The central goal of the present proceedings is to convey an overview over the latest developments in Virtual Reality (VR) research to a broader audience. International experts with diverse scientific backgrounds present their research and discuss both, their current findings and future perspectives. The focus is on the phenomenon of “Presence”, which is commonly referred to as a sense of “being there” in a technologically mediated environment and more formally as the perceptual illusion of non-mediation. Presence can thus be regarded as a crucial aspect of the VR-experience and an essential precondition for the success of numerous VR-applications (e.g., simulators and computer games).
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The Virtualizer

Abstract. This device, developed by the young virtual-reality-enthusiasts of Cyberith, is a locomotion device that delivers completely new impressions and experiences.

Keywords. Movements; Presence; Human-Computer-Interaction

Realistic experiences in your own private home
It delivers the most realistic experience of virtual worlds possible - in your own private home. The Virtualizer was developed with the goal to optimize the realistic impression of first-person games but free the player from his chair and place him right into the action. Using the Virtualizer yields the opportunity to actively participate in the adventures of your favourite character and for the first time not to be stopped by the borders of your screen.

Wide range of natural movements
This is possible because the device is not restricting your natural freedom of movement. The Virtualizer not only supports simple forward-faced movements like walking or running, but also walking backwards, crouching, jumping and even sitting. The device is the world’s first omnidirectional treadmill for home use that has its sensor system integrated. The highly engineered sensor system combined with VR-glasses that support 3D places the user directly into the virtual world and delivers overwhelming experiences.

Stepless movements without the need of special shoes
This experience is enhanced by the Virtualizer’s ability to detect and process movement stepless, which makes it possible to move in the same speed ingame as you do in the real world. Moreover, it was a matter of high interest for the developers to make the device usable without the need for special shoes. These would only imply additional costs for the customer and problems regarding shoe sizes. The underlying functional principle is based on a special platform that features a highly elaborated surface with the right coefficient of friction and a vertically adjustable ring-construction in hip-height that absorbs the remaining frictional force. The ring was designed to enable the user’s free movement and is adjustable to the operators’ specific body height.
**Easy to install and quiet as a whisper**

Additionally, the device is designed to work in a "plug and play"-manner and thus it is very easy to set up and install. Because the Virtualizer is to be used with plain socks it does not yield the risk of noise disturbance.

**All-purpose Device**

The fields of application of the Virtualizer go much further than just gaming. Because the device enables joining any virtual world you can imagine, there is a wide range of possible applications in fields like architecture, tourism, psychological therapy, education, training,...