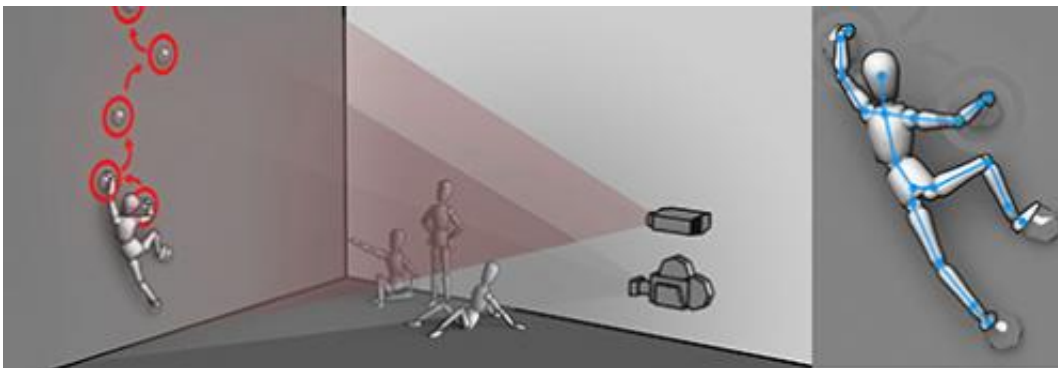


Game researchers develop an augmented climbing wall

April 11 2014



Graphics reflected on the wall guide the climber in the choice of route, and body movements are registered by computer vision.

HCI (Human-Computer Interaction) methods are utilized in the augmented climbing wall developed by Aalto University researchers. The objective of the research during the initial phase is to develop the climbing wall further so that it accelerates the learning of [motor skills](#) and makes the monotonous components of practice enjoyable and fun.

Appropriate targets and elements that encourage social cooperation have been added to the climbing wall which, for example, aid in comparing one's own performance against that of others.

'Due to the graphics reflected on the augmented climbing wall, the routes are easy to identify, even if the wall is full of grips. Anybody can easily create a route and split it with others. Routes created by others can be climbed independent of time – which may well improve practice motivation,' says Assistant Professor Perttu Hämäläinen, who is in charge of research on computer games at Aalto University.

Testers inspired

The augmented climbing wall received positive feedback from the climbers testing the system.

'The most useful features were considered to be creating an easy route, the possibility for distribution, and direct video feedback. The social perspective with regard to distributing routes and the opportunity to compare one's own performance with others' were praised. The testers also liked the automatic route creator and the ability of the climbing wall to create unexpected movements,' explains postdoctoral researcher Raine Kajastila.

In the previous research study concerning climbing, the concentration was on the physiological aspects of climbing. The psychological side of climbing – in particular, the impact of dangers and risks on climbing – has also been examined. Utilizing the interaction between human being and computer has been clarified less.

Aalto's game research is focused at the moment on human movement in various ways. The research objective is, in particular, targeted on the algorithms and artificial intelligence of animation, the monitoring of body motion and the digital augmentation of physical exercise and sports. The intention is to broaden the research connected with climbing into other movement modes and encourage exercise by bringing games

into the natural movement environment.

More information: The complete article is available online:
[mediatech.aalto.fi/~rakajast/P ... 014_camera_ready.pdf](https://mediatech.aalto.fi/~rakajast/P...014_camera_ready.pdf)

Provided by Aalto University

Citation: Game researchers develop an augmented climbing wall (2014, April 11) retrieved 18 April 2024 from <https://phys.org/news/2014-04-game-augmented-climbing-wall.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.