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HCI AND SPORTS

Sports are an important part of many people's lives. They are rewarding and motivating, but people appreciate them for a variety of reasons: Sports are personal and social, are fun but have health benefits, and can also be both enjoyable and painful. While motivation, fun, and sociality are elements often used as starting points in interaction design, we argue that for many athletes, these elements are already present and do not need to be specifically designed for. In this special section we have selected work that complements such an approach by focusing on novel viewpoints on interaction design in sports.

Health, wellness, and, recently, sports have become increasingly important research topics in the HCI community over the past decade. This is not surprising, given the fact that sports and recreational fitness activities are rapidly growing areas for personal and consumer-oriented technologies. There is a proliferation of mobile sensor-based end-user products, such as the sensor-equipped sports watches from Garmin or Polar, mobile apps like Runkeeper, and technologies for connecting these systems to social and broadcast media. Endurance sports such as running, cycling, triathlon, and cross-country skiing are at the forefront of this development. Participation in races and organized training groups is growing rapidly, and new forms of mass races such as ultra-marathons, swim-run races over large distances, and trail running are emerging. The often-challenging settings in which sports are carried out provide exciting design opportunities that connect to many of the research issues we currently see in HCI, such as non-visual interaction, >>>>

SPECIAL TOPIC

>>>> smart watches, smart glasses, sensing textiles, and big data. Following the overall trend of research in exercise, motivation, and well-being, we now start to see work that deals with actual sports and sports performance. To promote HCI research in sports, we organized a workshop and a SIG at CHI 2014 in Toronto. During a busy and inspiring day, 22 people from 10 countries and 13 universities and companies got together to discuss the direction of sports HCI.

Let us briefly present some themes that came up during our discussion that we believe could benefit from increased attention from the HCI community.

Feedback, in real time—for example, from coaches or mirrors—is central for athletes striving to understand their technique in various sports. A challenge is to create feedback that fits into the physical setting and social context of the athletic situation without breaking the flow and experience of the user.

Bodily awareness and control.

Current lightweight interactive technologies show potential for real-time feedback and use in sporting activity. Thereby, athletes can gain an improved sense for how they perform the skills and techniques of their sport.

Sociality is a central theme in sports for athletes and coaches, as well as for audiences. Technology provides a means of enriching the social aspects of sports for all user groups by creating stronger connections between athletes and audiences, balancing skill levels, creating collaborative activities, and capturing and sharing activities.

Skill development. Technology can support the development of skills by providing real-time feedback on performances and collecting data to support post-activity analysis. It can also support the practice of specific skills through challenging and playful activities.

This special section presents four examples from the emerging research area of sports and HCI, illustrating these topics in more depth.

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