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New Frontiers of Quantified Self 3: Exploring Understudied Categories of Users

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Abstract

Quantified Self (QS) field needs to start thinking of how situated needs may affect the use of self-tracking technologies. In this workshop we will focus on the idiosyncrasies of specific categories of users.

Author Keywords

Personal informatics; quantified self; self-tracking.

ACM Classification Keywords

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

Workshop rationale

The Quantified Self (QS) movement, which is also known as Personal Informatics (PI), has the aim to collect and use personal data through technological means for self-reflection and self-knowledge [6]. Over recent years, a plethora of self-tracking devices have been developed both for research and commercial purposes. As a result, the practice of tracking personal data has also spread outside the avant-garde circle of quantified selfers, reaching a broader user population. In this more and more complex landscape, self-trackers have been studied in a variety of research, where their use of personal data has been connected to specific

Workshop Topics

Relevant workshop topics include but are not limited to:

- i) Novel self-tracking tools (e.g. wearable and ubiquitous technologies, mobile apps, etc.) for specific user groups, like stroke patients, manual workers, cyclists, etc.;
- ii) Novel visualizations of personal data for people with distinctive interaction needs
- iii) Methodologies and technologies for transforming data into knowledge and to help users make sense of their own data;
- iv) Applications and services enabled by personal data in particular contexts;
- v) Thought-provoking insights and theoretical reflections on how self-tracking tools could impact specific user groups in the future, and how we can face the challenges that this diversity poses for the research/design of QS tools
- vi) Use cases that investigate the effectiveness of novel QS solutions for understudied user groups.

goals, like behavior change [1], documentation [2], curiosity [3], and enjoyment [4]. However, despite a growing understanding of how self-trackers track, we know far less about how these tools can be used in specific contexts. This is due to the fact that, with rare exceptions [5], research has had a focus on the act of tracking per se, rather than the characteristics of the users. This bias, on the one hand, has narrowed our perspective on the QS phenomenon, and, on the other hand, risks undermining our capability to design PI tools for novel and specific contexts. Our previous successful organization of PI/QS workshops (e.g. CHI 2010-13, UbiComp 2014-16) has resulted in a large and unexpected number of papers in the first (20 accepted papers) and second edition (18 accepted papers) of New Frontiers of QS at UbiComp '15 and '16. However, the debate has largely been focused on a generic category of self-trackers: those who use QS tools for self-reflection, self-knowledge and behavior change. In this new edition of the workshop, instead, we aim at exploring how specific, and still understudied, categories of users might track to address their personal and situated needs, how we can better design for them, and what particular user groups could be impacted by the increasing availability of personal data. This could also provide new opportunities for envisioning how collections of digital traces could go beyond behavior change to investigate new personalized services in e.g. work, education, transportation, and health. For example: how could people with mental disabilities, like autism or dementia, take advantage of the growing opportunities for tracking mental states? How could patients with a chronic disease, like diabetes, better manage their illness through QS tools? How could particular groups of workers, like employees, be affected by the

pervasiveness of tracking, and what kind of ethical issues could arise? What kind of QS tools need to improve to support learning in elementary schools? We see crucial benefits from a workshop that enables UbiComp and ISWC communities to discuss and reflect on these questions. Sharing reflections on what kind of needs and practices may characterize specific user groups, and how tracking wearable and ubiquitous technologies could impact on them, may lead to novel designs and theoretical insights that could drive QS/PI research in the future. Toward this aim, it is necessary to consider a range of issues including: i) how the same data may have different meanings for different user groups; ii) how this information can be analyzed by populations that may have specific interaction needs; iii) what kind of issues QS technologies should face when aiming at integrating in existing habits/conditions; iv) how design can deal with ethical issues that may vary depending on the context; v) how to make the data available in a useful form for people with limited technical expertise so they can explore the particular issues that matter to them.

Workshop plan

Pre-workshop preparations. The workshop website will go online before the CFP is sent to all the major UbiComp and ISWC mailing lists. The organizers will then publicize the call in their home organizations, among their peers, and through social media. We will accept position papers, research papers, case studies, and theoretical reflections, four-to-six pages long. Papers will be reviewed by three members of the program committee based on their relevance to the workshop topics, quality of the exposition and, mainly, potential to trigger insights during the workshop.

Objectives

The workshop aims to establish itself as the premiere shared forum for QS researchers and practitioners, particularly those who are seeking new insights for understanding how self-tracking practices will evolve in the future.

We aim at creating a multidisciplinary space where researchers can discuss how self-tracking technologies should evolve to fit and be integrated with existing practices, individual needs and levels of technical expertise, and situated purposes that go beyond behavior change, effectively supporting a variety of people in their everyday lives.

The long-term objective of the workshop is to build a community interested in sharing ideas on QS and PI. This includes researchers with different backgrounds, from engineers and computer scientists, to designers, social scientists, ethnographers and psychologists.

Expected results. The workshop will be open both to the attendees with an accepted paper and to researchers simply interested in QS themes. We plan for the accepted manuscripts to be included in the ACM Digital Library and supplemental proceedings of the conference. We expect to attract 20-25 participants.

Workshop structure. The workshop will follow a full single-day format. In the morning, attendees will have 8 minutes (plus 2 minutes for questions) to present their papers. We expect to have 15-20 presentations, based on the previous editions of the workshop. In the afternoon, organizers will split participants in 4 or 5 groups (depending on the number of attendees). Each will focus on a category of potential future self-trackers: e.g. a group could start with the category of people with mental disabilities and then set a specific design challenge for a specific user group ("How might we help individuals with dementia keep track of their memories and plans to help them if they get lost?"). Then, participants in each group will work individually to generate new ideas related to the design challenge to be addressed. After 10 minutes, they will each present their ideas to their group companions, who will then discuss them. Then, each group will collaboratively choose the best idea and develop it into a concept design. Finally, we will encourage the group to embed the designed concept in a future narrative scenario, which could also present utopian or dystopian aspects, to generate critical reflections on how it could impact on that specific user base (e.g. moral concerns, side-effects). The day will conclude with a presentation of the concepts and scenarios to all the attendees in order to transition from specific scenarios to a higher level of insights, which could help push the QS field forward.

After the workshop. We plan to: i) include all the participants in a mailing list where they can easily discuss new ideas related to the workshop topics; ii) produce a report of the workshop to disseminate the insights emerged during the workshop. iii) seek a special issue of a journal in this area.

Short Bio of the Organizers

Amon Rapp. Research fellow at Computer Science Department of the University of Torino, where he directs the Smart Objects Lab. His research areas are Quantified Self, gamification, and behavior change.

Federica Cena. Assistant Professor at the Department of Computer Science of the University of Torino, where she is currently the head of Smart City Lab. She is working on user modeling and personalization.

Judy Kay. Professor of Computer Science at the University of Sydney, Australia. She heads the Human Centered Technology priority research cluster. Her primary research focus is on novel interaction 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,

Important dates

Deadline for submissions:

June 9, 2017

Response to authors: June

30, 2017

Camera ready submission

deadline: July 10, 2017

Workshop day: September

12, 2017

Schedule

09:15 - 09:30 Introduction

09:30 - 11:00 Paper

presentations

11:00 - 11:30 Coffee Break

11:30 - 13:00 Paper

presentations

13:00 - 14:00 Lunch

14:00 - 16:00 Work group:

idea generation

16:00 - 16:30 Coffee Break

16:30 - 17:45 Work group:

presentations and discussion

17:45 - 18:00 Closing

remarks

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.

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