

PHANTOM-AR

Alleviating Phantom Limb Pain by creating virtual assistive technologies, applications and games for health in mixed realities.



Phantom Pain

Phantom Limb Pain is a restrictive condition in which patients perceive pain in a limb that is no longer present, incapacitating them from performing daily activities. Mirror Therapy, during which patients look into a mirror reflecting their healthy limb and creating an illusion on their amputated site, has proven to alleviate that pain. However, the patient is limited to unilateral movements, which moreover, takes place in a seated position. PhantomAR extends the classical mirror therapy approach.

Study Details

- ✓ Innovative assistive therapy in a mixed reality setting
- ✓ Superimposing a virtual arm that can be moved completely independently
- ✓ Using myoelectric control like for a real prosthesis and deep learning algorithms

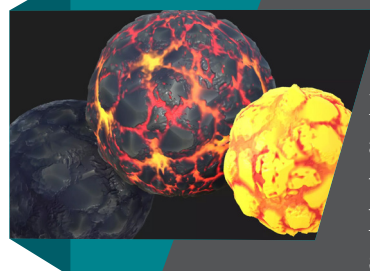
Immersion

Capitalizing the unique capabilities of the latest Mixed Reality technology lets the user immerse into a first-person experience of a mixed real and simulated world.



Diversion

Enabling users to freely explore and bi-manually interact with their surrounding by manipulating virtual objects with their sound as well as their lost limb.



Alleviation

PhantomAR positively impacts outcomes on pain scores, range of motion and motivation to perform rehabilitative exercises - playfully alleviating phantom limb pain.

