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New frontiers of Quantified Self 2: Going Beyond Numbers

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Abstract
While the Quantified Self (QS) community is described in terms of “self-knowledge through numbers” people are increasingly demanding value and meaning. In this workshop we aim at refocusing the QS debate on the value of data for providing new services.

Author Keywords
Personal informatics; quantified self; self-tracking; self-monitoring; wearable technologies.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
The Quantified Self (QS) movement, also known as Personal Informatics (PI), has the goal to collect personal data on different aspects of people’s daily lives with technological tools [3]. Recently, we have seen increasing complexity in the Quantified Self domain. First, we have more data being collected, thanks to the availability of an increasing number of apps and wearables for self-tracking. There are also more types of information to be combined, as activity recognition algorithms are now able to recognize a variety of behaviors and activities that can be mashed up and provide multifaceted views on the user. This provides
new opportunities for the use of large collections of
digital traces, which can go beyond behavior change for
exploring new personalized services in education,
entertainment, transportation and so on. Despite this
growing complexity, the Quantified Self still lacks a
discussion on what all these personal data gathered
could represent for users, what meaning they may
have, and value they may provide. It seems that the
current debate is framed as “knowledge through
numbers”, where individuals gain a better
understanding of themselves by rationally analyzing a
huge amount of quantitative information, and then
acting in light of this renewed self-knowledge. This
model, based on the practices of Quantified Selfers,
addresses the needs of just a minority of a constantly
growing user base of self-trackers. This narrows the
vision and the potential that QS technologies could
provide in the coming years. We think that this point of
view does not account for the ways that most people
use information and how they integrate it into the
everyday life. We thus see it as necessary to start
rethinking how QS should be conceived. Our previous
successful organization of PI/QS workshops (e.g. CHI
2010-13, UbiComp 2014-15) has resulted in a large
and unexpected number of papers (20 accepted
papers) in the first edition at UbiComp ‘15. However,
the conversation has largely been focused on the
collection and use of personal data. In this new edition
of the New Frontiers of Quantified Self workshop, we
want to investigate how to go beyond the collection
challenges of QS. Our aim is to explore how QS could
help people make sense of their own personal
information in the future. We see important potential
benefits from a workshop that enables UbiComp and
ISWC researchers to focus on these issues. Sharing
insights and possible solutions on how to add value to
the increasing amount of personal data may lead to
novel designs and theoretical reflections that could
drive research on self-tracking technologies in the future.

Workshop Motivation

The current debate of Quantified Self and Personal
Informatics is still dominated by an emphasis on
numbers, where the value relies in how the
examination of quantitative information may address
real needs, such as a change in behavior. This
perspective, which is core to the first and most
common model of PI by Li et al. [2], focuses on the
modification of behaviors that follows from a rational
analysis of the data collected by self-tracking tools. The
reasoning is that this may provide users with self-
awareness based on objective insights (i.e. the
examined numbers). However, recently this model has
been called into question. Rooksby et al. [4]
ote how
self-trackers may have a variety of different reasons for
tracking when tools are integrated in their everyday
life. Here, behavior change may not be the primary
goal. Instead, people may be collecting rewards,
following an interest in technology, and documenting
activities. These are all valid motivations for use of PI in
daily life. On the basis of these observations they argue
for a description of people’s real practices when
tracking data, pointing out that they use information and
find its meaning in their day-to-day lives. Following
their suggestions, Epstein et al. [1] proposed a new
model of PI, capable of accounting also for those users
who track for reasons other than changing behavior.
This work opened the way to go beyond the focus on
behavior change and numbers that still dominates the
rhetoric of QS and PI.

Relevant Workshop Topics

Relevant workshop topics include but are not limited to:
i) Novel technologies for self-tracking;
ii) Mash-up platforms;
iii) Novel visualizations of personal data;
iv) Methodologies and technologies for transforming
data into knowledge;
v) Novel methods and tools for making sense of data;
vi) Novel applications and services enabled by personal
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vii) Thought-provoking insights on how to refocus QS
technologies on the
individual’s subjectivity;
viii) Theoretical reflections on
how QS technologies could
evolve in the future;
ix) Methodologies for
evaluating the subjective
experience of QS
applications;

x) Use cases that investigate
the effectiveness of novel
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solutions for QS.
In this second edition of New Frontiers of Quantified Self Workshop, we want to build upon previous workshops by exploring how we can put in the spotlight the subjective side of QS. We claim that we need to bring QS and PI back to their original ambition, providing self-awareness and self-knowledge. It may be beneficial to reframe QS in terms of the value that the data collected may have for different individuals. Doing so may make self-tracking technologies appeal to people who are not focused on quantification, but rather are simply interested in discovering something about themselves. For this aim, it is necessary to start rethinking i) how QS technologies can enable users to make sense of their personal data, ii) how data can be better and more easily be combined to provide users with a more comprehensive image of themselves, iii) how this information can be analyzed and visualized for producing meaningful insights, going beyond the analysis of numbers, iv) how data collected could gain value by improving user’s self-knowledge and providing users with new services.

To summarize, we are looking to encourage: i) Novel technologies for gathering data, capable of detecting new aspects of the individual’s life (e.g., cognitive states, social activities, habits); ii) Novel solutions for mashing-up heterogeneous sources of personal data to provide users with a multifaceted mirror of themselves; iii) Solutions for mining personal data to find new knowledge (e.g. machine learning techniques, data mining); iv) Novel ways to engage users in exploring their data and in extracting value from them (e.g., through sense-making, storytelling, gamification); v) Novel visualizations for easing the sense making of the collected data, going beyond graphs and stats and allowing experiences to emerge from numbers; vi) Novel applications that exploit the increasing amount of personal data for improving users’ self-knowledge or providing them with new valuable services (e.g., through targeted recommendations, adaptive interfaces).

**Important dates**

Deadline for submissions: 7th June  
Response to authors: 28th June  
Camera ready submission deadline: 5th July  
Workshop day: 13th September

**Short Bio of the Organizers**

**Amon Rapp.** Research fellow at Computer Science Department of the University of Torino, where he directs the Smart Personal Technology Lab. His research areas are Quantified Self and behavior change technologies, investigated from an HCI perspective.

**Federica Cena.** Assistant Professor at the Department of Computer Science of the University of Torino. She is currently the head of Smart Society Lab at the Center for Innovation for the Territory. She is working on user modeling and personalization, with a special focus on the implications of IoT for user modeling.

**Judy Kay.** Professor of Computer Science at the University of Sydney, Australia. She heads the Human Centred Technology priority research cluster. Her primary research focus is on surface computing and infrastructures for managing personal data with the user in control. Key applications are in life-long and life-wide learning, with data supporting metacognitive processes, including reflection and goal setting.
Bob Kummerfeld. Associate Professor of Computer Science at the University of Sydney, Australia. His research is mainly on systems for the management of User Model data as well as novel interfaces for gathering and managing personal data.

Frank Hopfgartner. Lecturer in Information Studies at University of Glasgow. His research to date can be placed in the intersection of information retrieval, recommender systems, and data analytics. He co-organized various workshops on heterogeneous sensor data, Quantified Self and Lifelogging (e.g., at ICME, UMAP, Hypertext, BIBM) and is chair of Lifelog, a pilot task for the evaluation of lifelogging and retrieval techniques at NTCIR-12.

Till Plumbaum. Director of the Competence Center Information Retrieval and Machine Learning at DAI-Labor, TU Berlin. He has chaired a number of workshops on user behavior and lifelong user modeling. His main research interest is on understanding and modeling human behavior with a current focus on lifelogging and personal informatics.

Jakob Eg Larsen. Associate Professor in Cognitive Systems at the Technical University of Denmark, Dept. of Applied Mathematics and Computer Science, where he heads the Mobile Informatics and Personal Data Lab. He has chaired several workshops on personal informatics and quantified self. His research interests include HCI, personal data interaction, personal informatics and quantified self.

Daniel A. Epstein. PhD Student in Computer Science & Engineering at the University of Washington and a member of the DUB group. He studies the design of personal informatics and self-tracking tools to integrate into people's everyday lives through surveying people's ongoing practices and implementing new technology.

Rúben Gouveia. PhD student at Madeira Interactive Technologies Institute. He has focused his research on understanding how individuals engage with personal informatics tools in their daily lives. He attempts to leverage on such insights towards predicting and personalizing moments of engagement.

References