Report

SociaLL initial framework for understanding social software for co-creation in Living Labs

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ABSTRACT
Living Labs is a relatively new approach to involving users in the innovation and development processes and has received great interest lately. In the NordForsk research project SociaLL we aim to use social software for co-creation in Living Labs. This document is our initial framework to support the systematic study of this.

The framework is based on the four SociaLL project partners' experiences with social software in Living Lab contexts and includes (a) key definitions, (b) requirements for social software for co-creation, and (c) considerations on the varying characteristics of the innovation contexts.

This document is mainly meant to serve the research and innovation activities in the SociaLL project. However, due to the relevance of the topic also outside SociaLL we have chosen to make the document openly available.

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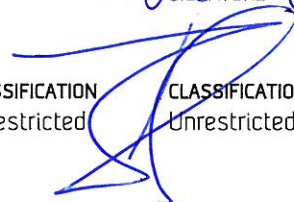
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APPENDICES

Appendix – SociaLL partner background and related work

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1 Introduction

Living Labs is a relatively new approach to involving users in the innovation and development processes and has received great interest lately. The European Network of Living Labs (http://openlivinglabs.eu), numbers more than 200 Living Labs across and beyond Europe. An emerging trend is to see Living Labs as a way of tapping into the creative potential of users where individual users and user communities engage in co-creation activities (Følstad, 2008a).

In parallel with the growth in the interest in Living Labs, there has been a tremendous growth in the interest in social software. Given the potential of social software solutions to facilitate user participation, sharing and co-creation on the internet, such software seem particularly promising as tools in co-creation processes within Living Labs. However, only few existing Living Labs currently utilize social software for co-creation purposes.

In the NordForsk research project SociaLL (http://sociall.origo.no), we aim to use social software for co-creation in Living Labs. In particular we target the use of social software (a) within existing Living Lab infrastructures and (b) as a low threshold approach to co-creation in Living Labs for small and medium enterprises (SMEs).

Since social software for co-creation in Living Labs currently is an immature field, we need to establish and maintain a framework to allow systematic study and implementation. The objective of the framework is to guide our research approach to social software for co-creation in Living Labs. For this purpose, the framework will consist of (1) key definitions, (2) general requirements, and (3) considerations related to specific innovation contexts. This document is our first attempt to establish such a framework.

The framework is based on the four SociaLL partners' first hand experiences with social software for co-creation purposes in Living Labs. The partners are SINTEF (RECORD online Living Lab), Copenhagen Living Lab, Luleå university of technology (Botnia Living Lab), and Halmstad University (Halmstad Living Lab). Details on the partners background is provided in the Appendix.

The process of establishing the framework has been one of collaborative writing, where all partners have added and elaborated on definitions, requirements and considerations. The framework, though not the result of scientific analysis, is meant to serve as a sound basis and starting point from which to conduct the research on co-creation in Living Labs in the SociaLL project.

This document is mainly meant to serve the research and innovation activities in the SociaLL project. However, due to the relevance of the topic also outside SociaLL we have chosen to make the document openly available.

The structure of the framework document is as follows: First we provide a set of key definitions. Then we suggest requirements for social software for co-creation in Living Labs. Subsequently we describe a set of considerations related to the variation in innovation contexts. Finally, we summarize the implications of the framework for SociaLL research design.

2 Five key definitions

Five SociaLL key definitions are provided: Social Software, Co-creation, Living Lab, Users, SME. The interdependencies of these are presented in Figure 1.

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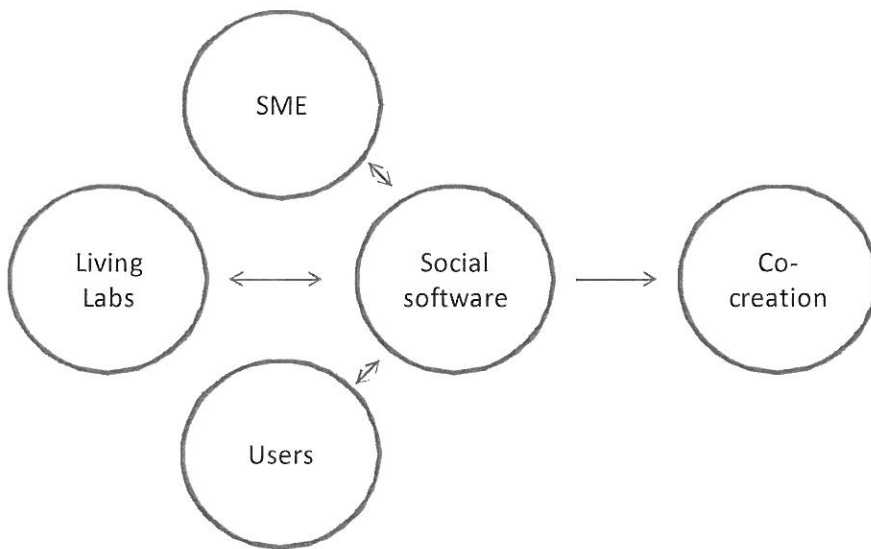
Fig. 1: Interdependencies between SociaLL key definitions

2.1 Social software

Social software is one of several terms used to refer to the fast growing number of applications and services available on the Internet for communication as well as content sharing and creation. Example services include Facebook, Twitter, YouTube, Flickr, blogs, and online forums. Other terms used to refer to more or less the same set of applications and services include *Social media*, and *Participatory media*[1].

For SociaLL we define social software as *"internet-based solutions supporting mutual sharing and open dialogue between users"*. The key terms of the definition are to be understood as follows: *Sharing* refers to sharing of content as a stand-alone creative work (such as the posting of an image on Flickr with all rights reserved) or as a contribution to commonly created content (such as co-writing of articles at Wikipedia). *Dialogue* includes discussions in threads, stand-alone comments, or feedback through ratings, likes, kudos or similar. *Open* implies that the sharing and dialogue are conducted in such a manner that a group of people other than those actively participating in the communication both can see what is shared / communicated and also join in the communication or contribution of content.

2.2 Co-creation

Co-creation is a term used somewhat differently depending on the context. From a business perspective, co-creation is seen as the co-operation between customers and service providers in order to adapt products and services to individual customer needs (Prahalad and Krishnan, 2008). However, co-creation may also refer to collaborative or community-driven creation of content, as discussed by Leadbeater (2009) and Shirky (2008) – even though none of these authors use the term co-creation.

In the context of Living Labs, co-creation refer both to (a) co-creative relationships between enterprises (industry partners, academia, and public sector enterprises) - often referred to as a triple-helix relationship (Oliveira, Fradinho & Caires, 2006) – and (b) collaborative activities between end-users and other stakeholders in an innovation or development process (Følstad, 2008a).

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[1] The similarities in how these three terms are used are well illustrated when comparing their respective Wikipedia articles as of February 9, 2011: http://en.wikipedia.org/w/index.php?title=Social_software&oldid=407557349 (*social software*), http://en.wikipedia.org/w/index.php?title=Social_media&oldid=412738446 (*social media*), http://en.wikipedia.org/w/index.php?title=Participatory_media&oldid=407867634 (*participatory media*).

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In SociaLL we define co-creation according to the latter meaning: *"Collaborative activities between end-users and other stakeholders in an innovation and development process".* Collaboration may be restricted to end-user feedback on ideas, concepts, prototypes or final versions of products or services, but may also include end-users being involved as key providers of creative input in the innovation or development process.

Co-creation processes may be planned and lead, as part of a systematic innovation process, or spontaneous and self-organized. In SociaLL we mainly target planned and lead co-creation processes.

2.3 Living Lab

The term Living Labs is used differently depending on context. In a literature survey on Living Labs for software development, the common denominator of Living Labs was environments for innovation and development where users are exposed to new ICT solutions in (semi)-realistic contexts, as part of medium- or long-term studies (Følstad, 2008a).

Within the context of the European Network of Living Labs (ENoLL) Living Labs are interpreted more narrowly, including requirements of co-creation and open innovation (see http://openlivinglabs.eu). A Living Lab can be seen as both a milieu (environment, arena) and an approach (methodology, innovation approach) (Følstad, 2008a). In SociaLL we aim to target both Living Lab milieus and approaches.

In SociaLL we adhere to the following Living Lab definition: *"a user-centric innovation milieu built on every-day practice and research, with an approach that facilitates user influence in open and distributed innovation processes engaging all relevant partners in real-life contexts, aiming to create sustainable values"* (Bergvall-Kåreborn, Ihlström Eriksson, Ståhlbröst, & Svensson , 2009). In Living Lab milieus, innovation networks are formed with a focus on creating value adding digital products and services through collaboration between stakeholders of different backgrounds (Eriksson, Niitamo, Kulkki, & Hribernik, 2006.).

The open innovation aspect of Living Labs is seen as compatible with the theory on open innovation as developed by Chesbrough (2003). In particular the Living Lab is seen as a facilitator for access to knowledge of relevance to the innovation process outside the boundaries of the individual organisation.

2.4 Users

There are many different ways to define *user*, but the most common is to take a starting point in actual or potential users of a system (Ives and Olson, 1984; Preece, Rogers, & Sharp, 2007) or in the type of relation a person has to a system – such as type of use, frequency of use, or consequences of use (Eason, 1987). More narrow definitions have emerged which focus on the user's personal characteristic, such as *lead users* (von Hippel, 1986), *first buyers* (Enkel, Perez-Freije, & Gassmann, 2005), and *early adopters* (Rogers, 1962).

In SociaLL users are defined as *actual or potential end-users of a system; that is, users directly interacting with the front-end of the system.*

Users may be regarded as partners in Living Labs. A partnership with users in Living Labs can be seen as either that of occasional or repeated project collaboration (Ståhlbröst, 2008).

2.5 SMEs

In SociaLL we particularly target SMEs, as we assume that, for these, social software may represent a low-threshold approach to user-involvement in co-creation and innovation. In SociaLL we follow the definition

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of Small and medium-sized enterprises as given by the European Commission, sited in verbatim in the paragraph and table below:

"Enterprises qualify as micro, small and medium-sized enterprises (SMEs) if they fulfil the criteria laid down in the Recommendation which are summarized in the table below. In addition to the staff headcount ceiling, an enterprise qualifies as an SME if it meets either the turnover ceiling or the balance sheet ceiling, but not necessarily both. " (European commission, 2003)

Enterprise category	Headcount	Turnover	Or	Balance sheet total
medium-sized	< 250	≤ € 50 million		≤ € 43 million
Small	< 50	≤ € 10 million		≤ € 10 million
Micro	< 10	≤ € 2 million		≤ € 2 million

3 Requirements and considerations related to innovation context

Today we do not have sufficient knowledge about how we should utilize social software for co-creation in Living Labs. In order to establish this knowledge, we need to consider both what we regard as (a) established requirements for such social software and (b) aspects of the innovation context that affect how such social software should be implemented and used. We first treat the general requirements, then we outline important considerations with respect to the innovation context.

The requirements and contextual considerations are based on the informal experiences of the four SociaLL partners from work and research activities involving social software for co-creation purposes. Details on related work and research activities are provided in the Appendix.

3.1 Requirements for social software for co-creation in Living Labs

The requirements for social software characteristics that are independent of the innovation context may be seen from three perspectives: The participant view, administrator view, and the client view.

3.1.1 Participant view

The participant of a study is a person that is invited to contribute in co-creation activities. Participants are typically users of the solutions to be developed. The following eight requirements target the participant view.

R1. Easy signup. A cumbersome sign-up process may cause potential participants to abandon their participation before they get started. This is particularly relevant if the participant needs to establish a profile with user name and password prior to participation.

R2. Easy access. It needs to be easy for the participants to return to the social software, and the threshold for returning needs to be low. Participants will need notifications on relevant updates in the Living Lab. Problems related to forgotten passwords and similar issues during login need to be minimized.

R3: One point of entry. To provide a simple overview for the participants, and to strengthen the brand of a Living Lab (or community), it is important that each participant relate to only one entrance point to the Living Lab, even though it may be useful with different points of entry for different participant groups. If different social software is needed, these should be accessible from this one point of entry. With a login

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procedure at this point it is possible to keep track of the participants and their activities within the Living Lab.

R4. Clear communication of purpose. The purpose of co-creation activities needs to be made clear to the participants. The participant needs to hold an adequate understanding of both (a) the kinds of contributions that are relevant at the given phase of innovation and (b) the expected interplay between the persons involved in the Living Lab. This is challenging when the co-creation is to be conducted by social software alone, since the means of communication are more limited than in for example face to face co-creation activities.

R5. Shared areas for communication. Communication is key when it comes to carrying out most of the techniques and methods facilitated in a Living Lab. A shared area, such as a moderated forum, is needed to support communication across all participants. In the case that synchronous co-creation activities, such as online focus groups or workshops, are required, an area such as a shared chat room or a conference system is needed.

R6. Easy to contribute. The contribution mechanisms need to be intuitive and fast to use, in particular for short term co-creation activities. If the contribution mechanisms require that the users spend substantial time getting familiar with the input mechanisms this may threaten the frequency and quality of contributions. Possible contribution formats include ratings, comments, images, audio, and video.

R7. Clear presentation of other participants' contributions. It should be easy to get an overview of the other participants' contributions, in order for each participant to modify own input according to what the others have presented.

R8. Cross-platform. To give stakeholders the freedom to contribute when, where and how they want it is important to offer a cross-platform solution. A user should be able to login to the service from their PC, smart phone, or tablet computer. One should also strive for a browser independent solution.

3.1.2 Administrator view

The administrators are the persons responsible for running a study, that is, a co-creation activity within a Living Lab project. The administrator is typically affiliated with the Living Lab host. The following eleven requirements target the administrator view.

R9. Easy set-up and piloting of studies. Study quality depends on easy setup and piloting. In many situations it may be desirable to have the same person setting up and conducting the study, in order to minimize organizational overhead. This requires easy set-up, as this person may not have deep technical insight in the social software.

R10. Easy recruitment of relevant user participants. Users need to be recruited with specific purposes and contributions in mind, and the social software should allow for an easy selection process. Relevant selection activities include call for study participation within the existing participant pool, set up of screening questionnaires, and queries in existing databases.

R11. Easy user management. It may be necessary to add users to studies throughout its duration. Also it may be necessary to support users that have misplaced their login information. When working with large numbers of users the social software solution needs to support easy user management in order to relieve administrators.

R12. Easy real time overview and updates of participant contributions. For the administrators to serve as moderators in studies, it is necessary that the administrators have easy overview of the participants'

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contributions at any given time. In studies that stretch across longer periods of time, the administrators also need notifications of new participant contributions in order to be able to respond quickly.

R13. Easy participant follow-up. Serving the role of moderator, the administrators may want to engage in dialogue with the participants as part of the Living Lab discussions. The same administrators may engage in several dialogues at the same time, and need support to be able to do so effectively and efficiently.

R14. Editor rights. The administrators are likely to have the role as editors of the participant contributions, implying responsibility for removal of spam or illegal content. In consequence, the administrators need to be able to easily remove content, and if necessary participants, from the study. At the same time, removed content and participants should be stored and accessible as part of post-factum analysis.

R15. Easy real time analysis. A study is likely to involve large amounts of qualitative data. It may be challenging for the administrators to conduct adequate analysis real-time, which may be important to control or direct the participants' contributions across the duration of the study. Particular support for real time analysis is needed.

R16. Flexible export of data. To support analysis of study data, report writing and communication of findings from project activities, flexible data export is needed. Export of data should be available in several file formats. Preferably, all participant content, such as comments, ratings, images, and videos, should be exportable.

R17. Minimization of privacy issues. The social software needs to be set up so that person data is not available to other participants or administrators unless this is important to the study. The set up mechanisms should support relevant privacy regulation, and should include the request of informed consent when personal data needs to be collected.

R18. Flexible access control. Due to the shifting nature of Living Lab projects and the roles played by various stakeholders the administrators may need advanced ways to customize specific client roles and access levels of data. For example, an industry stakeholder may need moderator rights to certain features of the service used during a project and access to specific findings or data. Note that the making available of participant data needs to be in conformity with privacy regulations (see R17).

R19: Support for ethnographic analysis. In order to learn more about and improve existing user participant processes the social software must also support data gathering and analyses of participants, activities and processes. This is also important to strengthening the research in relation to Living Lab practice.

3.1.3 Client view

The client is the recipient of the study results. The client may be an individual industrial, public sector or research enterprise, or a consortium. Between clients the innovation contexts will vary greatly, which makes it difficult to suggest general requirements. Only two general requirements are identified.

R20. Varied degree of openness. The social software should support a varied degree of openness. In some projects all resources might be shared with users and publicly on the Internet, while other projects require a closed setting where not all resources are fully shared. The software needs to offer a way of customizing what, when, how and to whom data is shared.

R21. Availability of data. The client should be able to take on the role as observer during the study, and should have all relevant study data available at any point in time. Note: Relevant study data will typically not include personal data.

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3.2 Contextual considerations when using social software for co-creation in Living Labs

In the previous section, general requirements for social software for co-creation in Living Labs were presented. However, a given innovation context will imply an additional set of requirements depending on its characteristics.

On basis of the project partners' experience, we suggest a range of aspects of the innovation context that may affect how social software for co-creation should be implemented and used. The contextual considerations are related to the following aspects of the innovation context:

- Solution to be designed, design phase, and design process
- Participants
- Clients, in particular targeting considerations related to existing Living Labs and SMEs as clients.

Several of the contextual considerations point out important research challenges. We assume that the mentioned aspects of the innovation contexts have implications for adequate implementation and use of social software for co-creation, and that the aspects therefore are important to consider. However, we often do not have sufficient knowledge to state the exact implications of the different states of a given aspect.

3.2.1 Solution to be designed, design phase, and design process

The following contextual considerations are expected to be important with respect to variations in either (a) the solution to be designed, (b) the current design phase, or (c) the design process used.

C1. Requirements for presentation of solution design may depend on solution category. Solution categories such as hardware, software, services, and processes may pose different requirements on the social software. This is in particular expected to be relevant for design phases following early prototyping, where the presentation of the designs may have to be done differently across solution categories.

C2. Design phase may affect requirements both for the social software and the co-creation process. In earlier phases of the design process, it may be necessary to involve participants in co-creation on a range of ideas and concepts, whereas in later phases co-creation will be limited to one more fixed solution. This implies that in earlier phases, the social software needs to support high level presentation of a large number of ideas and prototypes, whereas in the later phases it will be necessary to support in-depth presentation of a small number of prototypes.

C3. The design process, as well as other context characteristics, may affect the required level of co-creation and thus the social software. Levels of co-creation include: Feedback, dialogue, simple co-design (each participant contributes individual design input), and advanced co-design (the design evolves as participants and designers exchange and build on each others design input). Ideally, the design process should decide the level of co-creation. However, other considerations such as timeframe of study, client's needs, or resources may also affect the required level of co-creation. Different levels of co-creation will pose different requirements to the social software.

C4. The timeframe of the study will affect the co-creation process and thus the social software. The timeframe of a social software Living Lab study is expected to vary greatly, from a few days to several weeks or months. This has direct implications for the co-creation process, and may impact the requirements for the social software for example with respect to participant notifications, and possibility for participants to modify their profiles.

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3.2.2 Participants

The following contextual considerations are expected to be important with respect to variations in the kind of participants involved in the co-creation process.

C5. Varying participant motivators. Sustainable co-creation requires that all participants gain something from the collaboration. However, participant motivators may change across innovation contexts. Relevant motivators include: Recognition and reputation; sense of contributing to society or technological development; monetary and non-monetary rewards; sense of being a forerunner; learning and knowledge exchange; enjoyment and competition.

C6. Varying computer literacy. Different users have different levels of computer literacy. Participant skills may change systematically across innovation contexts or studies. Some studies need to be run supporting participants with very low computer literacy to carry out activities such as: Write and upload text, upload pictures, rate content, communicate and interact with other project participants. Other studies require more advanced co-creation, and may have to include software that excludes users low on computer literacy.

3.2.3 Clients

A range of contextual considerations may be related to the recipients of the study results. Some considerations may be relevant for all client categories. Others may be more relevant when the client is either a Living Lab or a SME, the two target clients of SociaLL. Note is given if a particular consideration is assumed to be more relevant for one of these two client categories.

C7. Role of the client. An enterprise might have one or several different roles in a study which could affect their requirements for the solution, e.g. project coordinator, design responsibilities, or technical development. The enterprise may also have a role related to marketing or may be working with adoption and diffusion of IT innovations. Variation in roles may in particular be relevant for Living Labs as clients.

C8. Client control of the social software solution. Typically, the social software solution will be provided as a service to the client. However, some clients may want access to source code of a solution to be able to customize and run the service on their own servers due to context dependent requirements not covered by a generic web service. In the case of a service, the software may be proprietary. In the opposite case, open software solutions will be required. Variation in the required client control may in particular be relevant for Living Labs as clients.

C9. Stakeholder heterogeneity. A co-creation project may involve several different user groups, multiple industrial partners and different researchers with different competences as stated above. Increased heterogeneity of the involved stakeholders will arguably lead to different requirements for data collection and management of the co-creation process. Variation in stakeholder heterogeneity is particularly relevant for Living Labs as clients.

C10. Available resources. Clients may vary both with respect to the innovation resources available, as well as management commitment to innovation. The availability of personnel for process innovation management and facilitation of co-creation may affect the Living Lab co-creation process requirements. Availability of innovation resources may affect the scale and character of the Living Lab co-creation. Variation in available resources is particularly relevant for SMEs as clients, where low cost alternatives are important.

C11. Industry and business model. Several aspects of the client's type of industry and business model may affect requirements on social software for Living Lab co-creation. Varying requirements may be found between (a) product vs. service providers, (b) different industrial fields, (c) customer categories (B2C, B2B, networked), (d) customer localization (local vs. export), and (e) current-market vs. up market orientation.

C12. IT maturity. Varying levels of IT-maturity between SME employees may be decisive with respect to their participation in co-creation by social software. In particular employees' (a) use of IT and (b) familiarity with conversation in social software may be important to consider.

C13. Innovation maturity. The client's innovation maturity may pose important requirements to the need for innovation process support together with the social software solution. Further, innovation maturity may affect perceptions of risks and opportunities with respect to openness in solutions for co-creation.

4   Implications for research design

The initial requirements and considerations have implications for the SociaLL research design. The requirements will be used to select social software to be used in the cases. The considerations may be used as basis for forming the research design.

4.1   Choosing social software on basis of requirements

There is a wide range of social software that may be used to support co-creation in Living Labs. Such social software may be special purpose solution for example to capture inspirational material (http://syncrowd.com, http://piipl.net), collect and discuss ideas (http://uservoice.com, http://getsatisfaction.com) , get feedback (http://revelationglobal.com), and run evaluations (http://loop11.com, http://optimalworkshop.com/chalkmark.htm). However, also general purpose social software may be used such as blog software (as OWELAs use of Word Press, see http://owela.vtt.fi), or media management software (such as the RECORD online Living Lab use of OS-Tube, see http://recordproject.org).

In order to choose among available social software, the SociaLL partners will establish a list of candidate social software. On basis of an assessment of the social software with respect to the initial requirements, the social software to be used in the SociaLL cases of 2011 will be selected.

4.2   Forming research design on basis of considerations

The SociaLL cases will represent a variety of industrial and Living Lab organizations. By mapping these organizations according to the identified considerations, we may use these as a case study framework for analysis.

The relatively low number of cases will not allow broad generalizations of causal relationships. However, the cases may provide insight in how the different considerations are perceived to affect the cases.
The identified considerations imply, among others, that it would be relevant to investigate the following case characteristics through a case study design:
- Design phase, design process, and timeframe of study
- Role of Living Lab and number of stakeholders involved
- SME business model and innovation maturity

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SINTEF

6 Appendix – SociaLL partner background and related work

The four SociaLL partners' background in Living Labs and social software for co-creation is summarized below.

6.1 SINTEF and the RECORD online Living Lab

SINTEF (http://sintef.no), Scandinavia's largest independent research organisation, is host for the RECORD online Living Lab established during the research project RECORD (http://recordproject.org), running from 2007-2010. This Living Lab consists of a panel of participants and an online environment for co-creation based on the open source media sharing platform OS Tube (http://www.ostube.de). The main RECORD panel of participants consists of 3000 persons age 15-40, recruited to be representative for Norwegian internet users of this age segment. Also, participants outside the panel are recruited for cases involving particular user groups.

The RECORD online Living Lab has been used for user involvement in innovative design projects for four industry partners as part of the RECORD project. In total, eight cases have been run in the Living Lab. Also, the Living Lab will be used within other research projects, such as Networked Power (http://networkedpower.origo.no) targeting social software for innovation purposes and R2D2 networks (http://r2d2networks.origo.no) targeting the quality of experience of broadband content.

The RECORD online Living Lab and experiences from the first three cases are presented in different scientific papers (Følstad, 2008b; Følstad, 2009; Følstad & Knutsen, 2010).

6.2 Copenhagen Living Lab

Copenhagen Living Lab (http://copenhagenlivinglab.com) is a Danish consultancy organizing user-driven innovation processes, and provides Living Labs as platforms for cooperation on innovation. To support user involvement in innovation processes, Copenhagen Living Lab provides the social software Piipl (http://piipl.net) for cultural probing in early phase innovation. The development of Piipl was co-funded by the Danish Enterprise and Construction Authority as part of the Danish engagement in the development and implementation of user driven innovation methodologies.

Piipl (Hammer-Jakobsen & Goldman, 2009) provides a secure, closed site where a facilitator or "host" can set up activities around a topic or theme. They can then invite participants and ask them to submit their observations in the form of text, video, or photos. The host can then engage participants with this content using various activities such as tagging, prioritizing, and organized discussions.

6.3 Luleå university of technology and the Botnia Living Lab

Luleå university of technology (http://ltu.se) hosts Botnia Living Lab (http://www.testplats.com), Sweden's first and largest open Living Lab for human-centric ICT development. Botnia's focus is to support human-centric innovation of advanced ICT Services. End-users and stakeholder organisations are engaged along a targeted value chain, following a comprehensive process from need-finding and idea-generation, through concept-development and prototype/usability testing to pilot service validation of market and marketing principles.

Botnia Living Lab operates a growing end-user community of > 6000 registered individuals from all over Sweden. The Botnia Living Lab system for open, user-centric innovation encompasses the expertise, methods and tools necessary for end-user communication and management of innovation processes and

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related information such as demography and user action profiles. Botnia's experience includes > 30 full-scale technology and application projects with national and international cooperation.

The partner's research on Living Labs is presented in different scientific papers (Bergvall-Kåreborn, Ihlström Eriksson, Ståhlbröst & Svensson, 2009; Bergvall-Kåreborn, Holst & Ståhlbröst, 2009, Bergvall-Kåreborn & Ståhlbröst, 2009).

6.4 Halmstad university and Halmstad Living Lab

Halmstad University (http://hh.se) hosts Halmstad Living Lab (http://halmstadlivinglab.se), a co-operation between a multidisciplinary team of researchers, partners from the industry and non-profit organizations.

Several research projects in Halmstad Living Lab target social software, such as *Free2Ride* targeting social technology to support safety issues related to horseback riding, and *Local newspaper 2.0* targeting open media environments to leverage the value of user generated content (see http://www.halmstadlivinglab.se/index.php?page=projects for more project detail).

The partner's research on Living Labs is presented in different scientific papers (Svensson, Ihlström & Ebbesson, 2010; Svensson & Ihlström Eriksson, 2009; Ihlström Eriksson, Åkesson & Svensson, 2009; Svensson, Ihlström Eriksson, Ebbesson & Åkesson, 2009; Ihlström Eriksson & Svensson, 2009).

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