

Report - 360 Degree (Omnidirectional) Treadmills from Virtuix

Jan Goetgeluk is the founder and CEO of Virtuix. It is the first virtual reality interface that allows players to move freely in the video games and virtual worlds. Development of Omni started in early 2011, when he was working as an investment banking associate. Virtuix launched a Kickstarter campaign in June 2013 to raise money for the manufacturing and a total of \$1.1 million was raised.

Virtuix omni treadmill is a setup that allows its players to walk inside of the video game. The setup includes Oculus Rift and HTC Vive or other virtual reality head mounted displays. The base of the setup is bowl shaped and it requires special low friction shoes in order to operate it. It uses sensors to track a person's position and pace of their movements. This information is then sent to a computer program which translates all these data into the game movements. The base is basically a low-friction surface with grooves. The special shoes consist of pins that fit into the grooves, thus keeping the foot stabilized of the user and preventing unwanted lateral slide. The shoe sole has a higher friction coefficient on the toe for further stability and to maintain balance. Player can move freely as the Omni support harness is not attached to the support ring. They can rotate quickly or jump without any restraints. A fixed support ring around the harness ensures that you won't fall. Your hands are free to access other accessories like gun. Guns provided by Cabela's Top Shot Elite Xbox 360 game with a Windows controller are supported. The Omni can also be connected via Bluetooth with a PC or mobile VR device such as the Gear VR.

The Omni is also not console compatible, which is to be expected since a lot of other virtual reality devices aren't yet either. However, you can plug its simple 2.0 USB cable into a PC and play any game you want on Oculus Rift head mounted display. Virtuix is also developing TRAVR, a first-person shooter game as well as three additional games designed specifically for the Omni. They have reviewed games like Grand Theft Auto, ARMA etc.

Accessories like the Omni Treadmill could be very useful in helping virtual reality. While Oculus provides the goggles to observe 3D worlds, Omni provides the motion input that enables you to walk, run, or jump inside a 360-degree virtual environment. It can make you feel more immersed in VR.

Moving in virtual reality, while your body in stationary position can lead to motion sickness., but he setup provided by Virtuix minimizes this issue, by reducing the stimuli mismatch that occurs, thus reducing motion sickness to a considerable amount of extent.

In conclusion, the treadmill could enhance games, it's also a great fit for fitness, tourism, and social gatherings. The Omni allows for: More interactive remote employee meetings, Virtual exhibitions for on the job, Simulations of workplaces, Increased ease and realistic simulation of training on the job. Particularly for jobs that are more

hands-on, is this last point especially relevant. Instead of training EMTs with dummies, they can run to the scene, check the pulse of their charge, load them into the ambulance, and then drive away. They can practice every aspect of their job using the Omni. Virtuix also exhibited a version of the Omni for use in military simulation, which has additional forms of movement features such as accommodating a fully combat-loaded soldier in December 2014.

References:

https://en.wikipedia.org/wiki/Virtuix_Omni

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