Project Group Fit-VR: Personalized and Collaborative Fitness Training in Virtual Reality

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Motivation

- Physical Activity: „Any bodily movement produced by skeletal muscles that require energy expenditure" - World Health Organization (WHO)

- Physical Activity is important for our health:
  - Reduces the risk of Obesity, Hypertension, Diabetes mellitus,…
  - Increases mental health and well-being, relieves symptoms of depression and anxiety.

WHO recommends at least 2.5 h / week of physical activity of at least moderate intensity.

Physical Inactivity

- Time spent with sport and exercise activities during the first COVID-19 lockdown in Germany with changes compared with a „normal week":
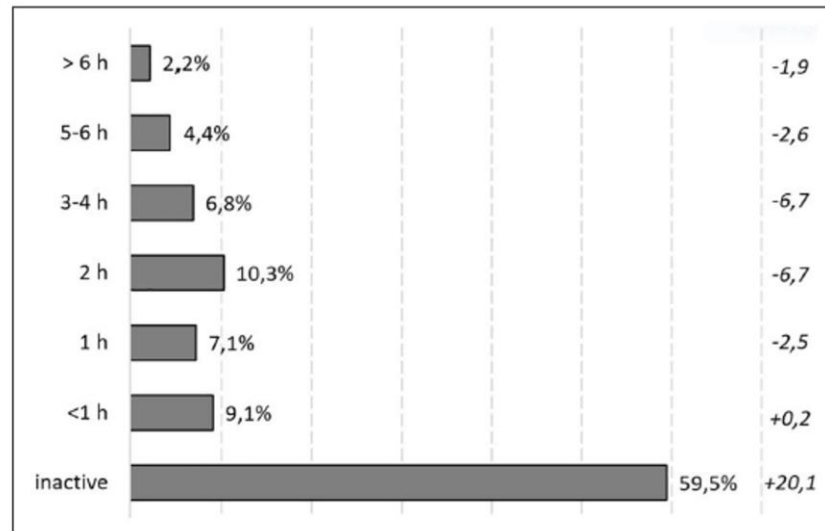
Eszter Füzéki et al. „Physical Activity and Its Related Factors during the First COVID-19 Lockdown in Germany"

How can we increase physical activity by engaging people in an interactive and playful manner?

Current State of the Art

Exergames

Fitness/Workout Apps

Training Videos/Tutorials

Limitations regarding direct interaction and collaboration!

Fit-VR: Goals

Personalized Training and Workouts in VR

Collaborative Training and Workouts in VR
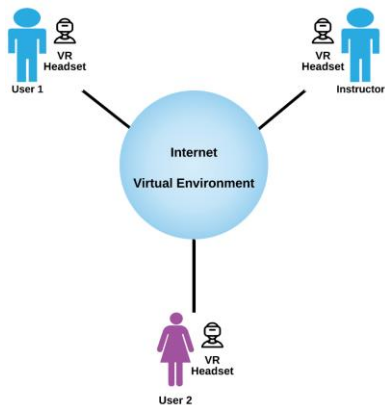
1. Simulating a Motivating Workout Environment

2. Finding Suitable VR Interaction Methods

3. Tracking & Reproducing Workout Movements in VR

4. Remote Collaboration

5. Performance Evaluation and Immediate Feedback

Prerequisites:

- Sound programming skills in an object-oriented language, e.g. Java, C#

- Basic knowledge about the concepts of Augmented and Virtual Reality

- Motivation to work in an agile team, self-organize yourself, and be creative

- Formal requirements to participate in a project group

Optional, but helpful:

- 3D Programming, experience with Unity Engine

Letter of Motivation

- We want to get to know you in advance!

- Describe yourself according to the following criteria...

    - Programming experience (languages, projects, …)

    - Experience with VR and 3D programming?

    - Working experience (university, industry)

    - Lectures, seminars or other courses in the area of Software Engineering that you completed successfully

    - Working artifacts (AR/VR Demo-Apps, Assets, 3D Models etc.)

    - … and last but not least: What do you expect from this project group? Why do you want to participate in this particular PG?

    - Submission via email to enes@mail.upb.de

Contact and Further Information

- Ask questions after the presentations

- Contact us via email:

  Dr. Enes Yigitbas   enes@mail.upb.de

- Visit our web page:

https://cs.uni-paderborn.de/dbis/lehre/fit-vr

Thank you for your attention!

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