mother tongue German (Vienna) and English (Dublin)
Impairments	- Without any difficulties in reading and writing
Availability	- During the 2 months of trial planned away (e.g. holiday) for not more than 1 week

There are 25 *primary users planned in Vienna and 25 in Dublin*, who will not only use the PEACOX app but also participate in lab sessions, telephone interviews, Facebook challenges and will fill in a diary (for one week). In addition, we will invite an open number of *secondary users* via e-mail to use the application to gather more real-world usage data. Secondary users will only receive online questionnaires but not take part in any lab sessions or telephone interviews.

3.2 Recruitment Procedure

The recruitment preparations and activities start in June 2014 and will follow several steps:

1. Recruiting.

a. Recruiting participants of field trial 1 in Vienna: CURE will contact participants from the first trial to ask them if they are willing to participate again. The goal is to recruit 10 participants again to get a mix of “old” and “new” users. This allows us to gain insights into whether new users perceive the system different from existing users that have known the first prototype. Furthermore the users experienced with the PEACOX app can give specific feedback regarding improvements.

b. New participants recruiting via Screening Questionnaire. Potential users from Vienna taken from CUREs test subjects database will receive an e-mail invitation to fill in a screening questionnaire. Similarly TCD will contact its potential users and collect screening data for selection of participants for the trial.

The screening questionnaires filters out those participants that do not meet the criteria above and also asks for demographic data (age, sex, education, place of residence, relationship status, family status, distance between work and home place), mobility behaviour, persuadability, personality traits, and environmental attitudes.

2. Selection of Users.

a. Based on the analysis of the screening questionnaire CURE and TCD will select suitable users (n=50) who will be invited to participate as primary users in the field trials in Vienna or Dublin.

b. All other interested participants will receive an invitation to use the app as secondary users. Secondary users will not participate in any lab sessions but are asked to fill in several online-questionnaires during the field trial period.

3. Introductory Workshop. Primary Users willing to participate will be invited to one of about 3 available introductory workshops. Up to 10 participants can join one workshop. During the workshop, we will explain the activities during the field trials, duration and goals of the participation and the PEACOX project. The users will be handed the information sheet detailing the study procedure and important contact details (see Appendix B). To participate primary users will sign two copies of the Informed Consent (see Appendix A). It is a precondition that this document is filled out and signed. However, as it is mentioned in the Informed Consent document, termination of the participation is possible at any time.

4. Buffer Strategy. For each workshop buffer participants will be invited to make sure that at the end of the activities the planned number of total participants will be reached.

3.3 User Reimbursement

Primary Users will be rewarded for their participation with 150€, if all required action has taken place (participation in introductory workshop, questionnaires, diaries, telephone interviews, joining the field trial Facebook group and final workshops).

Secondary users will be given the opportunity to sign up for a lottery to win vouchers for an Internet mail-order trade. This serves as a motivation to install and use the application as well as to fill in a questionnaire at the end of the study period. Moreover, these users can serve as buffer users in case of drop-out among the primary users.

3.4 Support Strategy

During the field trial in Austria and Ireland CURE will be first contact and responsible for solving problems that may occur and give support to the participants. For the participants in Ireland a local phone number will be made available which is forewarded to CURE.

Each participant will be able to call a helpline or write an e-mail to a dedicated e-mail address. The helpline is planned to be a dedicated mobile phone that can be handed over to different persons. Upon receiving, a CURE representative will try to solve the problem. Hardware or software problems that can't be resolved will be forwarded by CURE to Fluidtime who will try to solve the issue or forward it to the responsible technical partner. Each PEACOX consortium partner will name a contact person responsible for dealing with urgent technical problems (such as a system break downs) in the field trials, in order to guarantee a recovery as quickly as possible.

3.5 Drop-out Risk Avoidance

Concerning the long period of the trial the following drop-out avoidance strategy will be applied:

- **Balanced study workload:** The amount of workload required by the primary users during the field trials such as questionnaires or interviews will be arranged so that it will not cause frustrations and therefore dropouts.
- **Voluntariness of participation:** Participation in the PEACOX Field Trial is voluntary and participants can terminate their participation anytime without having to give a reason.
- **Buffer Strategy:** Buffer participants will be contacted before the start of the PEACOX Field Trial.
    - In case a participant terminates the participation during the trial phase (2 months) not later than the Week 4, a buffer participant will replace the participant dropped out. If the termination occurs later than the Week 4, this participant will not be replaced for the first trial.
    - During the field trial participants are required to fulfil some tasks for the studies conducted. In case a participant rejects or neglects carrying out these tasks radically, a buffer participant will be recruited to replace that participant not later than the half of the trial phase.

4. Appendix A - Informed Consent

Informed Consent

Title of the Project:	PEACOX – Persuasive Advisor for CO2-reducing cross-modal Trip Planning
Website:	www.project-peacox.eu
Project Number:	288466
Project Duration:	36 Months
Project Start - End:	October 2011 – September 2014
Financed by:	EU
Programme:	FP7-ICT-2011-7
Coordinator:	Prof. Manfred Tscheligi, CURE
Leading Local Investigators:	DI Sebastian Prost, Elke Mattheiss, CURE
Institution:	CURE – Center for Usability Research & Engineering
Contact E-Mail for Study:	peacox-support@cure.at
Hotline for Study:	TBD

The study described in this document is part of the research project PEACOX. The European Union (EU) finances this project under the Framework Programme 7 (FP7)

This informed consent document may include words that you do not understand. If this is the case, please ask the contact researcher or any other member of the study to fully explain the meaning of the word or piece of information you do not accurately understand. At all times, we assure the compliance with the current legislation.

I. INTRODUCTION

You have been invited to take part in a research study. Before making a decision on whether you want to participate or not, please read this document carefully. Please ask all the questions you may have so you can be completely sure to understand all the proceedings of the study, including risks and benefits.

II. PURPOSE OF THE STUDY/PROJECT

The general objective of the PEACOX project is to develop a mobile route planner that does not just help to find the optimal route but also gives information about CO2 emissions. For this purpose, different technologies are used:

- Automatic detection of your travel mode and trip purpose
- Use of an emission model that gives precise feedback on the CO2 emissions of different route alternatives
- Detailed statistical feedback on the trips you took (including CO2 information)
- Voluntary challenges to promote eco-friendly travel behaviour

Addtionally, the system will automatically record usage and trip data. The mobile route planner application is completed by a mobile navigation client and a so-called prompted recall tool to verify automatically recorded trip data.

You are expected to use and evaluate all three applications. Please note that the applications are prototypes, that means they are not market-ready and solely for resarch purposes. Your feedback on the functionality and design of the applications has therefore high value for future development.

III. PARTICIPANTS IN THE STUDY AND POSSIBLE PARTICIPATION

We kindly request your voluntary participation in this research study. You have the right to withdraw at any time or omit individual resposes without penalty.

In order to participate in this study you must be 18 years or older, be fluent in English or German, live and working/studying in the Dublin metropolitan area, and not stay outside of this region for more than one week during the course of the study. Addtionally, you must be

user of an Android phone for at least 3 months, with operation system version 4.0 or higher, and a mobile data plan with at least 500MB per month included.

At the end of the study you will receive a financial compensation for your time spent and your valuable input in the amount of 150 EUR.

IV. SCHEDULE OF THE STUDY

The PEACOX field trial will run for 8 weeks in May and June 2014. In the start phase, a introductory workshop will introduce you to the PEACOX applications and the study. After the workshops and before the start of using the applications a first online questionnaire will be issued. After approximately three weeks of using the applications we will conduct a telephone interview to collect your first experiences and impressions. After four weeks, a second online questionnaire will be sent out. Finally, towards the end of the study, another questionnaire will be sent out. Also, a second round of telephone interviews will be carried. At the end of the 8 weeks, you will be invite you for a final focus group (group discussion). All studies will be audio and/or video recorded for backup and analysis reasons.

During the course of the 8 weeks of the study, you are expected to use the PEAOCX trip planner and navigation client applications whenever you find they might be useful.

V. RISKS OR INCONVENIENCES

No risk is foreseen. You are only requested to be available to participate.

VI. BENEFITS

It is likely that you will not receive any personal benefit for your participation in this study besides possibly learning more about your travel behaviour. In any case, the data collected in this study will lead to a deeper and better knowledge and understanding of mobility behaviour and needs of the urban population. With your participation you will make a substantial contribution to an understanding how the system can be adapted to the needs collected and in turn make future technology easier to understand and user-friendlier.

VII. PRIVACY AND CONFIDENCIALITY

As long as the PEACOX trip planner application is running (in the background), the following personal data will be recorded on your mobile phone:

- Search requests for routes (start, destination, time, modes of transport)
- The route you chose from the presented alternatives
- Position and movement data (GPS [Global Positioning System] and accelerometer data from your mobile phone)
- Times you access the application and its different sections
- Challenges your receive and commit to

Addtionally, responses you give in the online questionnaires, interviews, workshop and focus group will be recorded. Your recorded data will not include any personal identification; hence it will not be possible to identify you afterwards.

Information will be processed during the phase of data analysis and will be shown in project reports. It will not be possible to identify the source of the information. The results of this investigation may be published in scientific journals or conferences and may be used in further studies. None of the provided personal data will be handled out to third parties.

The authorization for the use and access to this information is valid until the end of the study unless you decide to cancel it before. If you should decide to deny your consent, please contact the leading investigator and let her/him know of your intention of leaving the study. Contact details can be found below. From the moment you withdraw from the study, your data will not be used in any further phase of the investigation project. However, documents that have already been published or parts of the study that have been finished will not be able to be altered.

Your decision to whether or not give your authorization for the use and diffusion of the information provided by you is completely voluntary. However, if you do not provide us with your authorization now or if you cancel it in the future, you will not be able to participate in this study.

VIII. CONTACT PERSONS

For further information about your rights as a participant in the investigation, or if you are not satisfied with the way this study is being carried out, or if you have any question or complaint during the investigation, please contact the leading investigators:

Sebastian Prost & Elke Mattheiss

CURE – Center for Usability Research & Engineering

Modecenterstraße 17 / Objekt 2

1110 Vienna

Austria

Support Hotline: TBA

peacox-support@cure.at

IX. CONFIRMATION

Your participation in this study is only possible if you freely and independently sign this consent to authorize us to use the data you provide. If you do not wish to do so, please do not participate in this study.

I herby declare,

- I am 18 years or older and am competent to provide consent.
- I have read, or had read to me, a document providing information about this research and this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction and understand the description of the research that is being provided to me.
- I agree that my data is used for scientific purposes and I have no objection that my data is published in scientific publications in a way that does not reveal my identity.
- I understand that if I make illicit activities known, these will be reported to appropriate authorities.

- I understand that I may stop electronic recordings at any time, and that I may at any time, even subsequent to my participation have such recordings destroyed (except in situations such as above).
- I understand that, subject to the constraints above, no recordings will be replayed in any public forum or made available to any audience other than the current researchers/research team.
- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights.
- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty.
- I understand that my participation is fully anonymous and that no personal details about me will be recorded.
- This research involves viewing materials via a computer monitor. I understand that if I or anyone in my family has a history of epilepsy then I am proceeding at my own risk.
- I have received a copy of this agreement.

……

Name and surname of participant

……

Place, date and signature of participant

Statement of investigator's responsibility: I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

……

Name and surname of the researcher

……

Place, date and signature of the researcher:

X. PHOTO, VIDEO AND AUDIO RECORDINGS

As part of this research project, photographs, video and audio recordings will take place during the participation in the study.

I have received a thorough description of the purpose and procedures for these recordings and I give my consent to allow CURE to record during my participation, process and use of the recordings or parts of the recordings for analysis, related studies and project results, as well as for marketing and PR purposes of the research project PEACOX. I understand that all information will be kept confidential and will be reported in an anonymous way.

……

Name and surname of participant

……

Place, date and signature of participant

……

Name and surname of the researcher

……

Place, date and signature of the researcher

5. Appendix B - INFORMATION SHEET FOR THE PEACOX FIELD STUDY

Schedule of the field study: (exact dates TBD)

Week 30	Introductory workshops	Introduction to study and apps, Signing of informed consent.
Week 30	Mailing of 1st online questionnaire	Fill in questionnaire until the end of the week.
Week 31	Mailing of link to download PEACOX apps	Install 3 apps: PEACOX trip planner, navigation client, and trip diary.
Week 31 – Week 39	Apps Use	Use apps whenever you feel they could be useful. Use trip diary daily to verify trips.
Week 34	1st telephone interview	Approx. 30 mins, individual appointments arranged during introductory workshop. My appointment: _____
Week 35	Mailing of 2nd online questionnaire	Fill in questionnaire until the end of the week.
Week 38	2nd telephone interview	Approx. 30 mins, individual appointments arranged during first interview. My appointment: _____
Week 39	Mailing of 3rd online questionnaire	Fill in questionnaire until the end of the week.
Week 39	Final group discussion	Possible appointments: Appointments arranged during second interview. TBD 1+2 TBD 3+4 My appointment: _____
Week 39	End of field study	

Important Notes:

- You were invited to participate in this field study to allow us to evaluate the PEACOX apps among people with different mobility behaviour. We are interested in your personal and honest opinion.
- Do not participate if you are not 18 years or older and competent to supply consent.
- Using the PEACOX apps can consume a lot of data. Please keep in mind that data consumption can be up to 500 MB per month and regularly check your data limits with your mobile provider. Please note that neither Trinity College Dublin nor CURE can compensate you for costs resulting from exceeding your mobile data plan or roaming fees. We recommend you to use a WiFi connection whenever available.
- The GPS sensor of your phone, which is accessed by the PEACOX apps, consumes a lot of energy. In order to reduce its impact on your phone's battery life, the PEACOX app will only keep it active between 6:00am and 10:00pm. Nevertheless, please keep in mind to charge your phone more often than usual. We recommend you to carry your charger with you at any time.
- The following data will be automatically logged during the study:
    - Search requests for routes (start, destination, time, modes of transport)
    - The route you chose from the presented alternatives
    - Position and movement data (GPS [Global Positioning System] and accelerometer data from your mobile phone)
    - Times you access the application and its different sections
    - Challenges your receive and commit to
- Any recordings, e.g. audio/video/photographs created during interviews, group discussions or other sessions, will not be identifiable unless prior written permission has been given. We will obtain permission for specific reuse (in scientific papers, talks, etc.).
- Your participation is voluntary and you can withdraw at any time without negative consequences.
- You can omit any questions (in questionnaires and interviews) if you do not wish to answer.
- You will have the possibility to receive a short debriefing and explanations about the study during the final focus group at the end of the study.
- During the study, you will be viewing video displays (your smartphone and a PC or similar device to fill in the online questionnaires). Please be aware that if you or anyone in your family has a history of epilepsy then you are proceeding at your own risk.

- In the extremely unlikely event that illicit activity is reported to us during the study we will be obliged to report it to appropriate authorities.

In case you have questions, concerns or technical problems, please contact the CURE support hotline (tbd) or write us an e-mail (peacox-support@cure.at). You can reach the hotline from Monday to Friday from 09:00am to 4:00pm.

You can find further information about the PEACOX project here: www.project-peacox.eu.