



MyData Collection for Personal Health: Concept Design of a Lifestyle App for Junior Athletes

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Abstract. Collecting a digital footprint of data from our everyday activities is becoming an information source for preventive health care. Wearable sensor technologies combined with mobile phone applications offer an interesting way to collect and monitor personal activity data for personal use, as well as for wellness and health care professionals. In this position paper we argue for this approach, and present a concept design for a mobile app targeted at junior athletes, which aims to combine different possibilities of mobile technologies to create a tool that can provide versatile support for wellness.

1 Introduction

Tomorrow's health related systems and services will increasingly take advantage of a myriad of different sensor systems, which can track our physical activity and everyday life. Today, sensor technologies have achieved technical feasibility, miniaturization level and cost efficiency such that they can be easily integrated to various types of everyday objects. This enables omnipresent tracking of our activities, which consequently provides an overview of our lifestyle. Approaches such as described by the MyData model [5], highlight the importance of personal ownership of health data, and become critical as the number of sources and potential output channels for an individual's health data increase.

Wellness gadgets that collect data on our sports performance, such as heart rate monitors and step counters, have been available for large audiences for many years. Sensors integrated to clothes and other wearable form factors are about to take off in a large scale and result in increases in the amount of data collected. Today, these trackers and other wellness gadgets are typically combined with a PC or smart phone application where the user can view

his/her performance. Especially, the smart phone is an interesting platform because of its form factor, mobility and connectivity features. Ahtinen et al. [1] report that one of the key benefits the users saw in a mobile phone wellness tracking app was the fact that, as they carried the phone with them anyway, integrating the tracking technology to the routines was easy.

However, when investigating 39 popular (most downloaded) mobile wellness apps, it was found that most applications were still lacking guidance and target setting features [4]. There is still much potential that can be developed further in the features as well as in the user experience (UX) design of mobile wellness technologies. In [3], it is concluded that the key design requirements for technologies that encourage physical activity are 1) Give users proper credit for activities, 2) Provide personal awareness of activity level, 3) Support social influence, and 4) Consider the practical constraints of users' lifestyles.

In this positioning paper, we present our concept designs for mobile apps targeted to the persona of an active youth, more specifically an ice-hockey playing teenager. With this concept, we aim to demonstrate a holistic view of collecting and presenting wellness data that forms part of the MyData ecosystem and contributes to the user's overall health and wellbeing.

2 Mobile Health Application Concepts for Active Youth

Our design process began with a workshop following Service Design methodologies. Here, the preliminary aim was to understand the different stakeholders related to our defined persona, a 13 year old athlete / ice hockey player we named 'Niklas'. The output identified a large number of stakeholders, who could potentially provide and support the young person's everyday wellbeing. In a follow-up workshop including researchers and industry participants (Figure 1), a day-in-the-life of our young athlete persona was constructed. The output materials from the Service Design workshops enabled us to create three concept designs for mobile apps for young athletes: MyData Training app, MyData Healthy Eating Guidance app and Ask! app.



Figure 1. Creating the service concept in the service design workshop.

Prototypes of the three application concepts were made and a video showcasing the concepts in their envisioned usage scenarios was created, see Figure 2. The concepts videos introduce scenarios from the daily life of our persona ‘Niklas’, and show how various aspects of personal data collection can be used to enhance his training experience and improve his physical and mental health. These applications drew together the input from workshops, and were designed to fit to different aspects of the persona’s daily life. In our ongoing research, the concepts will be used as experience probes.

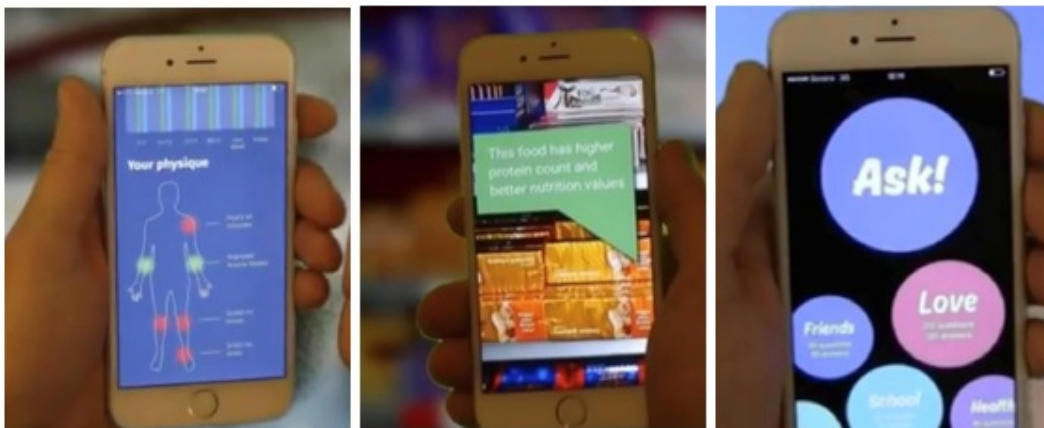


Figure 2. Left: The MyData Training app concept. Center: The MyData Healthy Eating Guidance mobile app concept. Right: The Ask! App concept [6].

The first concept is a Training app where Niklas can check his performance after the training session and compare it to another players and teams (Figure 2, left). Activity data is collected from sensors built into the player's hockey gear. The information is accessible to the user themselves, but also to their coaches, health professionals and parents if sharing has been agreed, following MyData guidelines.

The second application concept is a Healthy Eating Guidance app, where Niklas gets personalized nutrition advice when shopping (Figure 2, center). The App identifies products on the supermarket shelves and gives the user

recommendations what to eat. Niklas can also take photos of his meals and compare their nutritional value to that of his sports idol's meals. Hence we aim to guide the user towards healthier eating habits.

The third concept was created to answer user's mental issues and questions rising from puberty. The Ask! concept (Figure 2, right) gives guidance on mental wellbeing related issues for example stress, school or friends. Guidance is provided by counselors who are experts in their area. The user can also browse previously asked questions and answers. The Ask! concept gives users easy way to get personal help from professionals without the feeling of embarrassment.

3 Discussion

In this paper, we have presented our on-going work, where we position ourselves to the approach that the creation and management of an individual's MyData digital health footprint can be used to create holistic health and wellness services. By tracking everyday life activities, we can provide services that are integrated to our everyday lives, and create individually focused awareness and information to enable individuals to pursue a healthier lifestyle. It is to be noted that our research does not aim to new mobile application concepts, but we target to use the concepts as probes in our further user research. Here, we address an unexplored user group, the active youth. Whereas the quantified-self user group [2] is interested in following their wellness data closely and in great detail, this may not generalize to other groups. In tracking applications, several challenges rise e.g. from the basis of data sharing and privacy, as well as detection accuracy and reliability of the interpreted results. Here, one interesting aspect of our selected user group is that their view of data privacy may differ from that of a more typically studied group.

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