

# We'll stay in touch!

## ***Framework for designing and evaluating perceived social connectedness***

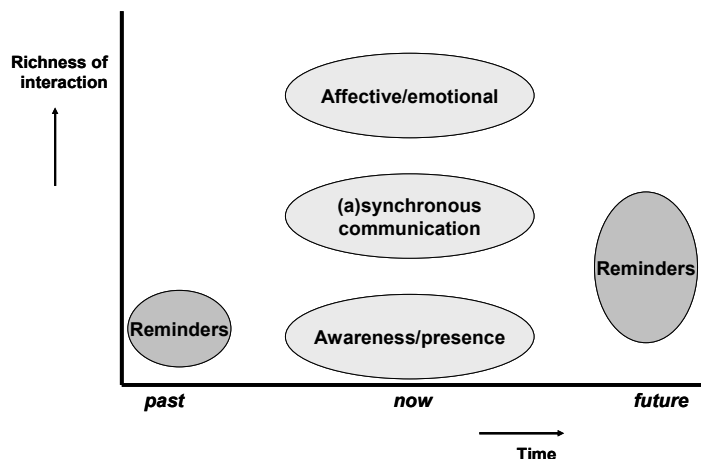
*Margit Biemans & Ingrid Mulder  
Telematica Instituut  
The Netherlands*

*Margit.Biemans(at)telin.nl Ingrid.Mulder(at)telin.nl*

One of the dominant aspects in human well-being is social connectedness. Connectedness is defined as “a positive emotional appraisal which is characterised by a feeling of staying in touch within ongoing social relationships” (IJsselstein et al., 2003). It refers to the quality and the numbers of connections people have within their social circle of family, friends and acquaintances. We focus on a dedicated situation in which external factors force a teenager to temporarily leave his home environment for rehabilitation reasons. The feeling of being socially connected with family and friends becomes important in this situation and positively contributes to wellbeing. In this position paper we describe our user-centred research approach in designing and evaluating online social connectedness.

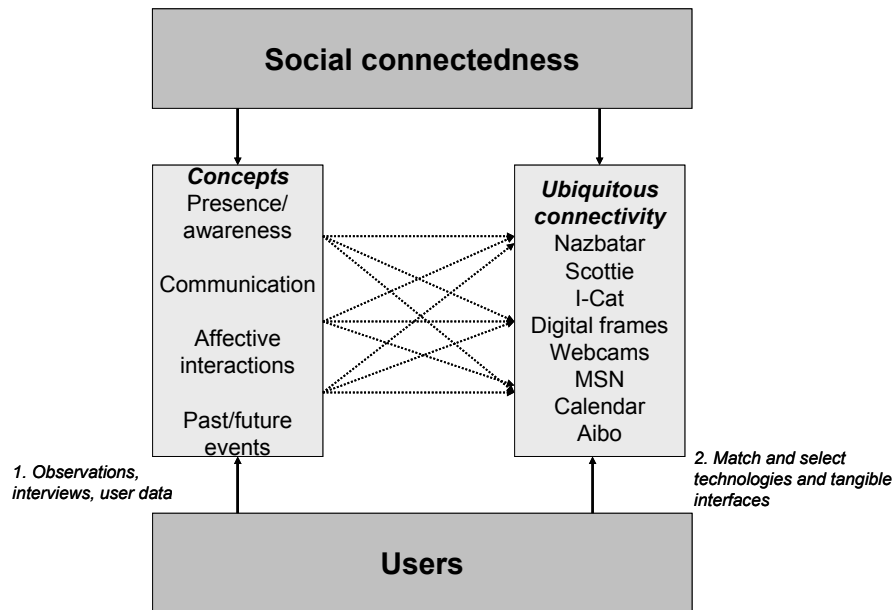
### **Towards a framework for user-centred design of social connectedness**

Online social connectedness is a broad and multidimensional construct composed of various interrelated concepts. The feeling of staying in touch relates to aspects like peripheral awareness, social presence and affective interactions. In line with Schmidt, Terrenghi & Holleis (2007) we made a taxonomy of online social connectedness. It distinguishes past & future events (pictures, photo frames, scheduling, calendar), current activities (presence and awareness), and ways of interaction (communication and affective interactions). The goal of this taxonomy is not to cover all aspects of social connectedness, but to serve as a communication vehicle to gather user requirements. Figure 1 depicts this taxonomy, based upon time aspects and richness of interaction.



**Figure 1: Taxonomy of social connectedness**

The concepts within the taxonomy can directly be related to technology and applications that provide ubiquitous connectivity. Establishing relations between these communicable concepts and ubiquitous technology provides a mean to design online social connectedness in a user-centred way. In our design approach, first information is collected about users and their current use of such technologies (diaries, observations), and second, interviews are held with all people involved (teenager, nurses, family, friends). Based upon the acquired information a selection is made of relevant ubiquitous technology to support our teenagers in hospitals. Figure 2 shows our user centred design approach; user requirements are based upon concepts, and linked with examples of ubiquitous connectivity.



**Figure 2: Framework for designing and evaluating online social connectedness**

Further refinement of the user requirements is done by scenario-based design discussions with the teenager and his family involved, or by using technical probes. Design is finalised by placing the selected ubiquitous connectivity in more naturalistic environments; from scenario's to lab experiments towards pilots for a couple of weeks (= Living Lab). During all design stages, the interaction between human and media is continuously evaluated in various ways. This makes evaluation on the one hand a natural part of design, and on the other hand the reciprocal of design.

## The reciprocal relation of user-centred design and evaluation

User-centred design means an iterative design approach in which users are involved in all stages of the design process. The requirements and perceptions of the user should be the driving forces for design. To ensure this relation, initial designs are continuously evaluated by the potential end-users. For our design of online social connectedness for a rehabilitating teenager, the evaluation of the final set of ubiquitous connectivity is the reciprocity of the design. The goal of achieving online social connectedness between the teenager and his family and friends will be evaluated from various aspects, by focussing upon the identified concepts on the axes richness of interaction and time aspects. As data triangulation is a proper mean for evaluation (Yin, 1994), data will be derived from various sides 1) gathering data of use by collecting log data of the technology, 2) asking user perceptions in questionnaires, and 3) in-depth interviews. Combining these three sources of information about the concepts related to online social connectedness will provide us insights into achieving our design goal. Moreover, it will provide us lessons for future design.

In the workshop we like to discuss which elements of our framework can be (easily) assessed by ubiquitous connectivity. What are the thresholds and lessons learned in other research exploiting ubicomp for design and evaluation purposes? How can we reuse the evaluation of the technology probes for design purposes? In this, we aim to fine-tune our current assessment plan, having it worked out for each step in the user-centred design. As said before, data triangulation is key in our analysis, we therefore, not only focus on evaluating with ubiquitous computing, however, we are particularly interested in whether ubicomp can enrich our assessments for both design and evaluation purposes of supporting social connectivity. By assessing those aspects in various ways, relevant conclusions can be drawn about the design and the design approach taken.

## References

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- Schmidt, A., L. Terrenghi & P. Holleis (2007). Methods and guidelines for the design and development of domestic ubiquitous computing applications. *Pervasive and mobile computing*.
- Yin, R.K. (1994). *Case study research: Design and methods*. London: Sage Publications