

Use - DfPSV

Designing for People, Sports and Vitality (DfPSV)

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Ruby Robot: project designed during DfPSV by Wilmar Sally, Gino Althof, Ruben de Jongh, Gerben Vogelaar en Rutger Bell
Foto Innovation Origins

The USE learning line 'Designing for People, Sport and Vitality' is closing a gap between, engineering, design and human movement sciences. Based on recent developments in sensor technology, data representation and persuasive design it will explore the design space in recreational sports and physical activity. It requires a distinctive approach and envisioning of societal and personal needs as well as a strong sense of the ethical and legal boundaries involved.

USE-DfPSV consists of three courses that have one central theme: how to design personalized and data-intense products that support individual people in both the motivational as well as in the physical aspects of enjoying their sport and/or physical activity. The three courses are closely connected, and have a clear focus:

1. Understanding people and their challenges regarding sports and physical activity (Course DAEU20 'Introduction to Sports, Physical Activity & Vitality' (Basic))
2. Discover and apply possibilities to acquire and represent data from/to these people (Course DASU20 'Data Acquisition & Visualization through Embodied Sensors' (Intermediate))
3. Using the above to design and test an actual system in real life conditions that can be used by these people (Course DAAU20 'Designing for PSV in a real-life setting' (Advanced))

DAEU20 'Introduction to Sports, Physical Activity & Vitality'

In this course the basic concepts in sport, physical activity and vitality are introduced. Students will generate a more general understanding of societal challenges, users' needs and requirements, and the role technology might play in stimulating or reducing physical activity and/or sports participation. After a general introduction, we will approach sports, PA and vitality from a societal perspective, an individual user perspective, a technological perspective, and an ethical perspective.

The students will write a position paper (in duo's) in which they address the contribution of technology/engineering (modern sensor systems) for (mass) sports / physical (in) activity as part of daily life and propose a strategy how to utilize this in a realistic context.



Injury free running by Juan Restrepo (2018)



Analysis of sports app data by Loes van Renswouw et al. (2017)

DASU20 'Data Acquisition & Visualization through Embodied Sensors'

In this course we will discover what can be learned from existing, open, datasets in the field of sports. The students will gain insight in the acquisition of sensor data, data analytics and data representation. Examples of the application of data in the field of sports engineering will be showed, and ethics and data privacy issues will be addressed. We will discuss the need to personalise feedback for different groups of users.

The students will work on two assignments where they have to analyse and represent data from sports participants.

DAAU20 'Designing for PSV in a real-life setting'

In this course, the obtained knowledge and skills learned in the previous courses will be integrated and brought into practice. The focus of this course is to design people-environment interactions in which the choice for physical activity or sports is self-evident. You will learn how to prototype for behavior change (or to understand contextualized behaviors), integrate and apply different research methods and evaluate a real-life research process.

The students will deliver for this course 1) a working prototype, 2) a research article (fixed format), 3) a short presentation, 4) a group process reflection (fixed format) and 5) a personal reflection (fixed format).



Coaching runners in the park by Carl Megens et al. (2016)