MOVE THE BEAT

The role of music-based interactions in motivation, movement and sports performance

GHENT UNIVERSITY

BACKGROUND

Music activates and develops motor, affective, social and cognitive functions.

Our applications capitalise on this power of music to boost sports performance, rehabilitation, and social interaction.

Our applications provide a real-time and continuous transfer of motion parameters (cadence, pedal pressure, EMG activation,...) into sound and music.

They now allow motivating, monitoring and modifying many forms of (rhythmical) physical activity.

THE PROJECT

Music-based interactions are studied on three different levels:

1 MOTIVATION

The right kind of music at the right moment can improve enjoyment, decrease the risk of early dropout and get people fit and healthy.

2 MONITORING

Athletes and rehabilitation patients can get immediate auditive feedback on their movement, technique and balance during their training.

3 MODIFICATION

The movement of a person can be steered by subtly adapting the beat of the music, thereby improving technique and performance.

D-JOGGER

running

running cadence → musical tempo

SOUNDBIKE

cycling

pedal cadence → musical tempo
pedal pressure → sonification
EMG activity → sonification

JUMP THE BEAT

trampolining

jumping → musical tempo / sonification

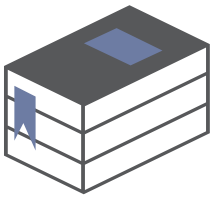
ADVANTAGES

Increased motivation

Training with the right, perfectly adapted music increases people's motivation and enjoyment.

Smart adaptation

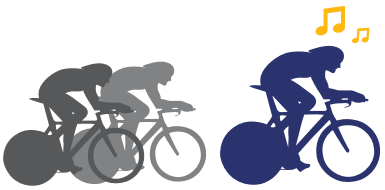
Musical parameters (tempo, pitch, dynamics) can be aligned with motion parameters (i.e. sonification).



Evidence based

The applications capitalise on fundamental knowledge on music-based interaction obtained through experimental research.

OUR GOALS

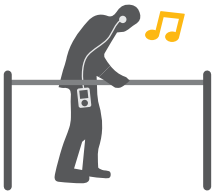


Professional adoption

Use of music by professional athletes and teams during training, matches, endurance records, time trials,...

Creating evidence-based tools

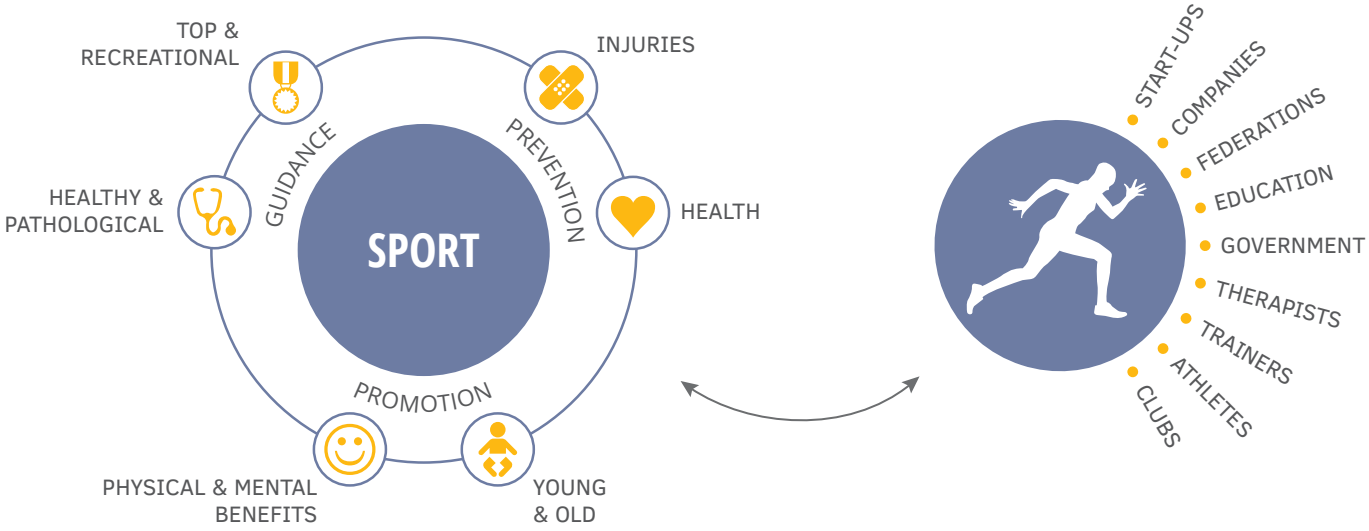
Developing an application for the general public, using music to improve motivation and performance.



Medical usage

Using music in medical rehabilitation training (e.g. during gait retraining for Parkinson patients).

VICTORIS CONSORTIUM



We create new **SPORTS PRODUCTS and SERVICES** by facilitating the **TRANSFER of KNOWLEDGE** that results from **MULTIDISCIPLINARY RESEARCH**

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