



User Empowerment for Enhanced Online Presence

Project Charter

ICT-2013.1.7 Future Internet Research Experimentation
Grant no. 611596



1. Summary

This charter summarizes the project goals, key issues, technical approach, and expected achievements and impact. In addition, it contains information about contain the organisational information such as list of participants, contact details, timeline and Commission funding.

2. Project Concept and Objectives

A large majority of Europeans engage with Online Social Networks (OSNs) and a recent Eurobarometer study concludes that 74% of respondents think that they do not have enough control of the data they share and 70% are concerned with the way such data are handled by OSNs. In response to these concerns, USEMP aims at developing a framework that will empower users by enhancing their control over the data they distribute or interact with. The framework will reduce the existing asymmetry between data processing and control means available to OSNs and those afforded by citizens.

USEMP will contribute to the reduction of this asymmetry and will propose a multidisciplinary approach motivated by the following objectives:

- Analyse the existing and proposed legal framework of privacy and data protection with regard to OSNs and assess the value of shared personal information in order to provide useful insights for developing semi-automatic tools that assist users in handling their personal information.
- Advance the understanding of personal data handling through an in-depth analysis of privacy feedback & awareness tools and through qualitative and quantitative analysis of data sharing behaviour, including automatic data pre-processing that will allow scaling up the analysis.
- Create multimedia information extraction methods adapted to personal information management, with focus on user feedback and explainability in order to ensure fast adoption by the users.
- Improve the management of personal information by proposing tools that raise the users' awareness regarding the opportunities and risks of sharing data and assist the users in their interaction with these data.
- Contribute to the current debates related to the way personal data should be monetised and propose economic models that are more respectful toward content creators (i.e. OSN users).
- Propose an innovative living labs approach, adapted for personal data handling in OSNs.

3. Key Challenges

Related to its research objectives the challenges addressed by USEMP are:

- A part of the legal requirements of the proposed General Data Protection Regulation go against current OSN practices and their adoption by the latter is far from being guaranteed.

- The balance between keeping personal information private and exposing it on OSNs greatly varies from one user to another and an improved understanding of which types of data are considered most private is needed.
- Users are often unaware of the opportunities and risks related to personal data sharing and attractive means need to be devised in order to inform them in a seamless manner.
- There exist multimedia information extraction techniques that could be useful for use in personal information sharing assistance processes but they need to be adapted for easy and interactive use and their accuracy needs to meet the users' legitimate expectations.
- At present, there are no integrated solutions for facilitating semiautomatic user assistance in personal data management tasks and for raising their awareness concerning the sharing of such data.

4. Project Approach

The USEMP platform aims at providing tools that **enable OSN users to control their data and to understand how they are used by third parties**. An approach is proposed that starts with the study of personal information sharing practices, coupled with a study of the complex legal framework related to this information. It proceeds with the proposal of innovative multimedia information extraction algorithms that infer new knowledge from user data and leverages insights from social and computer science developments to empower the users. As a second goal, USEMP is set to contribute to current debates concerning the way personal data are handled by OSNs and regarding the economic value of personal information and the way it is monetised. To attain its goals, USEMP proposes a multidisciplinary approach that relies on four core domains: (a) empirical user research that combines lab and living lab studies, (b) legal studies that deal with the complex legal framework related to personal data, (c) multimedia information extraction adapted to user empowerment in OSNs and (d) tools for semiautomatic user assistance in personal data sharing management. The four main research pillars of interact with each other in the form of a virtuous circle as illustrated in Figure 1.1.

As a starting point, an **in-depth analysis of the existing and upcoming legal framework related to personal data** will be provided. The insights obtained from this study will result in a coherent implementation of EU law, which will guide all other parts of the project. A comprehensive array of **user research focalised on personal information**, including: qualitative and quantitative data sharing behaviours; usage of privacy feedback and awareness tools, user's attitude with regard to monetisation of personal content by OSNs, insights concerning seamless interaction with personal data. Given that personal data will be processed in USEMP, data collection will be done with strict compliance to existing law and the appropriate mechanisms will be implemented in order for the users to be informed of the way data are collected and processed and to provide them with control over information sharing and extraction processes. Insights from legal studies and user research will guide the proposal of **multimedia information extraction techniques adapted to personal information shared on OSNs**. Emphasis will be put on integrating user feedback in the USEMP tools and on explainability of the extraction processes in order to facilitate the adoption of the tools by the users. Volunteered and observed information will be processed in order to infer new information from texts, images, likes, browsed sites, etc. Legal studies,

user research and information extraction algorithms will be exploited in order to **propose tools that raise the user’s awareness concerning her privacy on OSNs and of the economic value of her information and that assist her in managing personal content.** Then, a **human-computer interaction paradigm adapted to personal information management will be devised and implemented in easy-to-use interfaces.** The scientific developments **will be integrated in a prototype that will be tested through large scale living lab studies.**

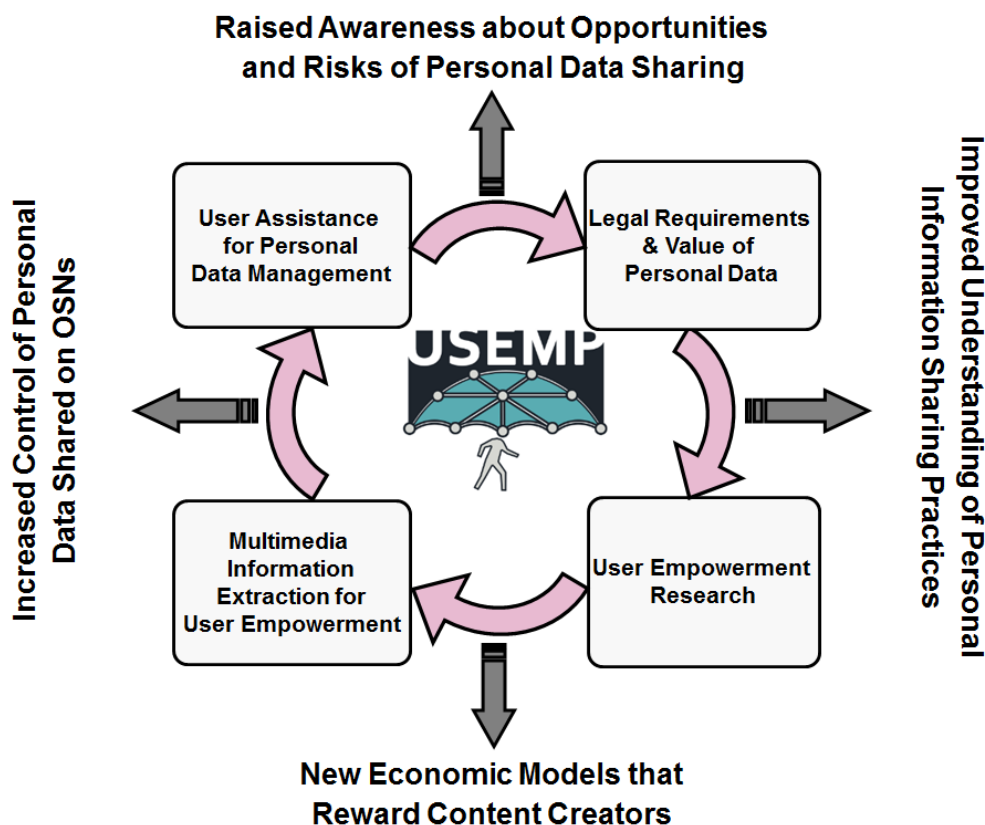


Figure 1 – Multidisciplinary approach of USEMP and related outcomes.

5. Impact

The USEMP project focuses on “ICT for Future Internet Research Experimentation” and its objectives address the expected impact listed in the work programme for STREPs. The work planned in USEMP aims to disrupt the existing paradigm of personal data sharing control by leveraging contributions from different disciplines related to this topic and by capitalising on recent advances in the fields of legal studies for data protection, user empowerment research, economy of personal data, multimedia information extraction and tools for privacy enhancement. Advances are expected notably in the implementation of various rights and obligation of the current Data Protection Directive and the proposed General Data Protection Regulation in semiautomatic assistance tools, developing novel user empowerment research methodologies, adapting information extraction techniques to personal data flows and designing easy to use privacy and awareness tools. The research work in USEMP will have a strong impact on the research and development in the involved disciplines. More importantly and beyond individual advances, their tight interlinking in USEMP will lead to synergetic interactions and facilitate easier uptake of results between disciplines. Legal and

user research recommendation will be core elements in the development of information extraction techniques and of semiautomatic assistance tools. Inversely, information extraction techniques will be exploited in order to pre-process large volumes of data that will constitute the basis for an large scale analysis of personal data sharing behaviours which is useful for both user empowerment research and for fuelling reflexions on personal data regulation.

The OSN Presence management tool will give the control to the users to manage their personal data and keep control to protect their individual integrity and privacy. This is crucial in forthcoming IoT research initiatives for example, where users private gadgets (mobile phones, mobile apps etc) can be used for participatory sensing purposes in a crowd-based set-up. By giving the end-users tools to manage and define access-levels or different portions of his/her personal data will become an important factor for end-users to be willing to participate in Future Internet Experimentation on a voluntary basis. And as personal data can even become a licensable asset for users it is important to give the users the control of their personal records.

In a larger context, USEMP will impact the current paradigm shift concerning the digital media economy that revolves around personal data. It will notably contribute to putting the users at the centre of this ecosystem by increasing their control over personal data. While the disclosure of personal information is increasingly accepted – 74% of people responding to (Eurobarometer, 2011) accept this as part of modern life – other findings of the same Eurobarometer – 74% of Europeans demand to have improved control over personal data, 62% consider that a minimum of potentially sensitive information should be disclosed on OSNs, 75% are highly interested in implementations of the right to be forgotten, 70% would like to dispose of tools that raise their awareness of the way data are repurposed by companies – show that there is a huge demand for services that improve only privacy and data sharing control. USEMP will contribute to satisfying the demands of these citizens through the proposal of methodologies and tools that empower them when interacting with OSNs.

USEMP has a very large potential user base as hundreds of millions Europeans are using social networks on a daily basis. While it is premature to provide precise adoption rate of the developed tools, their promotion through dissemination and exploitation action will ensure wide usage and the proposed EU regulation will put pressure on online services to adopt such services. To ensure wide adoption USEMP research and development will be realised in such a way to be easily adaptable for adoption by other interested industrial players. The availability of new effective means for accessing tourism and culture-focused content will result in significant market opportunities for SMEs with personal data service related business models, which will have the possibility to reach wider audiences and to develop new business models. USEMP is expected to have a significant economic impact on European businesses, research centres, and organisations by unleashing their competencies and capabilities in the key areas focused by the project and by enabling the development of new added value services.

It is important to stress that the technologies developed within USEMP will not be limited to the personal data sharing control and awareness, targeted and piloted by the project, but constitute a core component of sustainable services built around data sharing such as enterprise data management, enterprise reputation management and online advertising.

6. Project Information

6.1. List of participants

Table 1 presents the project consortium.

| Participant organisation name | Institution short name | Country |
|--|------------------------|----------------|
| Commissariat à l'Energie Atomique et aux Energies Alternatives (Coordinator) | CEA | France |
| iMinds vzw | IMINDS | Belgium |
| Radboud University Nijmegen | iCIS | Netherlands |
| Centre for Research and Technology Hellas | CERTH | Greece |
| HW Communications | HWC | United Kingdom |
| Velti | VELTI | Greece |
| Luleå University of Technology – Centre for Distance-spanning Technology | LTU-CDT | Sweden |

Table 1 – List of participants to the project.

6.2. Contacts

Table 2 lists USEMP contacts for the different aspects of the project.

| Project area | Name | Institution name | E-mail |
|----------------------|----------------------|------------------|------------------------|
| Coordination | Adrian Popescu | CEA | adrian.popescu@cea.fr |
| Legal aspects | Mireille Hildebrandt | iCIS | hildebrandt@law.eur.nl |
| User studies | Jo Pierson | IMINDS | jo.pierson@vub.ac.be |
| Living labs | Anna Ståhlbröst | LTU-CDT | anna.Stahlbrost@ltu.se |
| Multimedia | Hervé Le Borgne | CEA | Herve-leborgne@cea.fr |
| Privacy tools | Symeon Papadopoulos | CERTH | papadop@iti.gr |
| OSN presence control | David Lund | HWC | dlund@hwcomms.com |
| User data value | Giannis Katsaros | VELTI | gkatsaros@velti.com |

Table 2 – USEMP contacts.

6.3. Funding

USEMP is a STREP project funded under the grant number 611596, in the work programme topic ICT-2013.1.7 Future Internet Research Experimentation. The total cost of the project is 3,053,277 € and the funding provided by the EU is 2,270,000 €.

